Learners' Perception Towards Online Classroom Environment during Pandemic of COVID-19, TPACK in EFL Context

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Abstract— **The pandemic of COVID-19 has changed many aspects of life across the globe including in Indonesia. In order to prevent the spread of COVID-19 the president of Indonesia announced national distancing rule and encouraged citizen to work and study at home. Universities have changed the learning system into online learning by using technology and internet connection. This situation was not easy for learners since they needed to change learning system immediately while facing some issues due to the pandemic. Therefore, this study intended to investigate Learners' Perception toward Online Classroom Environment during Coronavirus Pandemic using qualitative approach with a case study design. The data was gathered by using questionnaire and interview. This study found that generally learners have positive perception on English online classroom based on ten aspects, they were: Learner Cohesiveness, Teacher Support, Involvement, Task Orientation, Investigation, Cooperation, Differentiation, Equity, Computer Usage, Young Adult Ethos.**

Keywords— *perception, online classroom, COVID-19, TPACK, EFL*

I. INTRODUCTION

The novel coronavirus disease 2019 known as COVID-19 came out at the end of December 2019 in Wuhan, China. Within a month the virus has spread globally [1]. On March 02 2020, the president of Indonesia confirmed the first case of COVID-19 in Indonesia and encouraged citizen to work and study at home [2]. Universities and schools across the world including Indonesia have taken actions to prevent the spread of this infectious disease by changing the learning system into online. In this time, the only possible way to run the class was by using technology.

For decades Extensive studies have suggested the effectiveness of integrating technology into language learning process. Moreover, a framework called Technological Pedagogical Content Knowledge (TPACK) in which teachers combine some important elements in teaching and learning process including technology has been discussed [3]. Numbers of studies have stated the effectiveness of TPACK in English foreign language (EFL) context [4]. Studies also found that EFL learners have positive perceptions toward the implementation of Technology [5].

This study intended to investigate foreign language learners' perception in relation to online classroom environment. The novelty of this study was that there had not been any studies on language learners' perception toward the implementation of TPACK framework in the midst of Pandemic COVID-19 yet. This situation was unusual since learners had to integrate technology in language learning while facing some issues due to the pandemic. For instance, in this quarantine time, learners were responsible to prepare

their own learning devices including internet connection. Moreover, they also had to to figure the ways out by themselves since learning must been done at home. In other words, they could get assistance but it must be done online. They could not go out to work with friends or use free Wi-Fi connection. In addition, campus also did not support them with any devices or money to work with online learning platform.

This study intended to know EFL learners' perception on online classroom environment through TPACK Approach in the midst of COVID-19. This study tried to know whether learners really had good perception on TPACK or they just did it because they had no other option. The subjects of this study were Maritime students at Politeknik Negeri Samarinda.

II. LITERATURE REVIEW

2.1 Coronavirus disease 2019 (COVID-19)

The widespread of coronavirus disease 2019 (COVID-19) was declared as a pandemic by World Health Organization (WHO) on March 11 2020 [6]. Some countries have taken actions regarding this statement to prevent the spread of this virus such as, social distancing, self-isolation/ quarantine, strengthening health facilities to control the disease, and asking people to work at home [7]. Indonesia confirmed the first case on March 02, 2020 then on March 15 the president of Indonesia announced national distancing rule and encouraged citizen to work and study at home [2]. Due to this announcement schools and institutions changed the learning system by integrating technology.

2.2 Classroom Learning Environment

Classroom Learning Environment is a social atmosphere in which the learning takes place. There are two aspects that influence Classroom Environment, the first is 1) physical environment (material setting) and 2) psychological environment (the social relations quality of learners and teachers) [8]. Studies have stated that classroom environment gives significant effect on learners' learning [9].

Many studies have discussed the application of technology in classroom but only few researchers have studied the psychosocial aspect of computer classroom environments [9]. A new technology classroom environment called Technology-Rich Outcomes-Focused Learning Environment Inventory (TROFLEI) has been designed to examine the computer classroom environment [9]. TROFLEI has 10 scales. The seven scales (learner cohesiveness, teacher support, involvement, task orientation, investigation, cooperation, and equity) are taken from WIHIC scale. The other 3 scales are differentiation, computer usage and young adult ethos. The concept

and indicators of TROFLEI questionnaire are concluded as follows.

TABLE I.   ENVIRONMENT SCALE AND DESCRIPTION

Scale	Environment Scale and Description
Learner Cohesiveness	Learners help each other; Learners are supportive of one another
Teacher Support	Teachers helps learners; teacher make friend with learners; teacher trusts learners; teacher is interested in learners
Involvement	Learners have interest in learning/activity (enjoy the class); learners participate in discussions; learners do additional work and
Task Orientation	Learners complete activities that have been planned; Learners learn the subject matter that have been planned
Investigation	Learners develop thinking skill in doing activity; Learners develop problem solving skill in doing activity
Cooperation	Learners cooperate rather than compete with one another on learning/doing tasks.
Equity	Learners are treated equally by the teacher.
Differentiation	Teachers treat learners differently based on learners' ability
Computer Usage	Learners use their computers/gadgets as a tool to communicate with others and to access information in doing assignment or learning activity.
Young Adult Ethos	Teachers give learners responsibility to learn and do assignment and treat learners as young adults.

2.3 Technology Learning Environment

Learning management system is a software product with the purpose to manage the learning. It is created to help learners experience online learning environment safely. It gives learners opportunity in learning activities such as creating content, connecting with people, combining information from different sources and collaborating in group discussion.

In using LMS it is important to consider how would technology/LMS help learners and teachers to achieve learning goal/outcome. It is also important for the teachers to find appropriate pedagogy or method that suits learners' culture, characteristics [11]. Moreover, a study [3] created a framework called Technological Pedagogical Content Knowledge (TPACK) in which teachers are able to combine some important elements in teaching and learning process including technology to achieve learning outcome and effective learning.

2.4 *Technological Pedagogical Content Knowledge (TPACK)*

TPACK is a framework that guide teachers to design learning that can promote learners' competence by using appropriate technologies [3]. There are some components of TPACK related to English foreign language (EFL) teaching as followed:

- Technology knowledge (TK) is the understanding and ability to use some kinds of low-tech and digital technologies [3]. In terms of English Foreign language, teachers need to know how to use technology as media to support language learning, how to deal with technical problems and how to keep updating with the new technologies.

- Content knowledge (CK) is the knowledge of concepts, theories, key facts, and procedures about the subject matter that teacher need to have before teaching the learners [3]. In EFL content knowledge covers language skills, language components and cultural understanding (the culture of English-speaking countries) [12].

- Pedagogical knowledge (PK) is knowledge of teaching methods or approach. This includes lesson plan, assessment/evaluation, classroom management [3]. In EFL context, Pedagogical knowledge is the ability of teachers to find and apply teaching approach, method, technique and practice in their English class.

- Pedagogical content knowledge (PCK) is the combination of knowledge about the content that will be taught by teachers and knowledge of teaching methods with the purpose to create better teaching practice. PCK is the ability of teachers to identify appropriate teaching methods that fits the content [13]. PCK is also the knowledge about learners' characteristics [3]. In EFL field PCK is the knowledge of the language (English) and way to use this to suit different types of language learners' characteristics [14].

- Technological content knowledge (TCK) is a knowledge of using appropriate technology in teaching the material. By using this appropriate technology learners can understand the material better [13]. In EFL context it is the ability of teachers to pick English material that suits the teaching technology used. In other words, this technology is working as a media to learn English

- Technological pedagogical knowledge (TPK) is knowledge of teacher to apply appropriate teaching methods that suits the technology chosen [3].

- Technological pedagogical content knowledge (TPACK) is how teachers integrate appropriate technology in teaching content by applying appropriate teaching methods [3]. In EFL, it is the ability of teachers to teach English by using appropriate pedagogy and technology

2.5 *Software and application used that support online learning environment*

There were some application/software products used to do online learning in this study:

- Moodle, The Modular Object-Oriented Term Development Learning Environment, is learning management system used by universities and institutions in teaching and learning around the world [15]. Moodle is utilized to deliver online course that include e-learning process through the use of technological devices and internet connection. Moreover, it can be accessed by administrator, teacher and learner [16].

- Google classroom is a free web-based tool used by learners and teacher to do online classroom [17]. Google classroom can promote collaborative learning. It has many features where teacher can distribute/ download learning material and provide feedback to learners. Learners are also able download material as well as writing comment [18]

- Zoom, a video conferencing tool to manage online course, offers various features to promote online activities and strategies such as recording, live meetings group discussion, practice presentation [19].

2.6 *Learners' Perception on Online Classroom Learning Environment*

Perception is the process of interpreting events, object and stimuli by using senses such as sight, hearing, touching in order to understand the condition of the events, object and stimuli. [20]. Classroom Learning Environment is a social atmosphere in which the learning takes place. Online classroom learning environment is a social atmosphere where the learning takes place by using technology or software product to manage learner learning. Perception on Online Classroom Learning Environment is the process of interpreting learning atmosphere with the help of technology or online software product.

III. METHODOLOGY

This study used qualitative approach and a case study design where individuals as subject were investigated in depth to find their perspectives toward the implementation of TPACK in English learning in the midst of COVID-19 [22]

3.1 Subject

There were seventy-five students who were given TROFLEI questionnaire in the study. From those seventy-five students, this study took three of them to get deeper information through interview session. The first subject was named as L1, the learner who got the lowest score (188) in perception questionnaire and the second subject was named as L2, the learner who got the medium score (226) and the third subject was named as L3, the learner who got the highest score (273) on perception questionnaire. This study intended to find out their perception toward English learning through TPACK in the midst of COVID-19. Since it is a case study, the subject can be individual or individuals [23].

3.2 Instruments

There were two instruments used in this study, the first was questionnaire and the second was interview guideline. The questionnaire was used to find out general perception of students in form of numbers. Based on the result of the questionnaire, the researcher decided the subjects to be interviewed deeply.

- The perception questionnaire was adapted from the study about learners' perception in learning environment [24]. There are 31 statements in which the learners answer them by using Likert scale (five indicators).

- Interview Guideline consisted of 25 questions were prepared for Semi-structured interview. More questions were developed in interview session to find out students' perception toward online classroom environment.

3.3 Data analysis procedure

- The Perception questionnaire was analyzed by using 5-point Likert response scale, 5 indicators each item of questionnaire were answered by (5) strongly agree, (4) agree, (3) no idea, (2) disagree, (1) strongly disagree.

- Interview Guideline was analyzed by using flow diagram. There were some steps done: 1) the interview was transcribed into Ms. Word, the data was categorized and coded; 2) the data was displayed by the questionnaire; 3) the data was analyzed and the conclusion was made, then it was verified by theories [25]

IV. FINDINGS AND DISCUSSION

In general, learners' perception toward online English class was positive. Moreover, the analysis of interview related to learners' perceptions were divided into ten sections according to the questionnaire used in this study.

TABLE II.   LEARNERS' PERCEPTION TOWARD ONLINE ENGLISH CLASS

Scale	Finding
Learner Cohesiveness	Learners were supportive of one another by: - Working well together by using WhatsApp group, WhatsApp Video Call and WhatsApp voice note - Making good relation to each other by checking condition using WhatsApp
Teacher Support	Teacher helped learners by: - Giving simple explanation - Giving extra hours in online learning - Providing asynchronous learning through video conference - Being interactive by giving questions in explaining material/ giving questions in WhatsApp/ Google Class/ Google form - Re-explaining the material if learners do not understand (score of evaluation is not good)
	Teacher made good relation with learners by: - Checking students' understanding related subject learned - Considering learners' data connection in online learning by choosing learning platform that uses less data connection - Motivating learners to learn and reminding them to read the material - Responding learner's question via WhatsApp in few minutes
Involvement	Learners engaged in learning by: - Participating/ giving idea in the discussion session facilitated by teacher using WhatsApp - Asking or answering questions in discussion in virtual conference class after teacher's explanation.
Task Orientation	Learners planed their work/ activity to make it effective by: - Planning independent learning - Doing the assignment on time because of learners' responsibility - Being on time in virtual class - Asking other learners' if they're doing assignment and did not understand - Giving and doing their best in learning
Investigation	Learners used and improved their problem-solving skill by Doing the assignment and discussing to solve problem
Cooperation	Students involved in collaborative learning by: - Sharing information and group work - Learning/ discussing with other learners using WhatsApp or Google meet
Equity	Teacher treated students equally by: - Giving all learners chance to deliver ask or state opinion - Answering all learners' question - Motivating all learners to learn
Differentiation	Teachers treated learners differently based on learners' ability by giving various topics for assignment and learners could choose the topic freely
Computer Usage	Learners use their computers/gadget as a tool in: - Communicating with other learners and lecturer - Accessing information - Doing assignment or learning activity
Young Adult Ethos	Teachers give learners responsibility to learn and do assignment - Checking their own attendance list - Providing learning platform so they can submit their work - Providing virtual class - Providing discussion session

4.1 Learner Cohesiveness

The data showed that learners were supportive of one another. (1) They worked well with their friends.

In online class in the midst of COVID-19 they helped each other by taking advantage on technologies such as WhatsApp group chat, Video call and Voice note. Moreover, interestingly (2) learners also had good relation with their friends. They often checked on each other's condition through WhatsApp.

L1: *"I helped my friends through online discussion, my friends also helped me… by WhatsApp and Video call…."*

L2: *"…if we had a problem or we didn't understand something, we used WhatsApp group or video call to figure it out.*

L3: *"very often, we talked about material and subject learned … we used social media such as WhatsApp group by sending chat and voice note...*

In addition, it is also found out that they were friendly of one another.

L1: *"… I and some of my friends are get along very well..all of the people in class are my friends"*

L2: *"in this situation since pandemic of COVID-19, Occasionally, I check on my friend through WhatsApp and ask 'how are they doing' … we check on each other.*

L3: *"we communicate a lot in WhatsApp group"*

Learners' cohesiveness related to situations where learners know one another, help each other and are supportive of one another [26]. Learners' cohesiveness is one of psychosocial dimensions which might affect learning environment [27].

4.2 Teacher Support

Teacher helped the learners by (1) giving extra hours in online learning, (2) providing asynchronous learning through video conference, (3) and be interactive by giving questions in explaining material. It was also found out that teacher had good relation with learners, teacher trusted and showed interest in them by (1) checking students' understanding related subject learned, (2) considering students data connection in online learning by choosing learning platform that uses less data connection, (3) motivating and reminding them to read the material, and (4) responding learner's question fast.

L1: *"giving extra hours in online …video conference… …tried to be as interactive as possible in class such as giving us question.*

L2: *"lecturer explained material and give us question in WhatsApp and Google to check whether we understand or not… re-explain it…considered our internet connection and…motivated and remind us to read the material*

L3: *"if I had problem or question, I contacted lecturer by WhatsApp and would be responded in few minutes*

Teacher support is a situation in which teachers help learners, make friends with learners, trust the learners and shows his/her interest in learners [26]. A support from teacher and peers gives positive effect on the classroom environment [28].

4.3 Involvement

Learners had interest in learning and they enjoyed class activity by making well performance in class activity through: (1) participating/ giving idea in the discussion session and (2) asking or answering questions.

L1: *"… I also gave idea in group work discussion and group presentation"*

L2: *"I asked lecturer question when I did not understand the material... I involved in group discussion…"*

L3: *"I gave opinion in class discussion after the lecturer presented material… I answered teacher's question for example…my idea was also applied in group"*

Involvement is a situation where learners have interest in activity, learners join the discussion, and learners enjoy their class [29]. The emphasis of learners' participation influence how well the classroom is organized [28]

4.4 Task Orientation

Learners completed work/activity that has been planned because they knew that doing assignment was part of their job as university student, learners planed and worked hard in their learning on the subject matter.

L1: *"assignment is our responsibility if … I want to do and give my best in class… I listened carefully to the lecturer and asked question if I did not understand something…*

L2: *"we have responsibility to do the task.. I check my attendance list in Moodle and WhatsApp…doing the assignment …recall the material/topic.*

L3: *"It is my responsibility to do the …I am planning independent learning. I took notes..I need to be more diligent and more communicative with people."*

Task orientation is a situation where learners are responsible on their learning, complete the learning activities and stick on the subject matter [26].

4.5 Investigation

Learners used and improved their problem solving and investigation skill

L1: *"the assignment made us solve the problem unconsciously… we thought critically when we did assignment"*

L2: *"we were given a task where we need to understand the problem and find the solution…*

L3: *"we were trained to think critically to understand the problem delivered in google meet"*

Investigation is the ability to solve the problem [26].

4.6 Cooperation

Learners were involved in collaborative learning in learning activities by y working together, learning together and having discussion.

L1: *"we share information and the task… if I did not understand I learn with my friend. we discussed every problem we get in class"*

L2: *"we discussed/ work together in google meet or WhatsApp group…we worked together to make a video…*

L3: *"we discussed virtually and followed by WhatsApp group. I learned not only from students in this class, but also other class.*

Cooperation is a situation where learners cooperate with each other in learning activity [29].

4.7 Equity

Teacher treated the students equally. Teachers gave learners the same opportunity to give opinion, ask and answer questions. Teachers also supported all students equally.

L1: *"everyone got the same support… same attention…all students have the same opportunity to speak in class*

L2: *"lecturer motivated us to learn, and to understand the material… we can ask … answer question… and give question and comment after presentation session."*

L3: *"all students have the same opportunity to discuss things… ask and answer question… lecturer motivated us in learning to get better score.*

Equity is where teacher treats learners equally, such as giving praises, giving questions, giving opportunities to join discussions [29].

4.8 Differentiation

Teachers treated learners differently based on learners' ability. Learners could choose their topic in doing assignment.

L1: *"..our group project was different with other group…uniqueness"*

L2: *"when I had to choose the topic, I chose something that was not really difficult"*

L3: *"we could choose the topic and find the material from any source"*

Differentiation is where the teacher treat students differently based on their ability, and interest [30].

4.9 Computer Usage

Learners use their computers/gadget as a tool to communicate with others and to access information in doing assignment or learning activity.

L1: *"the assignment was done by using gadget.. it was easier...*

L2: *"I used smartphone, gadget and google"*

L3: *" I used laptop for the assignment..smart phone for sending file with jpg format, ask questions…it was easier"*

Computer usage is where the students use computer or other gadgets to communicate or work with others [30].

4.10 Young Adult Ethos

Teachers treated learners as young adults by giving learners responsibility to learn, do assignment, and check their attendance list.

L1: *"I am discipline and on time in joining online class, checking attendance list, submitting task"*

L2: *"I am on time in doing and submitting the task, participated actively in online class.. ask question.. listen and answer lecturer's question"*

L3: *"..must be on time in doing and submitting assignment given…always do assignment, active in discussion…"*

Young adult ethos is where the teacher caters the students as young adult in which they take responsibilities on their learning [30].

V. CONCLUSION

In summary, it can be concluded that in general, learners had positive perception on online English class environment based on 10 factors: Learner Cohesiveness, Teacher Support, Involvement, Task Orientation, Investigation, Cooperation, Equity, Differentiation, Computer Usage, Young Adult Ethos. In general, this study found that learners enjoyed and didn't feel exhausted with the learning activity, they had good interaction with the lecturer and their peers during the class activity, they used various online learning platform such as zoom, google meet, WhatsApp, google classroom. Moreover, the use of learning platform was flexible. For instance, Concerning the data connection, sometimes teachers and students prefer to use google meet rather than zoom. In line with this study, the previous study showed that students' felt online classroom was fun and flexible since they could use some kinds of online platform [31]. Another previous study also found students' positive perception on online English learning. It showed that students were stimulated to

get involve and engage in learning activity [32]. The next researcher is hoped to find significant contribution of the learners' perception on online classroom environment on their success in online classroom environment.

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