CHAPTER II

THEORETICAL ORIENTATION

This chapter discus about challenges in learning and some aspect from implementation online learning during COVID-19 Pandemy.

A. Challenges in Learning

A challenge is something needing mental or physical effort in order to be done successfully, or the situation of facing this kind of effort[3]. The mental effort means a neurocognitive process that reflects the controlled expenditure of psychological information-processing resources during perception, cognition, and action[4]

While learning is the relatively permanent change in a person's knowledge or behavior due to experience. This definition has three components: 1) the duration of the change is long-term rather than short-term; 2) the locus of the change is the content and structure of knowledge in memory or the behavior of the learner; 3) the cause of the change is the learner's experience in the environment rather than fatigue, motivation, drugs, physical condition or physiologic intervention[5]

In the Quran, Allah the Almighty has written several verses related to challenges, Such as those found in Surah Ash-Sharh verse 5-6 that read:

$$﴿ فَاِنَّ مَعَ الْعُسْرِ يُسْرًا ۙ اِنَّ مَعَ الْعُسْرِ يُسْرًا ۗ ﴾$$

Meaning: "with hardship comes ease, Indeed, with hardship comes ease"[6]

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[3] Cambridge University Press, (2008), "Challenge", *Cambridge Learners Dictionary* (3rd ed.), p. 222

[4] Logan T Trujillo, (2019), *Mental Effort and Information-Processing Costs Are Inversely Related to Global Brain Free Energy During Visual Categorization,* The Journal Frontiers in Neuroscience, Vol.5, No. 1292, p.25

[5] Claire E. Weinstein, & Robert E. Mayer, (1986), The teaching of learning strategies. In M. Wittrock (Ed.), *Handbook of research on teaching and learning* , New York: Macmillan, p. 315-327.

[6] Talal Itani, (2012), *The Quran*, Dallas: Clear Quran, p. 324

Besides that, Allah the greatest also mentioned in Surah Al-Baqarah verse 286 as follows:

﴿ لَا يُكَلِّفُ اللّٰهُ نَفْسًا اِلَّا وُسْعَهَا ۗ لَهَا مَا كَسَبَتْ وَعَلَيْهَا مَا اكْتَسَبَتْ ۗ رَبَّنَا لَا تُؤَاخِذْنَآ اِنْ نَّسِيْنَآ اَوْ

اَخْطَأْنَا ۚ رَبَّنَا وَلَا تَحْمِلْ عَلَيْنَآ اِصْرًا كَمَا حَمَلْتَهٗ عَلَى الَّذِيْنَ مِنْ قَبْلِنَا ۚ رَبَّنَا وَلَا تُحَمِّلْنَا مَا لَا طَاقَةَ لَنَا بِهٖ ۚ وَاعْفُ عَنَّا ۗ

وَاغْفِرْ لَنَا ۗ وَارْحَمْنَا ۗ اَنْتَ مَوْلٰىنَا فَانْصُرْنَا عَلَى الْقَوْمِ الْكٰفِرِيْنَ ۝ ﴾

Meaning: "God does not burden any soul beyond its capacity. To its credit is what it earns, and against it is what it commits. "Our Lord, do not condemn us if we forget or make a mistake. Our Lord, do not burden us as You have burdened those before us. Our Lord, do not burden us with more than we have strength to bear; and pardon us, and forgive us, and have mercy on us. You are our Lord and Master, so help us against the disbelieving people".[7]

Challenges in learning are contradictions and uncertainties to makes learners more deeply understand what they are thinking about.[8] Contradiction can be seen from two point of view: traditional logic and modern formal logic. In traditional logic, a contradiction means a logical incompatibility or incongruity between two or more propositions.[9] In modern formal logic, the term is mainly used instead for a single proposition, often denoted by the falsum symbol a proposition is a contradiction if false can be derived from it, using the rules of the logic.[10] Uncertainty simply means the lack of certainty or sureness of an event. In education, uncertainty refers to the inability to foretell

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[7] Talal Itani, Ibid., p. 24.
[8] James Nottingham, (2017), *The Learning Challenge: Guiding Students Through The Learning Pit*, Australia: SAGE Publications, p. 17
[9] Laurence R. Horn, (2018), "Contradiction", *The Stanford Encyclopedia of Philosophy*,Accessed on May 23, 2021 at 08.15 P.M From https://plato.stanford.edu/archives/win2018/entries/contradiction/
[10] Math Vault, *Comprehensive List of Logic Symbols*, Accessed on May 23, 2021 at 8.20 P.M from https://mathvault.ca/hub/higher-math/math-symbols/logic-symbols/

consequences or outcomes because there is a lack of knowledge or bases on which to make any predictions.[11]

According to Nottingham, the learning challenge particularly focuses on effort, having a go, taking risks, trying new strategies, seeking advice, looking for challenges, questioning yourself and others, persevering and making progress. All of which are essential attitudes and behaviors of a growth minds.[12] Learning challenges are neurologically based, which means they have roots in the neurological system. The neurology of learning or neurological network (1) of our brain develops from our neuro-reflexes and movement. Processing skills (2) are how we use our neuro network, and life management skills (executive functioning) (3) are how we manage our neuro network. Without these tools in place, or with weak underlying processing skills and executive functioning, a learner will struggle academically (4). With a learning challenge, the individual's input, output, and/or internal processing is inefficient. This typically causes exhaustion and overload from what others see as a normal amount of work.

In conclusion, the learning challenges are the obstacles of the students to be successful in learning in scientific writing in online learning during COVID-19 pandemy.

B. Types of Learning Challenges

According to Agustina, Matra and Karimah, there are six types of learning challenges These six themes cover the main challenges faced by the students' in joining the online classes namely lecturers' poor performance, students' poor independent study skills, technical issues with the use of technology, heavy tasks, student's low motivation, and unsupportive environment.[13]

1.   Lecturers' Poor Performance

The answer above suggested that the lecturer was not in a full focus in teaching as she had many other things to do. Despite many possibilities on why the lecturer did

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[11] Corporate Finance Institute, *Uncertainty - Definition, Example, and Role in Investing*, From, https://corporatefinanceinstitute.com/resources/knowledge/other/uncertainty/ Accessed on May 25, 2021 at. 09.30 P.M

[12] James Nottingham, Ibid., p. 26

[13] Dwi Agustina, Sarlita D. Matra, & Sayyidatul Karimah, (2020), *Challenges of Having Online Learning Activities: University Students" Perspectives* The International English Language Teachers and Lecturers Conference, p.20

so, the students saw this as disturbing the teaching and learning activities. Other students wrote:

"Some of the lecturers just drop the PPT and leave it" (R55) "Sometimes the lecturer started the class at inappropriate time or schedule or if they were busy they were late in giving announcement" (R66)

These answers represent the poor performance of the lecturers especially in terms of their teaching method and schedule. The respondents saw these lecturers" behaviors as unfavorable and they perceived them as distracting the online classes in which they participated.

2.   Students' Poor Independent Study Skills

Apart from mentioning that the problems faced in online classes came from the lecturers, the respondents in this research admitted that the problems also came from themselves as students'. They felt that they lacked of independent study skills which made their learning ineffective. The students' statements above suggest that they did not really know what to do to understand the materials. They still relied heavily on the lecturers' explanation and guidance in understanding the materials. This may indicate the students" needs for independent study trainings.

3.   Technical Issues with the Use of Technology

Another problem within the implementation of online class deals with the use of technology. The students experienced several technical issues in using technology in their online classes. Among the issues were the bad signal, unstable internet network, limited data package as well as unsupported gadgets. Most of the students" university share similar problems of having bad signal and poor gadgets when they join the online class which disturbed their learning much. This suggests the need of good signal, internet network and good gadgets to support students" online learning.

4.   Heavy Tasks

Another type of challenges of having online learning activities reported by the students was the burden from the assignments or task given by the lecturers. The students noticed that they received more assignments from online classes. They felt

that the tasks became heavier especially when the tasks from different lecturers came at the same time.

5. Students' Low Motivation

The next challenges perceived by the students were their motivation which was sometimes not sufficiently high to participate in their online classes. Most of them said that they felt the boredom with the online teaching and learning activities. The lack of interest might be due to the absence of intrinsic and extrinsic motivation, the drive which pushed them to keep learning. At the same time, the finding also suggests the lecturers" lack of capability in motivating the students.

6. Unsupported Environment

As the learning took place at students' houses the situations were not as supportive as those in the university. Students reported that the crowd, the noise, and the parents" requests to help the household disturbed the online learning. The problems were faced by those living with big number of family members. Interestingly the disturbance in learning came not only from the younger members of the family but also from the older members of the family particularly as there were parents" requests for the students to do the household chores.

The University of British Columbia mention four types of learning challenges : Stress, workload, family pressures and academic preparation.[14]

Anderson said that challenges in learning challenges to be Support, Flexibility, Teaching and Learning Activities, Access, Academic confidence, Localization and Attitudes.[15]

Muslimin and Harintama states that the challenges faced by students during online course poor internet connection, simultaneous agendas, limited WhatsApp feature, and anxiety[16]

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[14] The University of British Columbia, (2021), *Top 5 Learning Challenges*, accessed on June 5 at 02.00 P.M from https://learningcommons.ubc.ca/tutoring-and-advice/learning-challenges/

[15] Annika Andersson, (2008), *Seven major challenges for e-learning in developing countries: Case study eBIT, Sri Lanka*, International Journal of Education and Development using Information and Communication Technology (IJEDICT), Vol. 4, Issue 3, p. 45-62.

According to Mursydin, Parlindungan and Rahmatillah, there are two categories challenges in learning (1) facilities or infrastructure, and (2) human resources.[17] Facility constraints include limited internet data packages, disruption of telecommunication networks in the village where students or lecturers reside, limited access to online applications or platforms, an environment that is not conducive for online learning, such as noise on the road or children, frequent electrical blackouts, and no opportunities to do laboratory works courses that require practicum. Additionally, the constraints related to human resources include low motivation of students to participate in online learning, difficulties in making students active, low ability of lecturers to develop learning, poor time management, and students" lack of discipline in online lectures. These two categories of constraints are some factors that determine the success or failure of online learning.

C. Process of Challenges in Learning

According to Nottingham, the process of challenges in learning typically has four stages: concept, conflict, construct, and consider[18].

Stage 1: Concept.

The learning challenge begins with a concept. The concept can come from the media, conversation, observations or the curriculum. So as long as some of your students have at least some understanding of the concept(s) you wish them to explore then the Learning Challenge can work. This first stage equates to the Unistructural stage of learning in the SOLO Taxonomy.

Stage 2: Conflict

The key to the learning challenge is to get your students 'into the pit' by creating cognitive conflict in their minds. This deliberate creation of a dilemma is what makes the Learning Challenge such a good model for challenge and inquiry, reasoning and

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[16] Afif Ikhwanul Muslimin & Fitrana Harintama, (2020), *Online Learning during Pandemic: Students' Motivation, Challenges, and Alternatives* , Loquen: English Studies Journal, Vol. 13, No. 2, p.60

[17] Mursyidin, Firman Parlindungan, & Refanja Rahmatillah, (2021), *Challenges in Online Learning during Covid-19 Pandemic: Lessons Learned from Universities in Indonesia*, Vol.16, Issue 4.1 TESOL International Journal, p. 120-121.

[18] James Nottingham, Ibid., p. 21

reasonableness. Stage 2 of the Learning Challenge is equivalent to the Multistructural and Relational stages of the SOLO Taxonomy.

Stage 3: Construct

After a while of being in the pit (and I'm being purposefully ambiguous by saying "after a while" because it depends on context) your students will begin to make links and construct meaning. They will do this by examining options, connecting ideas together and explaining cause and effect. Often (though not always) this leads them to a sense of "eureka" in which they find new clarity. This sense of revelation is one of the reasons why the effort of going through the pit is so worthwhile.

Stage 4: Consider

After achieving a sense of eureka, your students should reflect on their learning journey. They can do this by considering how they progressed from simplistic ideas (stage 1), to the identification of more complex and conflicting ideas (stage 2), through to a deeper understanding of how all these ideas interrelate to each other (stage 3). Now at stage 4, they can think about the best ways to relate and apply their new understanding to different contexts. This final stage of the Learning Challenge is equivalent to the Extended Abstract stage of the SOLO Taxonomy. In conclusion, the process of the challenges in learning is the step the student's follow to make successful in learning scientific writing through online learning during COVID-19 pandemy.

D. Reason of Challenges Occurred in Learning

Learning challenges are intended to make the students successful in learning. Through the student's efforts, they do activities mentally and physically such as having ago, taking risks, trying new strategies, seeking advice, looking for challenges, questioning yourself and, persevering and making progress.

According to students competitions.com[19], there are ten reason why learning challenges occur namely: growing as an individual, gaining awareness, knowledge and skills, becoming healthier both physically and mentally, saving money, achieve a goal,

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[19] Students Competitions.com, (2019), *Top 10 Reasons to Challenges Yourself* , accessed on June 5, 2021 at 10.00 P.M from https://studentcompetitions.com/posts/top-10-reasons-to-challenge-yourself,

advance in career, becoming a better friend or partner, seeking inspiration and be more creative, gaining new experiences and have more fun, achieve peace and happiness.

Challenges in the learning process are however, particularly difficult to detect and respond to in educational environments where growing class sizes and the increased use of digital technologies mean that teachers are unable to provide nuanced and personalized feedback and support to help students overcome their difficulties.[20]

E. Online Learning in Scientific Writing during COVID-19 Pandemy

1. Online Learning

According to IGI Global, online learning is an emerging approach to learn at student's own premise through advanced information-communication technologies (such as Blackboard, Moodle, YouTube, Virtual Reality) either asynchronously or synchronously.[21]

Dabbagh and Bannan[22] states that online learning is any learning that takes places using the Internet as a delivery system. They mention they are four types of online learning : A web enhanced course, synchronous distributed courses, blended or hybrid classroom courses, and blended or hybrid online courses. A web enhanced courses utilizes technology as a minor supplement to traditional classroom activities-usually no more than 20%. Synchronous distributed courses provide real time classroom learning experience to individuals who are off-campus. The students and instructor meet face-to-face but the instructor in a physical classroom and the students are at remote location. blended or hybrid classroom courses, and blended or hybrid online courses retain some face-to-face elements, but a large portion of instruction may take place online. The amount of face-to-face versus online contact is largely determined by individual institutional, who may use blended course for a variety of reasons, including feeing classroom space to offer more course sections or allowing some flexibility for students. They also differentiate between the four types of online

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[20] Jason M. Lodge, Gregor Kennedy, Lori Lockyer, Amael Arguel & Mariya Pachman, (2018), *Understanding Difficulties and Resulting Confusion in Learning: An Integrative Review*, The Journal Frontiers in Education, Vol. 3, No. 49, p.1

[21] IGI Global (2021), *What is Online Learning,* accessed on July 31st , 2021 at 09.15 PM from https://www.igi-global.com/dictionary/what-can-college-teachers-learn-from-students-experiential-narratives-in-hybrid-courses/20995

[22] Nada Dabbagh, Rose M. Marra, & Jane L. Howland (2018), *Meaningful Online Learning: Integrating Strategies, Activities, and Learning Technologies for Effective Designs.* United States: Taylor & Francis. p.1

learning and a true online course. A true online course consist of no face-to-face contact and all learning takes place via Internet.

2. Scientific Writing

Hartley says that scientific writing is a process of producing precise, impersonal and objective written text.[23] A precise written text is a text whose the primary objectives is to convey information. This can be used for technical and non-technical communication. This kind of text is different from fiction text in which objective is story telling and it also different from persuasive text which describe for political, legal and commercial objectives. The characteristics of precise written text are clarity and conciseness. Clarity means has structure and balance that make it easy to read and understand. To achieve clarity, fuzziness and ambiguity must be avoided. The conciseness means that a text should consist of minimal number of words needed to convey information without sacrificing clarity while providing fault tolerance.[24]

In the Holy Qur'an, Allah the greatest also explained about writing in Surah Al-Alaq Verse 4-5:

﴿ الَّذِيْ عَلَّمَ بِالْقَلَمِ ۙ عَلَّمَ الْإِنْسَانَ مَا لَمْ يَعْلَمْ ﴾

Meaning : "Who taught by the pen. Taught man that which He knew not"[25]

In addition, Prophet Muhammad (PBUH) in his hadiths' said about writing :

أَخْبَرَنَا أَبُو عَاصِمٍ أَخْبَرَنِي ابْنُ جُرَيْجٍ عَنْ عَبْدِ الْمَلِكِ بْنِ عَبْدِ اللَّهِ بْنِ أَبِي سُفْيَانَ عَنْ عَمِّهِ عَمْرِو بْنِ أَبِي سُفْيَانَ أَنَّهُ

سَمِعَ عُمَرَ بْنَ الْخَطَّابِ يَقُولُ قَيِّدُوا الْعِلْمَ بِالْكِتَابِ

Meaning : "Narrated Abdul Malik bin Abdullah bin Abu Sufyan from his uncle 'Amr bin Abu Sufyan, he had heard from Umar bin Khattab said: Bind knowledge by writing". (HR. Ad-Darimi Number. 497)[26]

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[23] James Hartley, (2008), *Academic Writing and Publishing: A Practical Handbook*, United Kingdom: Routledge, p.3

[24] Dennis S. Bernstein. (2009). *What is Precision Writing?*, Mechanical and Manufacturing Engineering Graduate Studies Newsletter Vol. 1, Issue 6, p.1

[25] Talal Itani, Ibid., p. 325

3. COVID 19 Pandemy

The COVID-19 pandemy is a situation where Corona viruses spread out to all over the world and give impact to the people lives causing them infective until died. This pandemy started at late December 2019, an outbreak of a mysterious pneumonia characterized by fever, dry cough, and fatigue, and occasional gastrointestinal symptoms happened in a seafood wholesale wet market, the Huanan Seafood Wholesale Market, in Wuhan, Hubei, China.[27] This condition influence all aspect of our live including education.

Education in Indonesia has at least four changes Replace the National Standard School Examination, (USBN), Remove the National Examination (UN), One sheet of Lesson Plan (RPP), and, loosen Zoning Regulations for New Student Acceptance (PPDB).[28]

In higher education, according to Firman, the impact of COVID-19 pandemic on learning in higher education are: (1) Replacement of traditional learning with online learning; (2) Increase use of technology in learning; (3) increase of students' self directed learning.[29]

This Impact of changes of education give the students challenges in learning especially in English scientific writing.

[26] Sunan Ad-Darimi, Chapter Mukaddimah, Hadith 497

[27] Huang C, Wang Y, Li X, Ren L, Zhao J, Hu y, et al., (2020), *Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China*, The Lancet , Vol. 395, Issue 10223, p.497

[28] Kementerian Pendidikan dan Kebudayaan RI, (2019) , *Mendikbud Tetapkan Empat Pokok Kebijakan Pendidikan Merdeka Belajar,* accessed on August 28th, 2021 at 09.40 P.M from https://www.kemdikbud.go.id/main/blog/2019/12/mendikbud-tetapkan-empat-pokok-kebijakan-pendidikan-merdeka-belajar

[29] Firman. (2020). *Dampak Covid-19 terhadap Pembelajaran di Perguruan Tinggi*. BIOMA: Jurnal Biologi Dan Pembelajarannya Vol. 2 No.1, p.14.