

# The effect of competency test and skill development programs on student ability at Primagraha University

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**Abstract:** This study aims to test the influence of competency test and skill development programs on students' abilities at Primagraha University. This study uses a quantitative approach, with the PLS-SEM causality approach. The object of this research was at Primagraha University with a sample of 75 respondents. The data was analyzed using the help of SmartPLS software version 4.0. The results of this study show that: 1) Competency test training does not have a significant impact on ability. 2) Competency test training has a significant effect on skill development. 3) Skill development does not have a significant impact on ability. 4) Skill development cannot mediate between competency test training and ability in full, which means that skill development cannot strengthen the influence of competency test training in improving ability.

**Keywords:** competency test; skill development; ability

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## Introduction

Mastering Microsoft Office, which includes (Word, Excel, and PowerPoint) is one of the important skills that must be possessed by all people in the digital era. Microsoft Office is currently very commonly used daily, especially in various business activities, education, and other areas. By holding a Microsoft Office competency test training program (Word, Excel and PowerPoint), it is hoped that students can improve their ability to operate Microsoft Office. The ability to operate Microsoft Office is no longer a plus, but it can be called a must.

Microsoft Word is a word-processing application program commonly used to create various kinds of letters, reports, papers and others. The presence of Microsoft Word replaces the outdated typewriter, and Microsoft Word can help to complete work easily and save time. According to (Sartika et al., 2022) Microsoft Word is one of the software systems used to process data and has an interface that can be understood by its users. This application was first published in 1983. Initially, the name was Multi-Word, which was later developed for various operating systems. Microsoft Word is the most frequently used application in teaching and learning activities. The application is used to deliver materials with computerized methods to make the learning process less monotonous. With Microsoft Word, creating a learning document becomes more interesting, and we can add images to the document we create. Microsoft Word can also minimize errors in writing and reduce the use of paper that can damage the environment.

Microsoft Excel is the most widely used number processing program by all groups, one of which is to create data automatically, including basic calculations, the use of functions, graphing and data management. According to (Hartini et al., 2022) Microsoft Excel is the most widely used spreadsheet program on Windows-based PC platforms, the excel program has calculation and graphing features with Microsoft's most aggressive marketing strategy. Meanwhile, according to

(Ningsih & Dewi, 2020) Using the Microsoft Office Excel program can provide convenience for individuals and organizations in making budgets, calculations, and record-keeping.

Microsoft PowerPoint is a presentation software program that functions to create slide presentations. For computer users, Microsoft PowerPoint is an application often used for presentations. according to (Nurfadillah et al., 2021) For computer users, Microsoft PowerPoint is an application that is often used for presentations. Microsoft PowerPoint is commonly used for presentation purposes, teaching and to create simple animations. By using this media, all media elements can be combined, such as text, images, sounds, and even videos and animations, so it can become a very interesting learning medium and increase students' interest in learning.

Ability is a person's capacity to carry out various tasks in a job. Realizing the importance of computer skills for students is very important for today's students. Hopefully, with this program, students' ability to operate Microsoft Office will be more optimal. However, so far, there has never been an analysis of how much the training program affects the results of students' ability to operate Microsoft Office. According to (Purnama, 2020) the purpose of learning, it is the ability (competence) or skill that students are expected to have after they carry out the learning process.

With the competency test program, it is hoped that students can improve their abilities to be more competent in operating Microsoft Office (word, excel, PowerPoint). According to (Pramajuri et al., 2023), these, human resources can be considered competent if they have insight, knowledge, and mastery of good abilities with existing performance support tools and devices. The purpose of learning is the ability (competence) or skill that students are expected to have after they carry out the competency test learning process.

Realizing the importance of computer skills for students and following up on existing problems, the campus held a basic computer competency test program as an additional provision for students outside of courses in the 6th semester of Primagaraha University. It is hoped that with this program, the ability of Primagaraha University students in semester 6 to operate Microsoft Office will be more optimal. The influence of the competency test program significantly affects students' abilities because, with the competency test, students can master Microsoft Office better. In this case, the competency test program can drive the increase in students' abilities. According to (Maharani et al., 2021) Competence is a concept related to the abilities that must be possessed and demonstrated by a person in carrying out a job in a field of work. Competence refers to the behavioral dimensions that underlie a performance expected in a person doing work.

The influence of the competency test program has a significant effect on the development of student skills because, with this competency test, students can further develop their skills in using Microsoft Office, such as in the use of Microsoft Word from initially typing using only two fingers, now they can type using 10 fingers. Meanwhile, using Microsoft Excel, students can further develop their skills in processing data automatically, including basic calculations in Microsoft Excel, such as using basic formulas Sum, Average, Max, Min, and Count. In addition, using Microsoft PowerPoint, students can develop their skills in editing power points, which are more varied in inserting transitions and animations in each PowerPoint slide. According to (Dj & Wahdaniah, 2022) emphasis, career development is improving one's work skills to achieve the desired career.

Skills development significantly affects students' abilities because good knowledge and skills will be practiced through the performance of the human resources concerned; by strengthening relevant skills, a person can improve the quality of work, productivity and career opportunities. Skills are the key to expanding an individual's potential and increasing their chances of success. By developing the right skills, one can achieve a higher level of ability, broaden one's horizons, and achieve extraordinary achievements. According to Skill, it is the ability to use reason, mind, ideas and creativity in doing, changing or making something more meaningful to produce value from the work results. According to (Welikin, 2021) that skill, it is the ability to translate knowledge into practice to achieve the desired work results.

Competency tests can significantly affect abilities through skill development as a mediating variable because the skill development process can strengthen or improve the weaknesses identified through competency tests. By focusing on developing relevant skills, a person can improve his or her abilities directly, thus creating a stronger link between the initial competency test and the abilities possessed. Additionally, skill development can increase an individual's self-confidence and motivation, affecting overall ability improvement.

The research entitled "The Effect of the Competency Test and Skills Development Program on Student Abilities at Primagraha University" has not previously been studied by other researchers. The gap in this research lies in the lack of empirical data regarding the effectiveness of the program in improving student skills. This research aims to fill this gap by providing in-depth analysis and relevant data, so that it can provide new and useful insights for students.

## Research Method

The research type is conducted using a quantitative method with a causality (causation) approach. A research approach that uses numbers and numerical data to analyze phenomena and answer research questions. In addition, this method focuses on collecting data that can be measured and analyzed statistically to draw conclusions. According to (Setiawan & Wahyudi, 2023) This study uses a quantitative approach method with causal relationships. A causal relationship is a causal relationship of several events or, in this case, a studied variable. The causality method is research that seeks to find an explanation in the form of a cause-effect relationship between several concepts or several variables and several strategies developed in management.

This research was conducted on the campus of Primagraha University. The population in this study is Primagraha University students majoring in management in semester 6. Meanwhile, the sample used in this study was 75 respondents. According to (Shafira & Ferdinand, 2017) the sampling is based on the variables used, where for each variable (three variables), the sample size is determined as many as (25) times the mediation variable. The data collection method in this study uses a questionnaire that is directly distributed to respondents with measurements using a Likert scale of 1-5 (strongly disagree – strongly agree).

According to (Dwi Retno Jayanti & Tri Sudarwanto, 2014) the state, the competency test has 3 (three) indicators, including competence, skills, and attitudes. Meanwhile, indicators of skill development include perception, self-control, carrying out collective responsibility, and carrying out individual responsibilities (Marlina, 2018). Then the ability variable is measured by 2 two indicators, namely potential ability (IQ) and reality ability (knowledge and skill) (Nurcahyo, 2011). The analysis tools used in this study are by using the SmartPLS software tool version 4.0 which is tested, namely the outer model and inner model. The hypotheses in this study are:

H1: Competency tests have a significant effect on ability.

H2: Competency tests have a significant effect on skill development.

H3: Skill Development Has a Significant Effect on Ability.

H4: Competency tests significantly affect ability through skill development as a mediation variable.

## Results and Discussions

The steps of testing the model's measurement form include testing validity and reliability. The loading factors resulting from data processing are looked at in validity testing. The loading factor must be above 0.70, and then the AVE is greater than or equal to 0.50. As for Cronbach's Alpha and composite reliability, the value must be more than 0.70 (Ghozali & Latan, 2015).

Table 1. Outer Model

Variable	Indicator	Outer loading		CA	CR	AVE
		OL1	OL2			
Competency Test	CT1	0.613	-	0.55	0.814	0.688
	CT2	0.792	0.722			
	CT3	0.824	0.883			
Skill Development	SD1	0.817	0.893	0.732	0.882	0.788
	SD2	0.729	0.883			
	SD3	0.699	-			
	SD4	0.613	-			
Ability	A1	0.822	0.809	0.719	0.869	0.770
	A2	0.933	0.941			

Note(s): OL1 (Outer Loading First Test); OL2 (2nd Outer Loading Test); CA (Cronbach's Alpha); CR (Composite Reliability); AVE (Average Variance Extracted).

Table 1 shows three indicators that do not meet the validity requirements, namely UK1 0.613, PK3 0.699 and PK4 0.613, while the others meet the requirements. Giving a recommendation on the outer loading test, the value must be 0.7, while the AVE must be above 0.5. Table 1 shows whether the values of CA, CR, and AVE have met the recommended requirements.

In this study, the measurement model can be seen from outer loading, Average Variance Extracted (AVE), Composite Reliability (CR), and the square root of AVE. Outer loading is the first approach to assess the convergent validity of indicators (Hair et al., 2017). (Hair et al., 2017) Explained that the outer loading value of each indicator with its construction must be higher than the loading factor value.

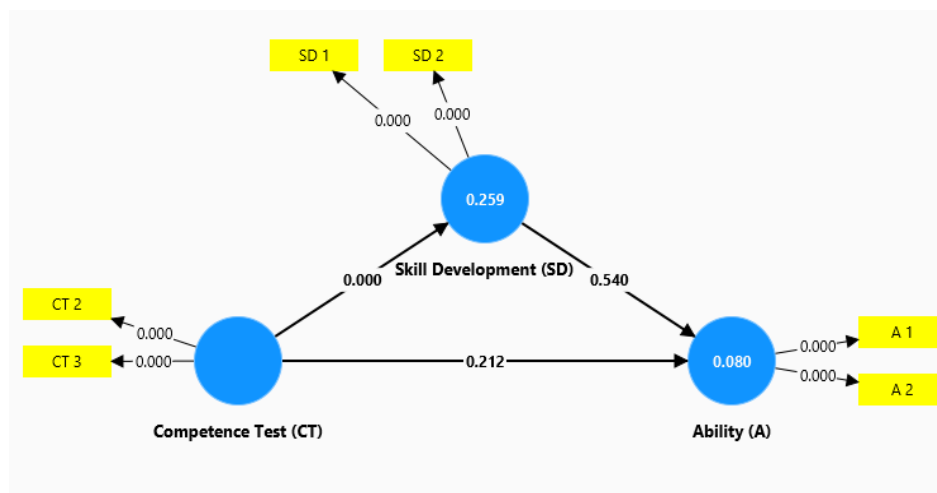


Figure 1. An illustration of the results from SEM-PLS algorithm

Table 2. Hypothesis Testing

Uji	Model	Original Sample	t-statistic	p values	Result
Direct effect	Competency Test (CT) → Ability (A)	0.509	6.003	0.000	NS
	Competency Test (CT) → Skill Development (SD)	0.223	1.248	0.212	S
	Skill Development (SD) → Ability (A)	0.095	0.155	0.540	NS

Uji	Model	Original Sample	t-statistic	p values	Result
Indirect effect	Competency Test (CT) → Skill Development (SD) → Ability (A)	0.048	0.579	0.563	NS

Note(s): NS (Not Significant); S (Significant)

Based on Table 2 of the four hypotheses tested, there are three insignificant hypotheses, including H1, H3 and H4. While the significant or accepted hypothesis is H2. A hypothesis is stated to be significant if the t-statistic is more than 1.96 and the P-value must be less than 0.05 (Hair et al., 2017). Therefore, the second hypothesis accepted is the competency test, which has an effect on skill development.

### The effect of competency tests on ability

The competency test does not significantly affect ability because it is more oriented toward measuring students' ability to remember and repeat information rather than developing critical or creative thinking skills that are actually important in the real world. In addition, competency tests are often designed to measure understanding and mastery of certain materials in a certain format. Still, they do not always reflect the individual's ability to apply that knowledge in real and relevant situations. According to the results of a study conducted by (Lengkong et al., 2020) The results of this study show that the competency test does not significantly affect ability, which means that the competency test cannot help improve ability.

### The effect of competency tests on skill development

Competency tests have a significant influence on skill development because competency tests are carried out periodically to measure skill development over time. This allows individuals to see concretely how they have improved their skills and where areas still need improvement. Additionally, a well-conducted competency test can significantly benefit the development of one's skills by providing the direction, motivation, and support necessary to achieve learning and skill development goals. According to the results of research conducted by (Muslimin, 2020), the competency test program, it can increase skill development. This happens because the competency test program is designed very well to ensure optimal results. The competency test program can take place optimally because it is designed according to the right needs, methods and times. The competency test program is also very suitable for students with high potential but still weak in their knowledge and skills.

### The effect of skill development on ability

The development of skills does not have a significant effect on a person's abilities. Several factors can affect this, such as lack of consistent practice, absence of relevant feedback, and lack of opportunities to apply new skills in real-life situations. Sometimes, there may also be inaccuracies in teaching methods or a lack of personal motivation to develop these skills. According to the results of research conducted by (Pratama & Wardani, 2018) shows that skill development has no effect and is not significant on ability.

### The indirect influence of competency tests on ability and skill development.

The indirect effect of competency tests on abilities is not mediated by skill development. One is if the competency test does not directly support or be relevant to developing the skills needed to improve abilities directly. This can happen if the competency test is not designed to measure or encourage the development of specific skills needed to improve ability. In addition, competency tests can indirectly influence abilities without mediation by skill development if there is no direct link between the competency test and the required skills or if other variables affect the relationship beyond skill development. According to the results of research conducted (Islamati

et al., 2022) from the results of data processing, it can be concluded that the competency test does not have a significant effect on a person's ability. In this case, it states that skill development cannot mediate between competency and ability tests.

## Conclusion

From the results of the discussion above, the conclusion of this study is that competency test training does not have a significant effect on ability. Competency test training has a positive and significant influence on skill development and does not significantly influence ability. Competency test training does not significantly influence the ability to be mediated by skill development. The importance of increasing the development of good skills for students in improving the abilities of students at Primagraha University. Competency tests and skill development training programs can have great potential to improve students' abilities.

This research can provide more understanding regarding the influence of competency testing and skills development programs on student abilities at Primagraha University. Apart from that, this research can provide useful information to students.

However, this research certainly has limitations, such as only being able to examine 6th semester students. Therefore, it is hoped that future research can expand the scope by involving students from various semesters and considering other factors that can influence the results, such as the learning environment and teaching methods. In this way, it is hoped that it can provide a more comprehensive picture of the effectiveness of the program.

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