

# Does Student Motivation and Teaching Presence Influence Academic Performance? Examining The Role of Cognitive Presence

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**Abstract.** Motivation is an essential aspect of the learning process. Internal motivation is an impulse that arises from students, therefore it becomes an important aspect to elaborate. This study attempt to analyze the effect of motivation and teaching presence on students' cognitive presence and academic performance. This research was conducted on student officers at the Merchant Marine Polytechnic of Semarang by using a quantitative approach involving SEM Amos to analyze the data. The results showed that motivation had a positive and significant effect on academic performance. In addition, cognitive presence mediates the influence of motivation on academic performance. The results of this study indicate that academic performance first through the presence of cognitive to obtain satisfactory academic results. These results are obtained through a process or encouragement that arises from within the students. The learning process is also influenced by the lecturer's support so that the lecturer's contribution in the learning process has an important influence in determining students' academic performance. The results of this study indicate that teaching presence influences cognitive presence and academic performance. This study confirms that there is an important role for lecturers to provide an increase in students' cognitive competence and academic performance. Lecturers are facilitators who can manage a class, so that management will lead to the rise in academic competence which also affects academic performance.

**Key words:** student motivation; teaching presence; cognitive presence; academic performance.

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## INTRODUCTION

Motivation is an essential aspect of student learning. Students need the motivation to improve the quality of understanding in the learning process. Some elements that affect the emergence of motivation are encouragement from within; besides, the motivation comes from external to students. The process to form a motivation has various stages, including the need for students to know the learning process. Motivation can influence students' cognitive thoughts to increase knowledge that can be understood (Tokan & Imakulata, 2019). A desire in the learning process also supports this understanding ability if students have a strong intention to understand a piece of knowledge, it can encourage optimal understanding abilities. Previous research shows that students' cognitive abilities are influenced by the motivation that comes from internal and external (Kintu et al., 2017). The learning process also influences students' cognitive abilities. A teacher is able to influence students' understanding to acquire knowledge. When students learn with various methods and variations of learning, it affects the ability to think in cognitive processes and maximum understanding. Students are able to provide

strong thinking power when the lecturer provides a variety of learning that is not only one-way but is involved in a discussion that creates an exchange of ideas. Previous research has not explored many things that encourage the emergence of students' cognitive presence (Loyens et al., 2015). This study aims to examine the effect of student motivation and the ability of teachers to make variations of learning models in improving students' understanding. This study also uses students' academic performance to improve their understanding through several supportive backgrounds. This study aims to examine the effect of cognitive understanding on students' academic abilities. Academic performance is still not widely studied in-depth, especially in the learning process that involves vocational education. Therefore, the research has the novelty of exploring several previous studies and using vocational education background as the research object.

## LITERATURE REVIEW

Academic performance is an important aspect of the educational process because performance shows the academic ability of students. The process to achieve high academic performance

requires strong encouragement in the learning process. Motivation is one of the supporters of increasing academic performance. Motivation is an encouragement that comes from within a student. In addition, motivation also comes from external students to support learning achievements. Increasing motivation can encourage these abilities to reach optimal levels (Amtu et al., 2020). Motivation is a component that can encourage students' intention to learn continuously and comprehensively. Academic achievement is a result of the learning process carried out during education. Increasing understanding in knowledge requires the existence of supportive situations and conditions so that a teacher as a manager in a class can encourage a better understanding. The process to improve understanding skills is inseparable from the support provided by the teacher in managing a class. Variations in the learning process determine the level of student success so that the learning process that further enhances understanding can indicate the level of learning success. Learning success is measured by the ability and academic performance of students. The process of academic performance is pursued by increasing understanding and increasing understanding.

### **Student Motivation to Cognitive Presence**

Motivation is an essential aspect to support the learning process. If a motivation can emerge in students, it can encourage better academic abilities. Suppose the motivation is able to encourage adequate cognitive abilities so that students can learn and get the knowledge that students are studying. In that case, it is an object in education, so that with this motivation, it can encourage the development of increasing knowledge. Motivation is basically an urge to improve knowledge skills that are increasing. If there is a motivation that is able to support students' abilities in increasing their knowledge, then it can affect their academic abilities. A stronger motivation drives a student with high academic ability. If students feel that the knowledge being studied will be useful in the future, the intention to learn and increase that knowledge will be higher (Saeed et al., 2015). The process of increasing the knowledge of skills and on the affective side will encourage stronger motivation in influencing cognitive abilities. The process to gain cognitive abilities is influenced by the encouragement that comes from external, namely the stronger motivation. Motivation is a

strong impulse from within and external to students so that it affects cognitive abilities. Based on the description that has been presented, this study develops a hypothesis that student motivation has a positive effect on cognitive abilities.

### **Teaching Presence to Cognitive Presence**

Learning is a process for transferring knowledge from teacher facilitators or lecturers to students. The process to increase this knowledge can be done with a variety of methods, including mushroom case studies and various other steps that can improve students' ability to understand knowledge. Efforts to improve these things are carried out by various parties to encourage increased capabilities. A teacher will encourage students' ability to understand knowledge so as to increase understanding in the cognitive field. The ability to support the dissemination of knowledge is encouraged by various methods that can increase students' understanding. If a student has various exposures to various aspects that enrich knowledge, it will encourage the ability to think. Cognitive ability is focused on the knowledge possessed by students so as to improve thinking patterns in the field of logic. This knowledgeability is able to encourage the increase in intelligence which has implications for academic ability. Previous research has shown that a teacher who makes the classroom atmosphere comfortable, safe and calm affects students' cognitive abilities. Cognitive abilities are not only supported by variations in learning, but a conducive academic environment can increase students' knowledge because the learning process is carried out in a comfortable and fun way. The improvement of students' abilities is also supported by various aspects: the school environment that provides comfort in the learning process so that academic abilities are increasing. Cognitive ability is an achievement that can be done when schools have comfort in their education. A teacher's important role in increasing comfort and safety in the learning process is important to creating increasing knowledge (Choppin et al., 2018).

### **Cognitive Presence to Academic Performance**

Student intelligence is the initial capital to have academic achievement. When students gain academic achievement, it is supported by one of the fields, namely cognitive. Cognitive emphasizes the existence of achievement in knowledge so that the cognitive emphasis is on

increasing understanding of knowledge. If a student can have better knowledge and have broad knowledge, academic performance will be better. Academic ability is driven by students' knowledge from various fields, one of which is reading and exploring the knowledge being studied. Student intelligence is supported by various fields, one of which is a motivation that arises from within students so that motivation forms an increasingly better understanding of learning so that it will affect academic abilities and performance. Motivation is able to provide a stronger impetus and increasing educational morale. These encouragements are able to provide an ability that students can have to improve their understanding. The effort made by a teacher is to make the classroom atmosphere more comfortable so that students can understand the material in a fun way and there are new experiences in the learning process. Learning variations are one of the steps that support learning success, thus giving rise to high academic performance. A student requires academic performance which is composed by the ability to think and logical ability (Missildine et al., 2013). Knowledge is composed of several aspects that are able to encourage increased academic ability and academic performance. There is an assumption that academic ability and performance are supported by understanding a good science. This study assumes that students' motivation and teacher's ability to manage a class

affect academic performance which is mediated by students' cognitive understanding. Students' understanding ability is an important element in the educational process. If students can understand well the material that has been taught, it will encourage better academic performance. Academic performance is an indicator of achievement in the educational process because it is a measure of the level of success in learning.

**METHODS**

This research was conducted using quantitative methods. A quantitative approach is a method that uses numbers in the research process. So that in drawing conclusions using statistical methods that can help generalize a study. This study uses a sample of students from vocational schools. The number of samples used was 157. The data collection process was carried out using an online method using Google forms to obtain data. The online questionnaire was distributed to all respondents with the sample criteria currently studying at a vocational school. The data that has been obtained online are processed using the AMOS application.

**RESULT AND DISCUSSION**

**Validity**

Based on validity testing, it can be analyzed that the results of this study indicate that all indicators have validity criteria so that they can be continued on reliability testing.

**Table 1.** Validity Test Result

| Variable             | Indicator | Pearson Correlation | Mean   | Std Deviation |
|----------------------|-----------|---------------------|--------|---------------|
| Student Motivation   | SM1       | 0.861               | 4.4650 | 0.63578       |
|                      | SM2       | 0.916               | 4.3185 | 0.71646       |
|                      | SM3       | 0.867               | 4.2420 | 0.69246       |
| Teaching Presence    | TP1       | 0.881               | 4.4459 | 0.64445       |
|                      | TP2       | 0.868               | 4.3376 | 0.63603       |
|                      | TP3       | 0.858               | 4.3185 | 0.67973       |
| Cognitive Presence   | CP1       | 0.828               | 4.2357 | 0.69004       |
|                      | CP2       | 0.883               | 4.2357 | 0.65182       |
|                      | CP3       | 0.86                | 4.2229 | 0.62633       |
| Academic Performance | AP1       | 0.895               | 4.1656 | 0.65874       |
|                      | AP2       | 0.89                | 4.1720 | 0.69040       |
|                      | AP3       | 0.769               | 4.3057 | 0.57359       |

**Reliability**

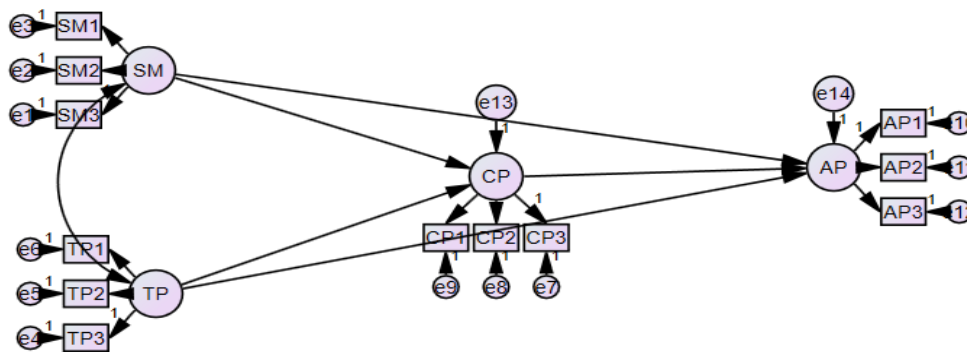
based on reliability testing with data analysis obtained from the study, it can be concluded that

it has met the Cronbach alpha criteria to indicate that the data collected is reliable.

**Table 2.** Reliability Test Result

| Variable             | Cronbach Alpha |
|----------------------|----------------|
| Student Motivation   | 0.856          |
| Teaching Presence    | 0.837          |
| Cognitive Presence   | 0.817          |
| Academic Performance | 0.813          |

### Hypothesis Testing



**Figure 1.** Research Framework

Based on the results of hypothesis testing, it is found that all hypotheses in this study are supported by all variables showing a positive and significant influence. The results of this study indicate that there is an influence of motivation on students' academic abilities. Motivation is a strong impetus in shaping students' cognitive abilities. This study proves that cognitive abilities

partially mediate the effect of student motivation on academic performance. This study also proves that the ability of teachers to manage a class has an effect on students' cognitive abilities. Classroom management also affects students' academic abilities. This study proves that cognitive abilities partially mediate classroom management on academic performance.

**Table 3.** Hypothesis Test Result

| Variable | Estimate | S.E. | C.R.  | P    |
|----------|----------|------|-------|------|
| SM->CP   | .426     | .096 | 4.459 | ***  |
| TP->CP   | .428     | .103 | 4.150 | ***  |
| CP->AP   | .328     | .124 | 2.635 | .008 |
| SM->AP   | .275     | .101 | 2.731 | .006 |
| TP->AP   | .492     | .114 | 4.325 | ***  |

Note: Student Motivation (SM), Teaching Presence (TP), Cognitive Presence (CP), Academic Performance (AP)

### Discussion

The results of this study indicate that there is an influence of motivation on students' cognitive abilities. Cognitive ability comes from the knowledge acquired in the learning process and is driven by stronger motivation. Student motivation comes from the desire to learn to improve students' understanding ability in the cognitive field. The learning process requires motivation to increase knowledge to have adequate abilities to improve his understanding in

the learning process. If a student has adequate knowledge then it encourages good academic performance. The results of this study indicate that academic performance is influenced by motivation and cognitive abilities. A student who has a strong ability in the learning process and has intelligence that comes from acquiring knowledge has good academic abilities and performance. This study also proves that academic performance driven by motivation requires strong encouragement from the teacher to create a spirit of continuous learning. The

learning process requires support from various parties, one of which is the desire to learn and increase student knowledge. Knowledge is the key that can encourage a stronger desire to learn. This study has proven that motivation has a positive and significant effect on academic performance. The results of this study prove that students' cognitive abilities partially mediate on academic performance. This study indicates that someone who is motivated in the learning process will create good learning abilities and affect his academic performance.

This research has proven that the ability of teachers to manage the classroom is a key in encouraging increased learning abilities. The process of increasing knowledge is also influenced by the process of managing a class so that the ability of teachers to create variations in learning and various methods that can be created to increase knowledge can encourage better academic performance. Academic performance is proven to be influenced by students' cognitive abilities so that the teacher's ability to manage a class also has an effect on increasing understanding (Manuel, 2017). Variations influence the ability of students in the learning process in learning created by the teacher. A teacher is able to provide various understandings to impart knowledge to students so that the learning process can be carried out effectively and efficiently. The learning process makes teacher management in creating a conducive learning environment increasingly important; Hence, it affects students' cognitive abilities in receiving knowledge. This process increases academic performance so that the learning process has broad implications and encourages increased understanding.

## CONCLUSION

This study examines the effect of student motivation and teacher classroom management skills on cognitive abilities and their effect on academic performance. This study has proven a positive and significant effect of student motivation on academic performance and cognitive presence. This study demonstrates that cognitive abilities partially mediate the effect of student motivation on academic performance. This study also proves that teacher presence has a significant and positive impact on cognitive presence. This study also confirms that teaching presence has a direct effect on academic performance. This study proves that cognitive presence partially mediates the effect of teaching

presence on academic performance.

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