

# THE RELATIONSHIP BETWEEN INDONESIAN ONLINE LEARNERS' LEARNING STRATEGIES AND LEARNER-INSTRUCTOR INTERACTION IN MASSIVE OPEN ONLINE COURSE (MOOC)

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## ABSTRACT

*This study aimed to expose the Indonesian online learners' learning strategies used in MOOC and investigated the relationship between the learning strategies and learner-instructor interaction in MOOC. The method employed was quantitative research and used the correlational study. The data for this study were collected from 500 Indonesian online learners (359 females and 141 males) who enrolled in Sekolah TOEFL, one of the MOOCs in Indonesia. This study used translated and modified version of Motivated Strategies for Learning Questionnaire (MSLQ), students' experience in e-learning questionnaire, and learner-instructor interaction in the online course. The three questionnaires were distributed through an electronic survey site, Google Form<sup>TM</sup>. The data were analyzed using descriptive statistics and Pearson Product Moment Formula to correlate both learning strategies and learner-instructor interaction. The findings enrich our understanding of learners' learning strategies that are used in MOOC and reveal the relation of the learning strategies and learner-instructor interaction in MOOC.*

**Keywords:** learning strategies, learner-instructor interaction, MOOC, correlation, Pearson Product Moment

## INTRODUCTION

Advances in technology bring a lot of innovations in several aspects of human life including education. The advancement of technology allows for more choices in teaching media. Today, there is an online learning offering courses which are followed by a huge number of students which is called Massive Open Online Course (MOOC). MOOC is usually characterized by open access, no fees, and requiring no prerequisites for joining. MOOC can potentially accommodate an unlimited number of students because, unlike traditional classroom, MOOC usually entails minimal student-instructor interaction (Xiong *et al.*, 2015). The term of massive refers to an educational institution which offers courses to a lot of students (Wang, 2014). The term open in MOOC means that the course offered is free for anybody in the world to access while the term online indicates the e-learning format and that learners need to study through the internet as the course is delivered in digital forms of media. The term course means the learning content provided is not fragmented knowledge but a course which is designed for learning step by step (Wang, 2014). Learning materials in MOOC are designed from the easiest components to the hardest ones. In general, MOOCs are free to anyone; the only requirements are the ability in operating the computer and accessing the internet, internet connection, one's learning desire, and the effort required to complete the courses (Wang, 2014).

Most recently, there is MOOC offering students to learn Test of English as a Foreign Language (TOEFL) in Indonesia, named Sekolah TOEFL. Sekolah TOEFL is a nonprofit MOOC platform that is created by an Indonesian doctoral student in the United States in 2015 to help other students learn the TOEFL especially in preparing them to apply for a scholarship to study abroad

requiring an acceptable TOEFL score. TOEFL is the most popular English language test for international students who wish to enroll in a Bachelor's, Master's, or Doctoral degree at a university or college in the USA (Potter, 2017). TOEFL is used as a standardized test to measure English proficiency of non-native English speakers. A lot of students from non-English speaking countries must take this test in order to meet the requirement. There is a standardized score that the students should achieve in order to be accepted at the university that they apply to get the scholarships, apply for jobs, or fulfill the requirement to graduate from a university. In other words, the students should achieve a score which agrees with the standardized score regulated by the associated institutions. For instance, the minimum paper-based TOEFL score required by the universities in the United States is at least 500 (Potter, 2017). In addition, TOEFL score is one of the requirements to submit for prestigious scholarships in Indonesia such as Fulbright scholarships and Indonesia Endowment Fund for Education (LPDP). The Master's degree scholarship candidates must have a minimum TOEFL score of 550 and 575 for Doctoral degree scholarship candidates (AMINEF, 2017). LPDP scholarship sponsored by the Indonesian government requires the scholarship candidates to have a minimum TOEFL score of 500 if the candidates apply in universities in Indonesia or to have a minimum TOEFL score of 550 if the candidates apply to universities abroad (LPDP, 2017).

The skills learned in Sekolah TOEFL are focused on the paper-based TOEFL skills such as structure and written expression, reading, and listening skills. The learning materials of structure and written expression are organized from the simple structure to the complex one. The explanation given in the handbook uses Bahasa. The instructor tends to use Bahasa in giving the instruction and feedback since Bahasa is the first language of all students in Sekolah TOEFL so that the students can easily grasp the learning materials and avoid language barriers. Since Sekolah TOEFL was launched in May 2015, it has attracted thousands of Indonesian students not only in Indonesia but also in overseas. Now, the number of students of Sekolah TOEFL reached 81.507 students. The huge number of students joined in Sekolah TOEFL obliges the students to have strategies in learning because the instructor deals with thousands of students.

In accordance with Littlejohn *et al.* (2016), typically involve minimal direct interaction between the instructor and learners. In the online learning environment, particularly in MOOC, the online learners are expected to be active, autonomous, independent, and self-directed (Moore as cited in Veletsianos, Reich, & Pasquini, 2016) with the ability to manage their learning and employ learning strategies to achieve desired outcomes (Veletsianos, Reich, & Pasquini, 2016). It indicates that the online learners are required to understand the strategies which they can use to attain the desired outcomes, to resolve the challenge they face, and to persist in MOOC. Sekolah TOEFL, as mentioned earlier, is established to help Indonesian students obtain a higher score of TOEFL while it is largely known that most Indonesian students have difficulties in acquiring a high TOEFL score. Some of the causes of the low TOEFL score obtained by Indonesian students and their difficulties in mastering the TOEFL may be due to ineffective learning strategy and interaction during teaching and learning processes. Based on the issues stated formerly, this study attempts to reveal the learning strategies used the most and the least by the online learners, to identify in what way the interaction between instructor and learners in MOOC, and to discover the relationship between the instructor and learner interaction in MOOC and the learners' learning strategies.

MOOC integrates the connectivity of social networking, the facilitation of an acknowledged expert in a field of study, and a collection of freely accessible online resources (McAuley, Stewart, Siemens, & Cormier, 2010). The program course of Sekolah TOEFL is based on synchronous and asynchronous communication methods over the Internet. Sekolah TOEFL utilizes Facebook group, blog, and SchoolingMe website which are its main site and learning environment. Sekolah TOEFL as an English language learning environment has a positive attitude (Astuti, Sudrajat, Soedrajat, Kurniasih, Dewayani, & Nurani, 2016). According to Astuti *et al.* (2016), the students perceive Sekolah TOEFL as a useful learning media to create a good learning environment and to help them in enhancing their motivation in learning English, particularly TOEFL skills.

The changes in learning through online media need to be coped with appropriate strategies. Internet-based distance learning, such as MOOC, has the potential to affect motivation and learning strategies because it changes the learning environment indicated by physical separation of the instructor and the learners. Considering that a MOOC generally involves minimal student-instructor interaction and takes a short period to learn, the online learners are required to have a strategy to resolve the barrier they face in MOOC and endure it until they complete the course accomplish the desired outcomes. Every learning process requires a manner or a strategy to be adopted in order to achieve the main purpose of learning (Hardan, 2013). The strategies used by students in learning process in order to accomplish their goals are identified as learning strategies. The learning strategy becomes one significant factor to be a successful online learner. MOOC deals with a huge number of learners and a few numbers of instructors. The learning strategy use can assist the learners to regulate their learning in digital learning environment and overcome the learners' challenge that they encounter to avoid dropping out from the course. Online learners need to manage their learning more than in face-to-face class. In this way, they are often required to be more self-directed to monitor their own thinking and action as they work towards the objective of the online course (Wang, 2008). Zimmerman (2000, 2008) as cited in Veletsianos, Reich, & Pasquini (2016) explains that the ability to manage the learning process and employ the learning strategies to achieve the goals is often described as self-regulated learning.

The learning strategies that self-regulated learners used are diverse (Pintrich, 1990). They are classified into three categories of learning strategies; cognitive strategies, metacognitive strategies, and resource management strategies. Cognitive strategies include the students' use of basic and complex strategies for processing of information from texts and lectures (Duncan & McKeachie, 2005). Cognitive strategies explore the use of rehearsal by the students (e.g., repeating the words over and over to oneself to help in the recall of information), concern the use of elaboration strategies (e.g., paraphrasing and summarizing), and organization strategies (e.g., outlining and creating the tables). In addition, critical thinking is included in cognitive strategies which focus on the students' use of strategies to apply previous knowledge to new situations or make critical evaluations of ideas (Duncan & McKeachie, 2005). Metacognitive strategies attempt to help the students control and regulate their own understanding such as planning (e.g., setting goals), monitoring (of one's comprehension), and regulating (e.g., adjusting reading speed depending on the task). While resource management strategies are connected to students' regulatory strategies for controlling resources other than their cognition (Duncan & McKeachie, 2005). These strategies include managing one's time and study environment (e.g., using one's time well, having an appropriate place to study), as well as regulation of one's effort (e.g., persisting in the face of difficult or boring tasks).

Moreover, the two other categories related to resource management strategies are peer learning (e.g., using a study group or friends to help learn) and help-seeking (e.g., seeking help from peer or instructors when needed) (Duncan & McKeachie, 2005). The categories of learning are interrelated and interacting with one another (Pintrich, 2000). Bagheri, Yamini, & Riazi (2009) elaborate the categories of learning strategies proposed by Pintrich and De Groot (1990). They describe that the cognitive and metacognitive strategies enable learners to rehearse, elaborate, and organize the materials while resource management strategies help learners in time and environment management, social controls, self and peer helping. When the learners resort to control and regulation strategies, they have better control over their attention, motivation, affect, behavior and the overt process of self-control (Bagheri, Yamini, & Riazi, 2009). This present study attempts to examine the learning strategies that are used the most and the least by the online learners in MOOC context and its relation to the learner-instructor interaction.

The open nature of MOOCs allow anyone to enroll, leads to diversity in motivation, and expectation among learners (Kizilcec, Pérez-Sanagustín, & Maldonado, 2017). In several studies, one part which has been considered as the most significant elements of learning experiences both in conventional education and online learning environments is the interaction (Moore as cited in Kang &

Im, 2013; Jung, Choi, Lim, & Leem, 2002; Reeves, 2007). Through interaction, the learners are able to exchange information and knowledge with peers and instructors. From this process, the learners and instructors construct new knowledge. According to Moore & Kearsley, as cited in Yukselturk & Bulut (2007), instructor-learner interaction in online learning is an important part of learning in general, not just in the online environment. In many studies, students have indicated the level of interaction in online courses greatly exceeds of a traditional environment (Moore, 2014).

In Sekolah TOEFL, the learners are able to interact with the instructor through their personal accounts. The learners are permitted to ask questions related to TOEFL skills and scholarships. Accordingly, the instructor can answer students' questions immediately. Facebook group is a place for the students-instructor interactions, for instance doing the Questions of The Day (QOTD), discussing the learning materials, conducting Weekly Online Meeting on Sundays. The instructor shares the link and password to download a weekly handbook in the Facebook group every Monday or Tuesday. The link is connected to Sekolah TOEFL blog. The learning materials can only be downloaded by the students of Sekolah TOEFL. The link is able to be accessed for a week since the link has been shared. It indicates that Sekolah TOEFL obliges the students to be discipline. Moreover, the instructor also gives a QOTD three times in a week (on Tuesdays, Thursdays, and Saturdays) in the Facebook group. In QOTD, there are two or three questions related to learning materials discussed in the handbook. The students are required to answer the questions along with the explanation of their answers. Then the instructor gives the feedback accompanied by the next QOTD. The students should tell a number of the correct answers from the previous QOTD. In addition, the instructor provides a TOEFL prediction test once in a month. McAuley, Stewart, Siemens, and Cormier (2010) argue that perhaps most significantly, MOOC constructs in the active engagement of several hundred to several thousand students who self-organized their participations according to learning goals, prior knowledge and skills, and common interest.

Interaction in online learning has an important role that affects educational success factors for learners (Zimmerman, 2012). Moore identifies a three-dimensional construct that characterized interaction as either learner to content, learner to the instructor, or learner to learner. Students ranked response to student inquiries, provision of timely feedback, and posting to discussion boards as the most important things an instructor can do in a course (Dennan, Darabi, & Smith, 2007).

## METHODS

This study is to investigate the relationship between learning strategies used by the online learners in MOOC and the interaction between the learners and the instructor in MOOC. Accordingly, this study employs a quantitative research method since quantitative research approaches are applied to describe current conditions, investigate relations, and study cause-effect phenomena (Gay, Mills, & Airasian, 2012). Pearson Product moment correlation is used in this study to correlate the two variables and to discover the significance of the relationship between the online learners' learning strategies and the learners-instructor interaction in MOOC. The independent variable of this study is learning strategies and the learners-instructor interaction is the dependent variable.

Three sets of questionnaires are distributed in this study. The researchers adapt three questionnaires from the Motivated Strategies for Learning Questionnaire (MSLQ) (Pintrich, 1990), student's experience in e-learning (Paechter, Maier, & Macher, 2010), and learner-instructor interaction in the online course (Kang & Im, 2013). The Indonesian version of MSLQ, students' experience in e-learning questionnaire and learner-instructor interaction in online course questionnaire is distributed through an electronic survey site, Google Form™. Students of Sekolah TOEFL are invited via email to participate in the questionnaire by following the electronic link provided.

Additionally, the questionnaires are also posted in Sekolah TOEFL Facebook Group to gain a greater number of students to participate in this survey. The respondents are given two weeks to respond to the questionnaires. Completed responses are compiled in an Excel spreadsheet.

The Motivated Strategies for Learning Questionnaire (MSLQ) (Pintrich, 1990) can be used to investigate distance learners' strategy use, such as time management, effort management, help seeking, and self-regulated strategies (Bagheri, Yamini, & Riazi, 2009). There are 23 items of statements of MSLQ (Pintrich, Smith, Garcia, & McKeachie, 1991) in this study with a 7-point Likert scale ranging from 1 (not very true of me) to 7 (very true of me). The students' experience in e-learning questionnaire (Paechter, Maier, & Macher, 2010) is used to measure students' experience concerning course design and the interaction with peer students and satisfaction in e-learning. The items of the questionnaire in this study comprise four items of statements with 5-point Likert scale surveys ranging from 1 (strongly disagree) to 5 (strongly agree).

The last questionnaire is adapted from Kang & Im's (2013) questionnaire which covered 15 items of statements about learner-instructor interaction in the online course with a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The learner-instructor interaction questionnaire consists of five factors including guidance and facilitating learning, social intimacy, instructional communication (Q&A), the presence of the instructor, and instructional support (support and management of learning materials).

Those three questionnaires are translated into Bahasa in order to avoid misunderstanding in completing the questionnaires. The items of questionnaires in this study are modified and selected to suit the purpose of this study. The questionnaire used in this survey consists of four sections. The first section solicits demographic information of students, students' occupation, the gender, the students' preferred media to interact with the instructor, and the frequency of time that the students used to access the online course. The second section explores about the students' motivational beliefs. The third section examines the students' learning strategies. And the last section investigates the learner-instructor interaction.

The total respondents of this study are 500 online learners who registered in Sekolah TOEFL; they are 141 males (28,2%) and 359 females (71,8%). All participants are Indonesian whose age ranged from 16 to 50 years old. The respondents consist of high school students (3,6%), diploma students (4,4%), undergraduate students (55,2%), graduate students (10,6%), doctoral students (0,6%), and workers (25,6%). The participants of the study regularly attend the online course. Most participants enroll Sekolah TOEFL because they want to learn about TOEFL skills and to gain the TOEFL score in order to meet a requirement for various purposes such as applying for a scholarship, applying for a job, and others. The participants voluntarily complete the survey.

This study is conducted in a specific online learning environment that refers to MOOC where teaching-learning activities are fully online at Sekolah TOEFL. The context of this study is a pure online learning environment that teaching and learning processes are only mediated by the computer, and it is not an online learning environment to support offline classes. In this context, the interaction between instructors and learners refers to interaction in computer-mediated communication (CMC) environment which emphasized a human versus human interaction through computer networks (Kang & Im, 2013). In this MOOC, learners are able to contact other learners through discussion group in the Facebook group and can contact the instructor through email, discussion group, and instructor's personal accounts. Moreover, the instructor arranges an online meeting in the Facebook group once a week (on Sundays) for two hours to review the materials in the weekly handbook and to give feedback. The learners are able to chat with the instructor in a synchronized way. The course content of Sekolah TOEFL is introducing TOEFL skills, and it is presented in an online learning environment. Course contents are in the form of weekly handbooks, regular quizzes QTD, audios, and videos.

The following section describes the steps in analyzing the data and the results of this analysis for the total sample of learners of Sekolah TOEFL (N = 500). The goal of analyses is to reveal the most and the least learning strategies used by the online learners in MOOC and the relation of learning strategies and learner-instructor interaction. The collected data from the questionnaires are analyzed by using Statistical Package for Social Science (SPSS) version 22 to gain the mean of each item and to know the relation between the learners' learning strategies and learner-instructor interaction. The means are gained by operating the descriptive statistics in SPSS version 22. To identify the relationship between learners' learning strategies and the learner-instructor interaction, the data related to learners' learning strategies and learner-instructor interaction are analyzed by utilizing the Pearson Product moment correlation in SPSS version 22. There are two variables in this investigation, the first is learners' learning strategies (X) and the second is the learner-instructor interaction (Y). Those two variables are chosen in consideration that they have met the three assumptions which are proposed by Hatch & Farhady (1982); the two variables are continuous, score on X (learners' learning strategies), and Y (learner-instructor interaction) are independent, and the relationship between X and Y is linear. This study is an attempt to prove the hypothesis that there is a correlation between the learners' learning strategies and learner-instructor interaction in MOOC. The data related to research questions are investigated, and then the findings are discussed in the result and discussion.

## RESULTS AND DISCUSSIONS

This section is aimed to answer the research questions addressed in the study and discuss the findings of the study. Table 1 describes the demography of the participants of the study. This table describes the proportion of the participation based on their gender, age, occupation, length of learning time at Sekolah TEOFL site, and their preference in using learning media for interaction.

Table 1 Characteristics of the Participants

	Category	Number	Percentage (%)
Gender	Male	141	28
	Female	359	72
	Total	500	100
Age	- 17	6	1,2
	17 – 22	215	43
	23 – 28	204	40,8
	29 – 34	47	9,4
	35 – 40	19	3,8
	41 – 45	7	1,4
	46 – 50	2	0,4
	Total	500	100
Occupation	Student		
	High school student	18	3,6
	Diploma student	22	4,4
	Undergraduate student	276	55,2
	Graduate student	53	10,6
	Doctoral student	3	0,6
	Worker	128	25,6
	Total	500	100

Table 1 Characteristics of the Participants (continued)

	Category	Number	Percentage (%)
Weekly Learning Time for Sekolah TOEFL	Less than 1 hour	80	16
	1 – 3 hours	221	44,2
	3 – 5 hours	125	25
	5 -7 hour	59	11,8
	more than 7 hours	15	3
	Total	500	100
Learner-Instructor Learning Interaction Media Preference	Facebook (Messenger and Group)	321	64,2
	Whatsapp Messenger	94	18,8
	Line Messenger	71	14,2
	E-mail	14	2,8
	Total	500	100

The first research question of this study is to discover the most and the least learners' learning strategies that are used by the online learners in MOOC. The result obtained from 23 items in learning strategies section that showed the mean scores of cognitive strategies are 4,957 (70,81% of online learners), metacognitive strategies are 5,086 (72,33% of online learners), and resource management strategies are 4,328 (61,83% of online learners), as presented in Table 2. It indicates that most of the online learners in MOOC tended to employ metacognitive strategies instead of cognitive strategies and resource management strategies to support their learning in MOOC. This result reveals that the online learners in MOOC managed to control and regulate their learning and monitor their own cognition. More than 80% of the online learners are inclined to examine their own knowledge as stated in item 23 (When I become confused about something I'm reading for this online course, I go back and try to figure it out). It implies that the weekly handbooks given by the instructor in online course facilitate them to scrutinize their understanding toward the learning materials. By using metacognitive strategies, it possibly can assist the online learners to monitor, control, and regulate their learning in MOOC. While the utmost learning strategies used by the online learners in MOOC is metacognitive strategies that the least learning strategies chosen by the online learners are resource management strategies. It is shown from the lowest mean score gained from resource management strategies, that is, 4,328 (61,83% of online learners). Resource management strategies are connected to students' regulatory strategies for controlling resources other than their cognition (Duncan & McKeachie, 2005). Almost 78% of online learners prefer to learn by themselves without seeking help from other learners and instructor. As seen in item 22, it is stated that "Even if I have trouble learning the material in this online course, I try to do the work on my own, without help from anyone".

Table 2 Learners' Learning Strategies

	Category	Mean	Percentage (%)
Cognitive	Rehearsal	4,996	71,37
	Elaboration	4,635	66,21
	Organization	5,102	72,89
	Critical Thinking	5,093	72,76
		4,957	70,81
Metacognitive	Metacognitive Self-Regulation	5,063	72,33
		5,063	72,33
Resource Management	Time and Study Environment	5,25	75
	Management	4,942	70,6
	Effort Regulation	3,645	52,07
	Peer Learning	3,133	44,76
	Help Seeking	4,671	66,73
	4,328	61,83	

Henceforth, the second research question addressed in this study is examining about the learner-instructor interaction in MOOC. To answer this second question, the researcher adapts learner-instructor interaction questionnaire that is constructed by Kang and Im (2013) and students' experience in e-learning that is created by Paechter, Maier, & Macher (2010). The overall analysis of the 20 items is reported in Table 3. The result of learner-instructor interaction section shows that the interaction between the learners and the instructor in the online course occurs when the instructor shares information of the online course. The examples of this are distributing the course syllabus and schedule (81,8%), answering learners' questions (70,68%), and discussing about the assignment and the exams (64,68%). The learners believe that doing the question and answer with the instructor can help them to perform better in learning activities (73,72%). In addition, the instructor gives the learners fast feedback through e-mail, chat (Facebook, Line Messenger, Whatsapp Messenger, Blackberry Messenger), newsgroups (Sekolah TOEFL Facebook Group) (72,56%). To maintain the social intimacy between the learners and the instructor in the online course, the instructor asks the online learners to introduce themselves to each other at the beginning of the course (75,32%). They are allowed to share their personal information and interest to sustain the social affection between the learners and instructor (67,16%). Since learner-instructor interaction becomes one of the significant factors to decrease the number of attrition of the learners in MOOC, the instructor encouraged his/her learners to be more active to participate in the online course activities (78,64%). It can be done by giving positive reaction such as praise when the learners actively participated in the online course (73,68%). Moreover, the instructor provides ample opportunities in the course to establish the interaction between learners. So, it could be concluded that learner-instructor interaction occurred in the online course is in the form of guidance and facilitating learning, personal communication (social intimacy), and instructional communication (Question-Answer).

Table 3 Learner-Instructor Interaction

Item	Mean	Percentage (%)
1. I can participate in the Sekolah TOEFL more actively because of instructor's positive reaction (e.g., praise) to my participation.	3,64	72,84
2. Instructor shares information about online class such as syllabus and online class schedule and it helps my learning in the Sekolah TOEFL.	4,09	81,8
3. Instructor's encouragements to my passive attitude towards the Sekolah TOEFL lead me to actively participate in the online class.	3,93	78,64
4. Instructor shows me the positive reaction such as praise when I actively participate in online learning activities.	3,68	73,68
5. Social intimacy I shared my specific personal information such as private interests with the instructor.	3,05	61,04
6. My instructor and I introduce each other at the beginning of the class.	3,77	75,32
7. After introducing each other at the beginning of the class, I feel more comfortable with the instructor.	3,57	71,32
8. I can be more familiar with the instructor through sharing of specific personal information such as private interests.	3,36	67,16
9. I can easily ask questions and get answers regarding learning content (e.g., instructional materials) to the instructor and get answers.	3,53	70,68
10. I freely discuss with the instructor about learning activities such as assignments, discussions and exams.	3,23	64,68
11. The instructor provides the appropriate answers to me regarding my questions about learning content (e.g., content, instructional materials).	3,70	74,04
12. I can understand the focus of the content which I am not sure based on the answers of the instructor to my questions.	3,59	71,72
13. I can frankly tell my thoughts to the instructor when his/her explanation is different from my perspective.	3,34	66,76
14. Q & A with the instructor about learning content (e.g., instructional materials) helps me perform better on learning activities.	3,69	73,72
15. My instructor is always helpful when I need help.	3,73	74,6



Table 3 Learner-Instructor Interaction (continued)

Item	Mean	Percentage (%)
16. I think my instructor perceives my existence.	3,45	69,04
17. My instructor gives fast feedback via e-mail, chat (Facebook, Line Messenger, Whatsapp Messenger, Blackberry Messenger), newsgroups (Sekolah TOEFL Facebook Group), and/or other communication facilities.	3,63	72,56
18. The instructor consistently provides additional or advanced learning materials to me which is necessary for learning.	3,70	74
19. I can exchange knowledge easily and quickly with other course participants via e-mail, chat, newsgroups, etc.	3,44	68,76
20. There are ample opportunities in the course to establish personal contact with other participants	3,85	76,96

The third research question addressed in this study is to investigate the relationship between the learning strategies and learner-instructor interaction. To answer that question, the product moment correlation on SPSS version 22 is used to find the relationship between two variables (learning strategies and learner-instructor interaction) as can be seen in Table 4.

Table 4 The Relationship between Learning Strategies and Learner-Instructor Interaction

		Correlations		
		Cognitive	Metacognitive	Resource Management
Guidance and Facilitating Learning	Pearson Correlation	0,148**	0,192**	0,166**
	Sig. (2-tailed)	0,000	0,000	0,000
	N	2000	2000	2000
Social Intimacy	Pearson Correlation	0,098**	0,147**	0,017
	Sig. (2-tailed)	0,000	0,000	0,443
	N	2000	2000	2000
Instructional Communication (Q & A)	Pearson Correlation	0,153**	0,020	0,037*
	Sig. (2-tailed)	0,000	0,370	0,041
	N	3000	2000	3000
Presence of Instructor	Pearson Correlation	0,138**	-0,025	0,245**
	Sig. (2-tailed)	0,000	0,433	0,000
	N	1000	1000	1000
Instructional Support (Support and Management of Learning Materials)	Pearson Correlation	0,171**	0,065**	0,090**
	Sig. (2-tailed)	0,000	0,004	0,000
	N	2000	2000	2000

\*\* . Correlation is significant at the 0,01 level (2-tailed).

\* . Correlation is significant at the 0,05 level (2-tailed).

Table 4 presents the correlation between learning strategies and learner-instructor interaction. The learning strategies are classified into three categories. Each category of learning strategies is correlated to each factor under learner-instructor interaction. Correlation between each item under learner-instructor interaction and cognitive strategies is revealed as 0,098–0,171. It shows that the relation between learner-instructor interaction items and cognitive strategies are on positive very low correlation. Correlation between metacognitive strategies and each item under learner-instructor interaction is revealed as -0,025–0,192. The relationship between present instructor and metacognitive strategies is on negative very low correlation while the relation between the three other factors and metacognitive strategies is on positive very low correlation. Correlation between resource management strategies and each factor under learner-instructor interaction is revealed as 0,017–0,245.

It shows that the relation between resource management strategies and learner-instructor interaction is on the positive very low relation.

According to Table 4, the general positive relationship is reported among all the various learning strategy categories, except for the metacognitive strategy category and the presence of instructor which has a negative correlation. The overall analysis of the correlation between learning strategies and learner-instructor interaction is on very low correlation.

## CONCLUSIONS

Sekolah TOEFL as MOOC has attracted many students in Indonesia to learn TOEFL skills. Consequently, the instructor has to deal with a huge number of students which therefore limits the amount of learner-instructor interaction to the minimum. Because of this reason the online learners are required to set the strategies which they can use to attain the desired outcomes and to resolve the challenge they face and to persist in MOOC. The results show that most of the online learners tended to resort to metacognitive strategies to support their learning in Sekolah TOEFL. By using metacognitive strategies, the online learners are able to control and regulate their learning in MOOC and monitor their understanding toward the learning materials. The learners believe that having question-and-answer sessions with the instructor help them perform better in learning activities. This strategy is able to assist these online learners in achieving their goals. The highest level of interaction occurs in Sekolah TOEFL when the instructor shares information of the online course, for instance, when the instructor distributes the course syllabus and learning schedule. In addition, since learner-instructor interaction becomes one of the significant factors to decrease the number of dropping out of the learners in MOOC. The instructor encourages his/her learners to be more active to participate in the online course activities by giving positive reaction such as praise when the learners actively participated in the online course.

Findings of this study show that maintaining interaction between the instructor and the learners is important to gain learners' motivation to be more active in learning. The utilization of metacognitive strategies are helpful to regulate learners' learning and understanding of learning materials, and the interaction through question-and-answer sessions are meaningful to help the learners perform better in learning. Although the result of statistical calculation of the variables in this study shows that the relationship between the learners' learning strategies and learner-instructor interaction is categorized into very low correlation, the online learners consider the learner-instructor interaction function as guidance and support in their learning process in online learning environment.

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