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**LECTURER-STUDENT TRANSACTIONAL DISTANCE DURING ONLINE LEARNING*****Mutohhar****Universitas Muria Kudus*[\*mutohhar@umk.ac.id\*](mailto:mutohhar@umk.ac.id)***Agung Dwi Nurcahyo****Universitas Muria Kudus*[\*agung.dwi@umk.ac.id\*](mailto:agung.dwi@umk.ac.id)**ABSTRACT**

Distance learning has recently been implemented by most universities in Indonesia along with the pandemic situation. Challenges in learning and teaching have been following up during the implementation of distance learning including the emergence of communication gap or distance between lecturers and students, which is popularly known as transactional distance. The study aimed to describe the presence of lecturer-student transactional distance in terms of lecturers' teaching reflection of their satisfaction towards online learning activities. By conducting a survey to 12 lecturers from different educational institutions and referring to the theory of Transactional Distance of Michael G. Moore, the study found that transactional distance occurred during online learning indicated by several aspects, i.e., (1) the existence of psychological gap in the course, (2) non-existence of interactive communication between lecturer and student, and (3) high rigidity of course structure.

*Keywords: distance learning, transactional distance, lecturer-student transactional distance, online learning*

**INTRODUCTION**

There had been not many schools and higher education institutions applying Distance Learning before the pandemic of coronavirus until the pandemic occurred in Indonesia. Several months after the beginning of the pandemic, the ministry of education and culture ordered the implementation of Distance Learning (Indahri, 2020). This learning model has been preferred to meet the health protocol of social distancing so as to prevent the spread of coronavirus. This pandemic circumstance has also occurred in many other countries in the world which forces them to consider promoting Distance Learning model in order to save lives of lecturers, teachers, students and the society (Yarovaya et al., 2020). The model, in which the teacher/lecturer is physically separated from the students, necessitates the absence of physical direct contact between teacher/lecturer and students in learning activities (Arain & Munshi, 2019). Distance Learning as one of the elements of Distance Education is aimed to teach distance learner, so it needs supporting technology to make the learning process run smoothly. The most preferable supporting technology is nowadays Information and Communication Technology, which is familiarly called as ICT (Falloon, 2011). In line with the progress of ICT, efforts have been done to develop online learning models to cope with problems coming up as a consequence of distance learning implementation. Some problems during online learning have become new challenges, such as student's learning motivation, technology related problems, and parent's involvement (Supratiwi et al., 2021). Another study addressed the problems derived from the process of changing from formal education to online education, i.e., level of student's understanding, lack of scope for meaningful interaction, and the range for innovative teaching. The problems should be followed up with the promotion to teachers and students for being resilient in having the learning process (Mishra et al., 2020).

Distance learning supported by ICT is mostly chosen by educational institutions to meet the government regulation to implement Distance Learning during the pandemic situation. One of the challenges is then how to maintain interactive communication between teachers/lecturer/tutors and students (Weidlich & Bastiaens, 2018). During the learning process of distance learning, some problems learning and teaching interaction may appear, such as lack of feedback and contact between teachers and students and lack of social interaction (Pant, 2014). Efforts have been done to cope with the challenge by tracing the history of distance learning, its problems and solutions from time to time (Pant, 2014). Optimizing online learning quality can be one of the solutions to the problems in distance learning. Nowadays, in line with the development of digital learning media, online learning can be conducted through synchronous and asynchronous ways. Solutions have been developed for the problems emerging in distance learning. Teachers or lecturers should spare their time to create various methods of instruction or teaching compatible with distance learning so as to compensate the disruption of direct process of transferring knowledge from a teacher to a student due to distance (Yarovaya et al., 2020). Due to the necessity of social distancing in the pandemic of coronavirus the use of internet in distance learning is a preferable alternative to cope with teaching and learning problems. Online learning can now be developed into three models, those are synchronous, asynchronous and hybrid models. Synchronous model provides a real time interaction and asynchronous model is not time bound, whereas hybrid model is a combination between synchronous and asynchronous models (Perveen, 2016). These three models are alternatives for solving problems of teacher and student's gap of interaction during distance learning.

There is a well-known theory related to distance learning and its problems, initially suggested by Michael G Moore, called Transactional Distance (TD). It is concerned with psychological and communicative space or gap separating instructor from learner in transaction between them in the structured or planned learning situation (Falloon, 2011). Transactional Distance (TD), according to Wengrowicz & Offir (2013), is a pedagogic distance (that influences student's understanding), a psychological distance (that influences the sense of student's satisfaction), and a communication distance (that influences the relation and the closeness between teacher and students). Moore (1993), as cited by (Ustati & Hassan, 2013) suggested three elements of Transactional Distance, i.e., Dialogue, Structure and Learner autonomy. The three elements are supposed to be considered when studying about Transactional Distance (TD) in a distance learning context. Dialog is an influencing factor that determines the extent of communication gap (space) in online distance learning between teachers or lecturers and their students. As put forward by Giossos et al., (2009) in (Falloon, 2011), this element includes all types of interaction occurring in the class in helping students overcoming problems in learning. When dialog is effectively created and maintained, it is potentially able to decrease the communication gap in the class. Consequently, various interactions will emerge during the course activities in online or offline mode of learning so that Transactional Distance (TD) can be potentially reduced. Another element that needs to be considered is course structure. It is related to the characteristics of course, including how instructors (teachers or lecturers) design the learning objective, teaching methods, learning materials and channel or mode of learning. Moore (1997) pointed out that the level of course's rigidity or flexibility characterizes the course structure, which influence the extent of Transactional Distance. Zhang (2003) explained that course structure is determined by to what extent a course can accommodate students' need (Falloon, 2011). Course structure cannot be separated from the previous element of TD, i.e., dialog. The more flexible the course structure is, the more possible various interactions occur. When various interactions occur, dialogs can be maintained and as a consequence the transactional distance can potentially decrease

(Falloon, 2011). Another influencing factor on TD is Learner Autonomy. Learner autonomy deals with the learner's independency in using learning materials and learning program given by teachers to achieve the learning objectives of their own, in their own ways, under their own control (Moore et al., 2009). It is also concerned with the degree of student's independency in defining learning objective, learning experiences and program evaluation. The degree of learner autonomy determines the level of requirement for more or less dialog and structure of learning process (Gavrilisr et al., 2020).

Studying about the phenomena of Transactional Distance (TD) has recently gained momentum in the pandemic era since classes in schools and universities are conducted through online distance learning mode. It becomes a central issue in many academic discussions questioning how to maintain engagement in distance learning process. Moore (1989) in Mbwesa (2014), has pointed out that physical distance existing during e-learning/online learning process may result in a psychological and communicational gap between teacher and students. It is a challenge for teachers to find strategies for avoiding or reducing the gap. In this case, teachers can start by doing teaching self-reflection identifying whether or not Transactional Distance (TD) occurs in their online classes and in what interaction dimensions are the occurrence; Is it teacher (lecturer)-learner, learner-learner, learner-content or learner-interface transactional distance? This identification is important to guide the teachers finding appropriate strategies to cope with the gap (Mbwesa, 2014). Previous studies showed that the amount of interaction between teacher and student were proven to lessen the psychological gap between them and in turn to reinforce students understanding learning materials, help students reinforce correct interpretation of course information (Thurmond & Wambach, 2002) and give learning motivation to students (Mbwesa, 2014). Previous studies had highlighted the existence of Transactional Distance from student's satisfaction perception. Meanwhile, this study tried to explore how lecturers perceived their own teaching strategies during the online learning in terms of maintaining their interaction with students through challenges of communication gap that may exist. Therefore, the study provided a model of teacher or lecturer's self-evaluation/reflection on measuring the level of interactional distance or gap during their online learning process. This study aimed to describe the presence of lecturer-student transactional distance in terms of lecturers' teaching reflection of their satisfaction towards their online learning activities.

## **METHOD**

The study tried to investigate the presence of lecturer-student transactional distance in terms of lecturers' teaching reflection of their satisfaction towards online learning activities. The data were collected by conducting a survey to 12 lecturers from different educational institutions. The data analysis was done by referring to the theory of Transactional Distance (TD) of Michael G. Moore, who suggested that the existence of Transactional Distance (TD) in a teaching and learning process could be identified through three variables, namely Dialog, Structure and Learner Autonomy. Dialog is a variable concerning the extent of communication that occurs during the course. In terms of Dialog, the study tried to focus on the extent of interactions between teachers/lecturers and students occurring in online course. Regarding Structure, it is the aspect which deals with elements of a course's design, objectives, activities, assignments, and other elements planned by the instructor/teacher/lecturer. Learner Autonomy is the variable which is concerned with the ability of learners to control and manage their learning in a self-reliant manner (Moore, 1973 in Huang et al., 2015). The level of transactional distance increases when a course/a program is highly or tightly structured which potentially causes the decrease of dialog between teachers and students. Additionally, a highly structured

course also makes the learner autonomy increases. On the contrary, transactional distance decreases when a course has more dialog as a result of low structured program/course. Therefore, the presence of transactional distance (TD) is in line with the inverse relationship of between the three TD's variables of Dialogue, Structure and Learner Autonomy. In a simple description, the inverse relationship of TD's variables is when Structure increases, Dialog decreases, therefore the Transactional Distance increases. When Transactional Distance (TD) increases, then Learner Autonomy increases.

The survey conducted in this study includes some questionnaire items given to teachers/lecturers representing the indicators of the presence of Transactional Distance (TD) as shown in the following figure.

1.	I feel a strong sense of belonging to this online course
2.	I feel this online class is a cohesive learning community
3.	I feel a strong sense of belonging to a cohesive learning community in this online course
4.	I feel closely connected to my students in this online course
5.	I feel a strong sense of 'being with' my students during learning process
6.	I feel the presence of my students in this online course, despite the physical distance between us
7.	I feel a strong rapport with my students in this online course
8.	I feel a sense of isolation from my students in this online course
9.	I feel I have a shared understanding of the course goals with my students
10.	I feel I have a shared understanding of the course content with my students
11.	I feel I have a shared understanding of the course activities with my students
12.	I feel I have a shared understanding of the assessment methods of my teaching with my students
13.	I feel my teaching expectations have been met in this online course
14.	I feel I have shared a great deal in this online course

**Figure 1. Questionnaire**

These 14 questionnaire items are not directly representative of the three variables of Transactional Distance (TD), but these teaching reflection's statement has the implication of how TD's variables of Structure and Dialog managed by the teachers or lecturers. The questionnaire statement of number 1-8 implies the existence of interaction between teachers/lecturers and students, which can be regarded to represent variable of Dialog occurring in the online class. Meanwhile, the questionnaire statement of number 9-14 implies how variable of Structure occurs in the online class. The percentage of each questionnaire's statement will be analysed by using theory of Transactional Distance (TD) to find out whether Transactional Distance (TD) occurs or is present in the online course/class.

The lecturers, as the respondents of the study, were asked to choose one of the provided response criteria of each questionnaire item, i.e., *strongly disagree*, *disagree*, *neutral*, *agree*, and *strongly agree*. As referred to the theory of Transactional Distance initiated by Michael G. Moore, the responses of the respondents for each item were graded based on two indicators of Dialog and Structure which reflect the presence of Transactional Distance (TD). The collected data were then further analysed through Likert Scale to describe the quantification of the questionnaire responses. The grading of the lecturers' response (from 1 to 5) of each questionnaire item was carefully viewed based on the two indicators representing the presence of Transactional Distance (TD). The level of Transactional Distance (TD) were classified into *very low*, *low*, *medium*, *high* and *very high*.



## FINDING AND DISCUSSION

After conducting the survey to 12 lecturers from different educational institutions and referring to the theory of Transactional Distance of Michael G. Moore, the study found that transactional distance occurred during online learning indicated by several aspects, i.e., (1) the existence of psychological gap in the course, (2) non-existence of interactive communication between lecturer and student, and (3) high rigidity of course structure. The data analysis was conducted by using Likert Scale with interval percentage of 0-36% (*very low level*), 37-51% (*low level*), 52-67% (*medium level*), 68-83% (*high level*) and 84-100% (*very high level*). The Likert Scale result is shown in the following table (figure 2).

Respondents	Questionnaire Item														Total	Percentage (%)	Category
	Item 1	item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Item 10	Item 11	Item 12	Item 13	Item 14			
Lecturer 1	4	4	4	4	4	5	4	5	3	2	3	1	2	2	47	67	medium
Lecturer 2	1	4	1	1	1	2	1	5	5	5	5	4	4	4	43	61	medium
Lecturer 3	5	5	4	4	4	4	4	4	2	2	2	2	2	2	46	66	medium
Lecturer 4	3	3	3	4	5	4	4	5	4	4	4	4	3	4	54	77	high
Lecturer 5	3	4	4	4	3	3	4	4	3	3	2	4	3	3	47	67	medium
Lecturer 6	3	2	3	4	3	2	3	4	3	3	2	2	3	2	39	56	medium
Lecturer 7	2	2	2	3	4	3	4	4	2	3	3	2	2	4	40	57	medium
Lecturer 8	2	1	2	3	1	1	4	4	4	5	2	4	4	3	40	57	medium
Lecturer 9	2	4	4	2	2	2	2	3	3	2	4	4	4	4	42	60	medium
Lecturer 10	3	3	3	4	4	3	4	4	4	2	4	4	3	4	49	70	high
Lecturer 11	2	2	2	3	3	3	3	4	3	3	3	3	3	3	40	57	medium
Lecturer 12	3	3	3	3	2	2	3	1	4	4	4	3	3	3	41	59	medium

**Figure 2. Likert Scale Result of Transactional Distance (TD)**

Based on the data analysis using Likert Scale, it was found that Transactional Distance (TD) occurred in the level of *medium* (83,3 %) and *high* (16,7%). It showed that during the online learning activities the lecturers had felt the existence of communication gap between them and their students.

The responses to questionnaire statement of number 1-8 give the implication on the existence of interaction between teachers/lecturers and students, which can be perceived to represent the variable of Dialog existing in the online course. From the collected data, based on the lecturers' reflection of their satisfaction towards their online teaching activity, it was found that there was an implicit emergence of psychological gap between lecturer and student. Additionally, the study also found that there was a less interactive communication in the online course. The psychological gap and less interactive communication contributed the decrease of Dialog between lecturer and students, which in turn results in the increase of Transactional Distance (TD). However, in another point of view, it is still necessary to be further verified by exploring the student's perception towards their online course to make it reliable to judge whether Transactional Distance (TD) also occurs from the perspective of students' reflection of satisfaction towards their learning activity during the pandemic. At least, in terms of lecturer's statements in the survey, it had indicated that Transactional Distance (TD) was present in the online course by referring to the following aspects, i.e., lecturer's sense of belonging to the online course, cohesion of learning community, rapport between lecturer and student, connectedness during the online course between lecturer and students, and sense of isolation between lecturer and student.

Meanwhile, the questionnaire statement of number 9-14 represents the nature of the TD variable of Structure in the online course, which implies how lecturers manage or design the

course in relation to the objectives, content, activities, assignments as well as the assessment of the course. The type of course design influences the presence of Transactional Distance (TD) in the online course. The more rigid the structure is designed the more potential the course suffers from Transactional Distance (TD). On the other hand, the more flexible the course is designed, the more possible for the various Dialog will occur and in turn, the more potential for TD to be reduced. Based on the questionnaire statements given by the lecturers (number 9-14), relating to the course design, it was found that type of the course Structure of the online course had not enabled to generate the various interactive communication, which can be reflected from the questionnaire statements number 1-8. Consequently, psychological gap between lecturer and student had emerged and it contributed to the presence of Transactional Distance (TD) in the online course. Nevertheless, the presence of TD usually enables the increase of student's learning autonomy but in terms of promoting the 21<sup>st</sup> century's competence, especially in the aspect of collaboration and communication, it is indeed something which needs to be considered.

The finding of the study showed the implicit existence of lecturer-student Transactional Distance (TD) during online learning from the viewpoint of lecturer's satisfaction on their teaching activities. Based on the result of the questionnaire given to 12 lecturers of different educational institutions, TD was present to be seen from three aspects, i.e., the existence of psychological gap during the course, the absence of interactive communication between lecturer and student, and the high rigidity of the course structure. The psychological gap existing during the course can be identified from the questionnaire result about the lecturers' reflection of their satisfaction towards their own online learning. The psychological and interactional gap was indicated by the situation as reflected by the lecturers, i.e., (1) the lecturers were not closely connected to the students, (2) the lecturers were not being with the students, (3) the lecturer did not fully feel the presence of the students, (4) there was a weak rapport between lecturers and students, (5) there was a sense of isolation between teachers and students. These indications have the potentials for the emergence of pedagogic distance, psychological distance and communication distance as pointed out by Wengrowicz & Offir (2013). A further study can be conducted to know the existence of pedagogic distance by investigating the extent of influences towards student's understanding. Another further study can also be conducted to address the psychological distance by exploring how situation of the class gives influences towards the sense of student's satisfaction. Based on the finding, communication distance occurred as shown by the above-mentioned indicating situations. As suggested by Moore's theory, when interaction between lecturers and students is not well maintained, the variable of Dialog decreases and consequently Transactional Distance increases.

Regarding the design of the course structure as shown by the questionnaire statement number 9-14, it was considered as having high rigidity of course design based on the questionnaire responses given by the lecturers which did not show a variety and resilience of a course design in terms of course goal statement, course content, course activities, and the teaching expectation. It is a common occurrence when online class is conducted asynchronously. In this case, there could be a barrier which does not allow teachers/lecturers to improvise the teaching instructions. To cope with this problem, there needs to be a support by using Information and communication technology (ICT) in order that the online class can be more resilient and allows the lecturers to give more various instructions. Synchronous online class is also another recommended alternative of teaching since this mode allows teachers/lecturers to have a live and direct interaction with students so the gap can be reduced or even eliminated. In this case, a flexibility of course structure should be highlighted as

previously stated that the more flexible the course structure, the more possible for various interactions to occur. As a consequence more various interactions may occur and as a consequence the transactional distance can potentially decrease (Falloon, 2011). Besides, course content and course activities should also be adjusted with the student characteristics as well as with the subject. Learning materials and learning activities should be developed in multimodal basis which involves the use of pictures, symbols, graphs, figures, and etc. The multimodal based learning has now been promoted in response to the rapid development of ICT which needs adjustment of learning model. Flexibility of the course structure is the key to decrease or even eliminate Transactional Distance for better and more interactive learning activities.

Transactional Distance (TD) has now become a challenge for teachers/lecturers and schools/higher education institutions, especially in online classes during the pandemic. Many of schools or universities have done the efforts by creating a Learning Management System (LMS). It is a good action since LMS can help teachers/lecturers manage their online class so as to cope with the problem of Transactional Distance (TD). The key issue of TD is the existence or absence interactivity or communication between teachers/lecturers and their students. Referring to the finding of this study, which showed that maintaining interactivity and communication with students has become a problem of teachers/lecturers, then there comes a further challenge for the educational institutions to design a Learning Management System (LMS) which allows teachers/lecturers to foster interactive learning activities with online mode in either synchronous, asynchronous or hybrid classes. The LMS should be integrated with various virtual class computer programs or smartphone applications which are applicable for interactive classroom activities. There may come following problems, such as problem of internet connectivity, teacher/lecturer's digital literacy, as well as students' preparedness. The problems can be step by step solved through comprehensive support from all parties concerned with education in pandemic era. Overall, there is an insight for teachers to always be prepared with digital literacy before teaching as well as enriching various teaching techniques for interactive online class. Regarding the lecturers' responses shown in the questionnaire result, it was also found that based on data online teaching reflection, it shows that many lecturers have had awareness of the weak points that should be managed to decrease or even eliminate Transactional Distance (TD). Lecturers/students should gradually build their creativity during the online learning to make their students more engaged in the learning process.

## **CONCLUSION AND RECOMMENDATION**

The study found out the presence of lecturer-student Transactional Distance (TD) in the online learning as indicated by several aspects, i.e., (1) the existence of psychological gap in the course, (2) non-existence of interactive communication between lecturer and student, and (3) high rigidity of course structure. In online learning it becomes a challenge for teachers or lecturers to anticipate during the learning activities due to the absence of physical direct contact between teacher/lecturer and students. Transactional Distance (TD) does not occur when the course is designed in such a resilient way so that interactive communication between lecturer/teacher and students occurs during the online class, then the psychological gap between them can be reduced. Therefore, there needs to be innovations to design an online course, either synchronously or asynchronously done, with the support of Information and Communication Technology (ICT), in such a way that it can still have the potentials to promote interactive communication between teachers or lecturers and their students so as to reduce or eliminate the presence of Transactional Distance (TD).

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