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MEDIATING ROLE OF SOCIAL PRESENCE TOWARDS TEACHING PRESENCE AND COGNITIVE PRESENCE OF MANAGEMENT STUDY PROGRAM

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A R T I C L E   I N F O

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Abstract: The aim of this research is to examine the effect of Teaching Presence on Cognitive Presence with Social Presence as a mediating variable in online learning during the Covid-19 pandemic. The research respondents are 266 students in the 2020 class of a management study program in a private university in Surabaya. Hypothesis testing is conducted using Mediation Regression Analysis Technique. The results of this study are (1) Teaching Presence directly affects Cognitive Presence in students. Teaching methods will greatly impact and affect the student's level of understanding of the material; (2) Teaching Presence directly affects Social Presence in students. A conducive atmosphere amongst students and between students and lecturers are very important and must be effective, such that there is mutual trust so that they can be open to each other, exchange ideas, and help each other. Through this process, the chances of students understanding the material will be greater; (3) Teaching Presence affects Cognitive Presence through Social Presence on students. The interaction amongst students and between lecturers and students have higher influence than the teaching method provided by the lecturer. This does not mean that teaching method is not important, but with effective interaction between students, it is able to encourage students' knowledge and skills. The implication of this research is that lecturers are obliged to prepare quality learning methods and facilitate students' social interactions in the classroom. Lecturers must be able to build community in the classroom so that the discussion and question and answer process can run effectively.

Abstrak: Penelitian ini bertujuan untuk menguji pengaruh Teaching Presence terhadap Cognitive Presence dengan Social Presence sebagai variable mediasi dalam pembelajaran daring pada masa pandemik Covid-19. Responden penelitian adalah 266 mahasiswa angkatan 2020 dari program studi manajemen dari salah satu universitas swasta di Surabaya. Pengujian hipotesis menggunakan Teknik Mediation Regression Analysis. Hasil penelitian ini adalah (1) Teaching Presence secara langsung mempengaruhi Cognitive Presence pada mahasiswa. Metode pengajaran akan sangat berdampak dan mempengaruhi pencapaian tingkat pemahaman materi oleh mahasiswa; (2) Teaching Presence secara langsung mempengaruhi Social Presence pada mahasiswa. Suasana yang kondusif diantara mahasiswa dan antara dosen dengan mahasiswa sangat penting dan harus efektif, agar terdapat saling kepercayaan sehingga mereka bisa saling terbuka, bertukar pikiran, dan saling membantu. Melalui proses ini maka peluang mahasiswa akan memahami materi akan lebih besar.; (3) Teaching Presence mempengaruhi Cognitive Presence melalui Social Presence pada mahasiswa. Interaksi antar mahasiswa dan dosen dengan mahasiswa memiliki pengaruh yang lebih tinggi dibandingkan metode pengajaran yang diberikan oleh dosen. Hal ini bukan berarti metode pengajaran tidak penting, namun dengan adanya interaksi yang efektif antar mahasiswa mampu mendorong pengetahuan dan ketrampilan mahasiswa. Implikasi dari penelitian ini adalah dosen berkewajiban untuk mempersiapkan metode pembelajaran yang berkualitas dan memfasilitasi interaksi sosial mahasiswa di dalam kelas. Dosen harus bisa membangun komunitas dalam kelas agar proses diskusi, tanya jawab dalam berjalan dengan efektif.

INTRODUCTION

Ever since the start of the Covid-19 pandemic, the educational field in Indonesia has changed its learning model from offline face-to-face learning to online (Wahid, R., Pribadi, F., & Wakas, B. E., 2020). With the change in the learning model, information is needed on how successful online learning is. In order for the implementation of the online learning and teaching process to be in accordance with the learning objectives, learning management is needed and that includes planning, organizing, implementing and monitoring (Yuniarto, E., Widayanti, F. D., & Khasanah, R., 2021). Based on previous studies, the application of Cognitive of Inquiry (CoI) plays an important role in online learning, whereby through CoI process, behavior and cognitive is shaped during the learning process through the aspects reviewed, which are Teaching, social, and cognitive (Garrison, Anderson, & Archer, 2001).

Several previous studies have shown the importance of CoI in the learning process, especially during the online learning period, whereby with the application of CoI there is a significant increase in the quality of the learning process. There are 3 dimensions of CoI used in this study, namely Teaching Presence, Social Presence and Cognitive Presence. Teaching Presence is the instructional role in a learning environment. Social Presence is to encourage collegial relationships. Cognitive Presence is knowledge that involves critical and creative thinking skills. (Akyol, Garrison, & Ozden, 2009; Shea & Bidjerano, 2011; Shea & Bidjerano, 2012).

Lecturer's ability to manage the class and learning activities plays an important role in students' involvement. This ability to manage and coordinate learning activity and learning environment is called Teaching Presence (Rourke et al., 2001). Garisson (2007) also explained that teaching presence includes the ability to design, facilitate and give instruction during the learning process. The importance of teaching presence, not only to increase involvement, but also to improve thinking capability of the students. Critical thinking in learning process is one skill that students need to have, especially for university students.

LITERATURE REVIEW

Students' ability to understand learning through communication is the most important factor in developing critical thinking skills (Kanuka & Garrison, 2004). This critical thinking skill is seen as cognitive presence. Resnick (1987) explained that cognitive presence includes the ability to understand instructions, observe relationships, verify, and organize simultaneously. The role of the lecturer in managing a class is an important factor in increasing cognitive presence. Some previous studies has also shown that teaching presence affects cognitive presence (Santiuste, Sabiote, & Arrufat, 2015; Kilis & Yildirim, 2019). Therefore, the first hypothesis proposed in this research is:

H₁ : Teaching Presence directly affects Cognitive Presence for university students

Classroom management and learning activities are not only about improving cognitive abilities, but also about improving students' social and emotional capabilities. Creating learning activities and learning environments that are in accordance with students' abilities is the basis of teaching presence. Communication between lecturers and students plays an important role in the success of learning activities (Santiuste, Sabiote, & Arrufat, 2015). Not only thinking skills, students' social and emotional capabilities in a learning community also play important role in optimizing the learning experience; and this is known as social presence (Rourke et al, 2001). Having social presence can facilitate conducive conditions and improve the quality of interaction, especially in online learning. This is because students can feel safer to communicate openly with one another and increase the sense of belonging in a learning community (Garrison, 2007; Garrison & Clevelan-Innes, 2005). Several previous studies have shown that social environment can support in increasing individuals' learning abilities (Akyol, 2009; Kim, 2015). Therefore, the second hypothesis proposed in this research is:

H₂ : Teaching Presence directly affects Social Presence for university students

In addition, this study will examine the increase in cognitive presence abilities with the influence of teaching presence through the mediation of social presence. Thus, the third hypothesis proposed is:

H₃ : Teaching Presence affects Cognitive Presence through Social Presence for university student

METHODOLOGY

The population in this study is 492 students in the 2020 class of a management study program in a private university in Surabaya. The minimum number of samples is calculated using *Slovin* formula (Ryan, 2013), which is 221 respondents. The researchers used survey methods and distributed questionnaires through Google Form, the data obtained and that could be processed amounted to 266 respondents. The following Table 1 displays the research respondents' profile.

Table 1: Respondents' Profile

Remarks	Number	Percentage
Gender:		
- Female	90	34%
- Male	176	66%
Whether participating in online learning		
- Participated	121	45%
- Not yet participated	145	55%
Internet condition		
- Satisfactory	200	75%
- Very good	26	9%
- Poor	40	16%
Domicile		
- Java Island	178	67%
- Outside Java	88	33%

Data source: Data processing, 2021

Table 1 shows the profile of the respondents in this study, with details as follows. Female respondents amounted to 34% and male respondents amounted to 66%. Of the 266 respondents, 45% stated that they had participated in online learning and 55% had never participated in online learning. From these data, it turns out that there are more students who have never participated in online learning than those who have participated in online learning. Meanwhile, from the condition of internet performance, out of all the respondents it appears that only 9% state that the condition of the internet network in their place of residence is very good, then 75% satisfactory and 16% poor. Respondents residing in Java amounted to 67% and 33% outside Java. Validity and reliability testing was carried out twice because there were several items that did not meet the criteria. After the second test is carried out, Table 2 yields the result of the convergent validity test. Based on table 2, it can be seen that there are no statements or items that have been declared invalid, because they all have a Loading Factor value greater than 0.5. Figure 1 below is a research model to clarify the 3 research hypotheses. After the second test is carried out, Table 2 yields the result of the convergent validity test.

Table 2. Convergent Validity Test Result

Variable	Indicator	Loading Factor	Remarks
Teaching Presence (TP)	TP1	0,817	Valid
	TP2	0,818	Valid
	TP3	0,774	Valid
	TP4	0,742	Valid
	TP5	0,843	Valid
	TP6	0,848	Valid
	TP7	0,842	Valid
	TP8	0,807	Valid
	TP9	0,758	Valid
	TP10	0,860	Valid
	TP11	0,850	Valid
	TP12	0,829	Valid
Social Presence (SP)	SP1	0,712	Valid
	SP2	0,783	Valid
	SP3	0,545	Valid
	SP4	0,772	Valid
	SP5	0,774	Valid
	SP6	0,771	Valid
	SP8	0,711	Valid
	SP9	0,732	Valid
Cognitive Presence (CP)	CP1	0,803	Valid
	CP2	0,820	Valid
	CP3	0,809	Valid
	CP4	0,770	Valid
	CP5	0,778	Valid
	CP6	0,810	Valid
	CP7	0,758	Valid
	CP8	0,791	Valid
	CP9	0,834	Valid

Data source: Data processing, 2021

Based on table 2, it can be seen that there are no statements or items that have been declared invalid, because they all have a Loading Factor value greater than 0.5. Figure 1 below is a research model to clarify the 3 research hypotheses.

Figure 1. Research Model
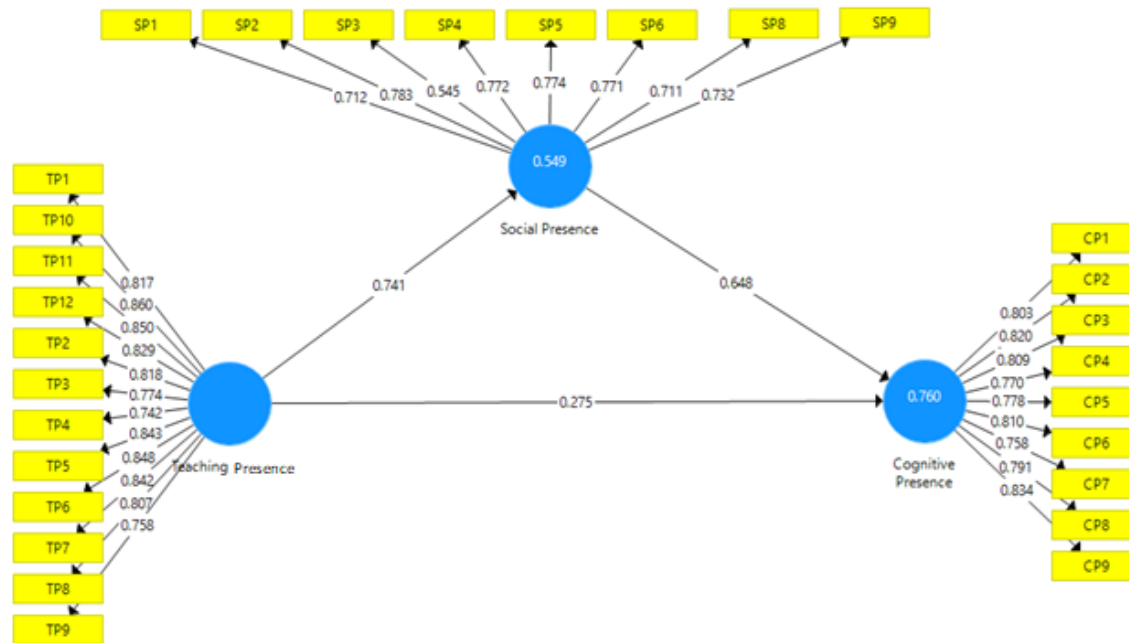
Data source: Data processing, 2021

RESULTS AND DISCUSSION

The results of the reliability test using Partial Least Square (PLS) can be seen in Table 3 of Cronbach's Alpha below. A variable is deemed reliable if the value of Cronbach's alpha is greater than 0.6.

Table 3. Cronbach's Alpha

Variable	Cronbach`s Alpha	AVE
Cognitive Presence	0.928	0.636
Social Presence	0.872	0.531
Teaching Presence	0.954	0.667

Data source: Data processing, 2021

From Table 3, it can be seen that all the existing variables, namely Cognitive Presence, Social Presence and Teaching Presence, have met the *cronbach's alpha* requirement, since the results obtained have met the recommended number, which is greater than 0.6.

Table 4. Correlation Testing

	Cognitive Presence	Social Presence	Teaching Learning
Cognitive Presence	0.797		
Social Presence	0.852	0.729	
Teaching Presence	0.755	0.741	0.816

Data source: Data processing, 2021

Table 4 shows that Cognitive Presence has a closer relationship with Social Presence than with Cognitive Presence and Teaching Presence. Table 4 shows the effect between variables.

Table 5. Direct Effect

Variable	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	Conclusion
Social Presence → Cognitive Presence	0.648	0.646	0.055	11.689	0.000	Significant
Teaching Presence → Cognitive Presence	0.275	0.278	0.061	4.499	0.000	Significant
Teaching Presence → Social Presence	0.741	0.746	0.032	23.166	0.000	Significant

Data source: Data processing, 2021

Table 5 shows the overview; there is significant direct effect of Cognitive Presence of 0.648 or 64.8% (p-value < 0.05), there's the effect of teaching Presence significantly influencing Cognitive Presence by 0.275 or 27.5% (p- value < 0.05), and Teaching Presence significantly and directly affects Social Presence by 0.741 or 74.1% (p-value < 0.05). Therefore, all hypotheses can be accepted.
The indirect effect can be seen from the following table:
Table 6. Total Indirect Effect

Variable	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	Conclusion
Teaching Presence → Cognitive Presence	0.480	0.481	0.041	11.631	0.000	Significant

Data source: Data processed, 2021

From table 6 it can be seen that the indirect effect of Teaching Presence on Cognitive Presence through the Social Presence variable is significant (p-value <0.05). The indirect magnitude of 0.480 is greater than the direct effect of Teaching Presence on Cognitive Presence of 0.275. Thus, it can be concluded that there is the role of a mediating variable,

namely Social Presence, on the relationship between Teaching Presence and Cognitive Presence. Furthermore, the following table shows the R Square and adjusted R-square.

Table 7. R Square & Adjusted R-Square

Dependent Variable	R Square	Adjusted R Square
Cognitive Presence	0.760	0.758
Social Presence	0.549	0.548

Data source: Data processing, 2021

From table 7, it can be seen that 0.760 (76%) of Cognitive Presence is influenced by Teaching Presence and Social Presence. While the remaining 24% is influenced by other variables that are not yet included in the research model. 0.549 (54.9%) of Social Presence is influenced by Teaching Presence. While the remaining 45.1% is influenced by other variables that are not yet included in the research model.

Teaching presence affects cognitive presence. This study found that the right teaching method affects students' level of understanding. This means that the higher the quality of teaching methods, the higher the students' level of understanding. This study found that teaching method will greatly impact and affect the students' level of understanding of the material.

Social presence affects cognitive presence. The higher the social presence, the higher the cognitive presence. As social beings, one of the basic needs is to socialize with each other, socializing through interaction and communication with each other. In the context of online learning, the lecturer's strategy in increasing collaboration between students can increase cognitive presence. A conducive situation must be created by the lecturer to maintain good relations and communication with students. This must be maintained because it affects students' understanding (Asalla, Maria, & Hannesto, 2014). As a result, lecturers are responsible for creating a conducive atmosphere amongst students and between lecturers and students. Social presence is very important because it is a process that takes time. If lecturers can create an effective social presence, there will be high mutual trust amongst students, so that they can open up, exchange ideas, and help each other. Through this process, the chances of students understanding the material will be greater.

Cognitive presence is an iterative process. This happens when students exchange information, relating ideas with each other, create new concepts, and attempting to realize the alternative solutions concluded (Zydney, deNoyelles, Chen, & Patton, 2021). This study found that teaching presence and social presence support the process of transforming knowledge, increasing skills, and changing attitudes. The learning method provided by the lecturer that facilitates the opportunity to ask questions or for discussion greatly affects students' level of understanding. The active questioning and discussion process occurs because of well-formed social relationships in the classroom. This encourages students' level of understanding of the subjects they are studying. Lecturers must implement the

correct and suitable learning method; therefore, teaching presence is an important element to encourage students' level of understanding.

This study also found that teaching presence and social presence affect cognitive presence. Teaching presence encourages increased social presence, which in turn increases students' understanding. This means that teaching presence will increase cognitive presence through social presence. The better the teaching presence, the better the social presence, which in turn will increase cognitive presence. Social presence is very important for teaching presence in the effort of increasing students' understanding. Social presence is more related to cognitive presence than teaching presence. The interaction amongst students and between lecturers and students have higher influence than the teaching method provided by the lecturer. This does not mean that teaching methods are not important, but with effective interaction between students, it can encourage improvement in students' knowledge and skills.

The implication of this research is that lecturers are obliged to prepare quality learning methods and facilitate students' social interactions in the classroom. Lecturers must be able to build community in the classroom so that the discussion and question and answer process can run effectively.

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