



## What Determine Performance of Financial Accounting Lecturers? An Experimental Study in Indonesian Higher Education Institutions

Sony Warsono-bin-Hardono<sup>1\*</sup>, Arin Pranesti<sup>2</sup>, Frida Fanani Rohma<sup>3</sup>, Devandani Ken Priambodo<sup>4</sup>

<sup>1, 4</sup>Accounting Department, Faculty of Economics and Business, Universitas Gadjah Mada

<sup>2</sup>Accounting Study Program, Faculty of Economics, Universitas Negeri Yogyakarta

<sup>3</sup>Accounting Study Program, Faculty of Economics and Business, Universitas Trunojoyo

\*Corresponding author: swarsono@ugm.ac.id

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### ABSTRACT

This study investigates the determinants of performance of financial accounting lecturers and instructors in Indonesia. The factors analyzed are competence, rigor, and thoroughness. The data was collected through experiment involving 110 instructors who are lecturers and instructors from universities, colleges, and polytechnic institutions in Indonesia. The participants were invited to the experimental activity conducted in September 2016. The results show that competence, rigor, and thoroughness have positive effects on the performance of accounting instructors. The findings also confirm that competence, rigor, and thoroughness are the main qualities they must possess to perform optimally in their duties.

### Apakah Faktor-Faktor yang Menentukan Kinerja Tenaga Pengajar Akuntansi Keuangan? Sebuah studi Eksperimen pada Perguruan Tinggi di Indonesia

#### ABSTRAK

Penelitian ini menguji faktor-faktor yang mempengaruhi kinerja tenaga pengajar akuntansi keuangan di sejumlah perguruan tinggi di Indonesia. Terdapat 4 faktor yang diuji, yaitu kompetensi, kehati-hatian, dan ketelitian. Data dikumpulkan melalui eksperimen dengan peserta 110 tenaga pengajar yang bekerja di universitas, sekolah tinggi, dan politeknik di Indonesia. Para peserta diundang untuk hadir pada kegiatan eksperimen tersebut yang dilakukan pada September 2016. Hasil penelitian menunjukkan bahwa kompetensi, kehati-hatian dan ketelitian mempengaruhi secara positif kinerja tenaga pengajar. Penelitian ini juga mengkonfirmasi bahwa kompetensi, kehati-hatian dan ketelitian merupakan komponen kualitas yang harus dimiliki oleh tenaga pengajar dalam bekerja secara optimal.

## 1. Introduction

Since the mid-1980s, systematic attempts have been made to initiate changes in accounting education. The Bedford Committee of the American Accounting Association (1986) suggested re-orientation in the world of accounting education in line with the massive

changes taking place in the business environment. According to Kullberg et al., (1989) the executive directors of the eight largest public accounting firms in the world (now changed to the "Big 4") reported that accounting education lags behind business needs so that changes must be made, including the revamping of the first course in

accounting. Hence, the Accounting Education Change Commission (AECC) was formed in 1989 by AAA. The AECC required changes in the first course in accounting through the issuance of Position Statements No. 1 and 2 (Accounting Education Change Commission, 1990). Besides systematic effort conducted in the early '90s, recently, some researcher has stated the importance of changing curriculum content, learning media, and accounting instructor learning method to improve student academic performance. Those effort conducted by changing the learning method or using new learning media to stimulate student academic performance (Diaz, 2016; Porter, 2019). Many scholars discussed the need for changes in accounting learning methods (Diaz, 2016; Hartnett, Romcke, & Yap, 2004; Porter, 2019; Rankin, Silvester, Vallely, & Wyatt, 2003). They argued that the traditional accounting curriculum that prioritizes the ability to memorize hampers the students from developing the competencies, such as critical thinking, which are actually needed in accounting.

The AECC suggests basic accounting restructuring, such as through learning from the user's perspective rather than from that of the preparer (Lee & Bisman, 2006). The user's perspective is thought to provide students with a better understanding of accounting concepts (Baldwin & Ingram, 1991; Bernardi & Bean, 1999). Other researchers suggested the use of information technology (IT) to improve the effectiveness of accounting learning (David, Macracken, & Reckers, 2003; Goldwater & Fogarty, 2007; Mohamed & Lashine, 2003; Pincus, Sorensen, Stocks, & Lawson, 2017; Porter, 2019).

For Example, D'Aquila, Wang, & Mattia (2019) suggest the usage of technology like Youtube could improving student performance in class and be used as learning media to help the student reviewing resource given by the instructor. However, D'Aquila et al., (2019) also

suggest that although technology could help the learning process, classical learning in a class cannot be replaced.

At present, although the business environment is changing dynamically, accounting learning has not changed that much (Albrecht & Sack, 2001; Sangster, Stoner, & McCarthy, 2007). In fact, the accounting learning was still passive (Chan, Song, Rivera, & Trongmateerut, 2016). Unable to fully develop the required set of students' competencies Mohamed & Lashine (2003), and reliant on a one-way distribution of knowledge model (Saunders & Christopher, 2003).

This traditional accounting learning approach makes accounting books seem similar to one another (Sullivan & Benke, 1997). Already, the field is experiencing a lack of lecturers and doctoral students in accounting—a phenomenon that may grow in the coming years (Plumlee, Kachelmeier, Madeo, & Krull, 2006). Similarly, Fogarty & Markarian (2007) report that accounting lecturers have decreased, which can be a serious problem for the continuity of accounting disciplines. In addition, a considerable number of students are deciding to choose Accounting as a major after entering college (Nelson, Venzryk, Quirin, & Kovar, 2008).

The effectiveness of learning is influenced by four main factors, namely, students, processes, infrastructures, and instructors. Most of research topics on the accounting courses focus on the student component, processes (e.g., pedagogy and teaching methods), and infrastructures (utilization of information technology) on the assumption that the instructor component meets the requirements. In fact, the component of the instructor plays an important role in the learning system as they can be likened to pilots in the aviation world who must make important decisions in order to achieve learning objectives. Unfortunately, only a few studies have examined accounting instructors as research subjects.

Hence, the current research investigates this important factor. Most research conducted before

both in Indonesia and other countries only focused on how to enhance student performance or but only a few taking research further about getting accounting instructor performance improved (Chan et al., 2016; Diaz, 2016; Fauziah, Kurjono, & Muntasofi, 2018). For example, Fauziah et al., (2018) found that Team Games Tournament learning model could elevate student performance. In addition, research conducted by Zuhro, Parawiyati, & Lisetyati (2009) mentioned the importance of an adequate curriculum to prepare accounting graduates absorbed by the industries. Besides, a similar study only conducted in a class and targeted for the student. Hence, the current research investigates this critical factor. The main objective of this research is to identify the level of financial accounting knowledge of accounting instructors and examine factors that affect their performance in Indonesian universities. In the next section, we present the literature review and hypothesis development. Then, we discuss about the research method used, that is, the experiment method. The next section presents data analysis using t-test and regression. The final section is about conclusions and limitations.

## 2. Theoretical Framework and Hypothesis Development

Competency in relation to knowledge is the main basis for evaluating the capabilities of professional instructors (Ball & Forzani, 2009; Clark & Walsh, 2002; Long, Ibrahim, & Kowang, 2014; Schaeffer, Epting, Zin, & Buskist, 2003; Scriven, 1988). The double-entry system (debit and credit) in the Introductory Accounting course is one of the foundations of accounting science (Cherry & Reckers, 1983). The basic material of such a course specifically discusses the fundamental concepts of double-entry systems. These concepts can be found in the book *Summa de Arithmetica, Geometria, Proportioni et Proportionalita* (hereafter, *Summa*) written by Luca Pacioli in 1494, and are still used today in

various Introductory Accounting textbooks, such as *Principles of Accounting* by Warren, Reeve, & Feesm (2006) *Accounting Principles* by Weygandt, Kimmel, & Kieso (2015) and so on.

Cherry & Reckers (1983) conducted a survey on several professors and found that most professors choose the same topic they considered essential when teaching basic accounting. This finding indicates that the basic knowledge of accounting generally does not have much difference. In addition, the growing issues of certification in the field of accounting also involve the accountant educator (accounting instructor). Such certification exams that require basic materials are almost similar and are never separated from the concepts of double-entry bookkeeping, identification of transactions, and the preparation of financial statements. Hence, the Introductory Accounting comprehension of many accounting instructor is generally the same. Therefore, the first hypothesis proposed in this study is as follows:

**H1a:** The basic knowledge levels of accounting instructors are generally the same

The traditional accounting approach is no longer sufficient in showing the development of a growing business environment (Palm & Bisman, 2010). The development of accounting practices based on accounting standards governed by the standard board is always changing as is the case with IFRS.

Wolk, Dood, & Rozycki (2013) explained that the Financial Accounting Standards Board (FASB) and the International Accounting Standards Board (IASB) converged to reduce the difference between the US GAAP (US Generally Accepted Accounting Principles) and IFRS. Vysotskaya & Prokofieva (2013) reported some changes in the accounting education in Russia after the IFRS adoption, such as fair value, separate rules for financial and tax reporting, and separated reporting structures for managerial and financial reporting.

Any change after IFRS adoption may result in the emergence of switching costs for instructors. Instructors need to allocate a lot of time and effort to learn some of the post-adoption changes of IFRS. This may encourage some instructors to be unwilling to learn it, which may have an impact on the instructor's understanding of difference. In addition, Cherry & Reckers (1983) explained whether there are differences in perceptions of the accounting instructor concerning the importance level for certain topics. Besides, Wells (2018) argued that introductory textbooks does not inform future accounting practices. These reports indicate that dynamic changes in accounting standards at a more complicated intermediate level can lead to differences in how those in this field can understand accounting materials, including the level of understanding of accounting instructors. Thus, we propose the following hypothesis:

**H1b:** The levels of accounting instructors' intermediate knowledge are different.

The teaching and learning model was first introduced by Dunkin and Biddle in 1974. The Dunkin and Biddle Model is known as the Presage-Process-Product (3P), which suggests that, in educational governance, the teaching process can be seen as the configuration of the 13 classes of variables that lead to differences in educational performance in classroom teaching. These 13 classes of variables are categorized into four major classes, namely, presage, context, process, and product variables.

The present study emphasizes the presage variables that focus on the characteristics of a teacher, which can be tested by determining their impact on learning processes (Dunkin & Biddle, 1974). Presage variables are those that relate to one another and emphasize the causes of the effectiveness of the teaching process. This model emphasizes that the effectiveness of teacher teaching and the quality of the learning process can viewed from the perspective of teacher factors: teacher formative experiences (e.g.,

social class, age, and gender), teacher training experiences (e.g., educational background, teacher training program, and teaching experience), and teacher property (related to teaching skills, level of intelligence, motivation, and personal treatment).

Educational background, as part of instructor competence, is easily measured in the profession because of the instructors who uphold the level of personal intellect in the educational environment. The level of education refers to the level or academic trust that an individual has obtained (Ng & Feldman, 2009). A strong relationship exists between teacher knowledge and what they convey to the students (Adediwura & Tayo, 2007). In addition, the ability of lecturers to teach effectively depends on the depth of knowledge they possess. Hence, individuals with higher education have better insights and greater analytical knowledge (Ceci, 1991).

The teaching profession is one that highlights competency as a foundation in order to achieve the aims of transfer of knowledge and transfer of value during the learning and teaching process. According to Cooper (1990), a professional is a person who possesses some specialized knowledge and skills, can weigh alternatives, and select from among a number of potentially productive actions—one that is particularly appropriate in a given situation. Competence, as a characteristic, refers to one's effectiveness and/or high performance in a particular job or circumstance (Spencer & Spencer, 1993). The learning process requires the instructor to have sufficient competence to convey the skills and content of academic learning to the learners. In short, a good lecturer can influence how a receiver considers a source and perceives the veracity of the knowledge being shared (Long et al., 2014; Richmond, McCroskey, & L, 2005) and has three dimensions: competence, caring and character. Competence refers to how knowledgeable a source is perceived, caring refers to the extent to which a source expresses

concern about another person's well-being, and character refers to how trustworthy and honest a person is perceived to be.

Ng & Feldman (2009) argued that competence is positively related to performance. Therefore, the competence of an instructor will have an effect on his/her performance because this means that the instructor has a knowledge base through which he/she can achieve the target learning outcomes. Hence, we propose following hypothesis:

**H2:** The competence of an instructor has positive effect on his/her performance

The accounting profession is closely related to the development of business practices. Wolk et al., (2013) explained that accountants have an important role in providing information to interested parties to assist in the latter's decision-making. The linkage of accountants in the business world to provide information encourages various parties to try to intervene, which leads to ethical dilemmas for many accountants. Hence, understanding ethical principles in the learning process is very crucial, especially in the field of accounting (Madison & Schmidt, 2006; Martinov-Bennie & Mladenovic, 2013).

The International Ethics Standards of The Board of Accountants of the International Federations of Accountants (IESBA-IFAC) describes a professional accounting ethics code consisting of three parts: ethical principles, professional accountants in public practice, and professional accountants in business. The basic principle of ethics is a kind of fundamental knowledge that an accountant must have. With such a knowledge, we can have (1) prudent professionals who emphasize the importance of maintaining professional knowledge and expertise at the required level to ensure that clients will receive competent professional services based on the latest developments in practice, rules and techniques, and (2) act seriously in accordance with applicable professional techniques and standards.

Botma, Van Rensburg, Coetzee, & Heyns (2015) argued that instructors should be facilitators in learning and create personal opportunities that can help students process and internalize new information and knowledge. Malik, Murtaza, & Khan (2011) showed that, in ethical development, instructors play a major role in influencing student behavior. Therefore, the role of the instructor is very important in building and providing understanding of the basic principles of ethics, including competence and professional caution, among the students. Fatt, (1995) revealed that accountants have an obligation to be competent and to foster confidence, integrity, and objectivity among students because the accounting profession deals with clients in a professional manner.

According to Jones (2014) experience influences how professional accounting employees develop an understanding of the field and how students gain skills they can employ in the accounting profession. Jones found that the ability to form professional credibility with attitudes and behaviors is a very important skill that is not addressed by the textbooks that focuses only on general skills. Accounting is a field of science that combines skills and the ability to think logically and systematically. Instructors need to provide an overview by doing a structured practice in the classroom so that students gain a learning experience that can be applied in the real world of work.

Calderon & Green (1997) revealed that instructors need to be assessed through several factors, one of which is the medium to long-term impact on students' learning. The learning experience in the classroom needs to be shaped in such way that students are able to gain "something" of value for the work after undergoing the process of learning in the classroom. In practice, an accountant is a good accountant if he/she can apply his skills in managing numbers (Duska, 2005). In managing numbers, an accountant must have a meticulous

attitude in carrying out his/her work. Accounting teaching focuses on learning responsibility for the numbers contained in the financial statements or other outputs of the accounting process generated by an accountant. An accountant can make mistakes due to inadvertent errors committed in the process of analyzing and reporting financial transactions. Therefore, it is important for an instructor to have the basic principles of ethics (i.e., competence and rigor) in order to establish a solid foundation as accounting instructors in the process of accounting learning.

The characteristics of an instructor that can be tested to determine his/her impact on the learning process Dunkin & Biddle (1974) are represented by the presage variables, which emphasize the effectiveness of instructor teaching and the quality of the learning process in terms of teacher factors (related to teaching skills, level of intelligence, motivation, and Personal treatment). In this case, prior to providing knowledge on the basis of competence and rigorous ethics, an instructor must have the skills, intelligence, and motivation in relation to the concepts being taught. In this way, the instructors can influence the students to understand the material of learning.

Lopez, Almeida, Rodriguez, & Perez (2016) explained that the proper acquisition of the right knowledge by the students enables them to perform activities and face their professional careers with a more successful approach. One of the competencies that must be possessed is the knowledge of the field of study apart from other skills needed in certain fields of science (Long et al., 2014).

Accounting, as a field of knowledge that demands thoroughness and rigor (numeracy skills), would require a skill that must be possessed by educators so that they can deliver learning materials well. Other reasons can also help explain the significant effect of the development of accounting science and the digital world that provides convenience in accessing

information. Ease of access to information, including learning materials and manual solutions provided by several books, can help accounting instructors in delivering the materials, but such manual solutions can encourage accounting instructors to be less innovative. Thus, the role of prudence and precision is important in improving performance. Salgado (1997) showed that thoroughness and emotional stability can be used to predict performance. This is confirmed by (Barrick & Mount, 1991; Dudley, Orvis, Lebiecki, & Cortina, 2006). Therefore, we propose the following hypotheses:

**H3:** An instructor's rigor has a positive effect on his/her performance.

**H4:** An instructor's thoroughness has a positive effect on his/her performance

### 3. Research Method

The purpose of this research is to identify the accounting instructors' level of knowledge of financial accounting and examine the factors affecting their performance in Indonesian universities. In order to achieve the purpose of this study, the main research design used the experimental method, specifically the field experiment. Through this approach, the participants of an accounting workshop served as the research subjects.

The workshop entitled "Workshop of Accounting Practical Teaching" was held for three days start from 7th until 9th September 2016. The workshop held by Accounting Laboratorium in collaboration with Pendidikan Profesi Akuntansi Universitas Gadjah Mada. The participants were required to attend the entire series of workshop events in order to take the final exam. The workshop was designed in such a way that each subject receives the same knowledge and perception from the sessions. The workshop was designed strictly by incorporating elements of theory and practice.

The subjects were supervised and required to actively participate in a series of workshops.

They were also given modules containing practical questions that they had to work on during the workshop session. These modules were evaluated at the end of the session.

### **Participants**

The participants of this study are lecturers and accounting instructors in universities, colleges, and polytechnic institutions in Indonesia. The research design consisted of workshops and accounting practices with the aim of aligning the initial perceptions between lecturers and accounting instructors. A total of 113 subjects participated in the study, of whom 110 were included. Two participants who did not fully participate in the whole series of workshops and practicum activities were excluded, and another participant did not comply with the standard of manipulation check. This research examine the difference between instructor performance before and after given treatment in the workshop. Thus, every participant was given equal treatment by the researcher.

### **Instrument Validity**

This study used multiple choice questions to identify the level of knowledge and the factors that affect performance of the instructors. Essays were also used as part of the manipulation check. The levels of validity and reliability of the questions used in the study were tested using point-biserial correlation and Kuder Richardson 21 ( $KR_{21}$ ). Out of 100 tested questions, 7 questions were excluded in the research component because they did not meet the required level of validity. The overall reliability level of the questions is 0.95, which means that the reliability of the instrument is very high. The hypotheses in this study were tested using t-test and multiple linear regression analysis.

### **Measurement**

Basic and intermediate knowledge was divided according to the textbook used by the

curriculum in Indonesia. Hence, the basic exam consisted of 45 questions and the intermediate exam had 48 questions. We performed the t-test to determine the level of equality and difference of knowledge among the participants. Measurements were performed on 3 independent variables (competence, rigor, and thoroughness) and 1 dependent variable (performance).

The competence variable was measured by using the following scales: 1 for the lecturer with a bachelor's degree, 2 for the lecturer with a master's degree, and 3 for the lecturer with a PhD degree. This scale was used to distinguish among the competence levels of lecturers in terms of basic educational background. The rigor variable was measured by finding the value of the answer given correctly by the participant divided by the choice answered by the participant. For example, if a participant answered 78 questions from 93 exam questions, of which 58 were correctly answered, then the precaution value of the participant was identified as 74.35%<sup>1</sup>.

The thoroughness variable indicates how much thoroughness the participants have in answering the questions provided. Participants do not know the selected questions to be used as the basis of thoroughness assessment. From the exam questions provided, the researcher gave 20 highly tricky questions; hence, the participants had to be more thorough while taking the exam. From the 20 questions tested, there were 2 questions that did not fulfill the level of validity and reliability, so these questions were excluded in the calculation of the thoroughness value. The value of thoroughness of each participant was obtained from the number of questions answered correctly by the participants divided by 18 questions of thoroughness. The performance variable was measured by giving the final score of the choice answered by the participant provided that he/she correctly answered 4 (four) questions; if these

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<sup>1</sup> The formula is given as follows:  $58/78*100\%$ .

were answered incorrectly, the score was set to -4 (minus four), and if it no answer was given, then the score was set to 0 (zero). The total value at the end isn't minus, but the minimum end value is 0 (zero).

In addition to testing the dependent and independent variables, we also tested extraneous variables of gender and exam duration. Gender and exam duration were tested together with the tests of dependent and independent variables to determine whether control variables were

influential in the model. Gender was divided into two (women and men), whereas the exam duration was considered as an order of test. Order of test serves as a form of check manipulation to distinguish one group from another. The order of test is expressed in dummy variables: 0 for participants who answered the multiple choice questions first, and 1 for those who answered the essay part first. In sum, the variables measured in this study are explained in Table 1.

Table 1. Variable Measurement

Variables	Definition	Variable Measurement
Gender	Gender of participants	1 = Male 2 = Female
Exam duration	Order of Test	0 = participants who answered the multiple choice questions first 1 = participants who answered the essay part first
Competence	Competence levels of participants in terms of basic educational background.	1 = lecturer with a bachelor's degree 2 = lecturer with a master's degree 3 = lecturer with a PhD degree
Rigor	The quality of being detailed, careful, and complete.	Value of the answer given correctly by the participant divided by the choice answered by the participant.
Thoroughness	How much thoroughness the participants have in answering the questions provided.	Number of questions answered correctly by the participants divided by 18 questions of thoroughness.
Performance	The final score of the choice answered by the participant provided that he/she correctly answered 4 (four) questions; if these were answered incorrectly, the score was set to -4 (minus four), and if it no answer was given, then the score was set to 0 (zero).	0-100 (the minimum end value is 0 (zero)).

To test the variables associated with the hypothesis and extraneous variables, we used the one-sample t-test presented in Table 3 with the number of tested questions and multiple linear regression in Table 4. The results of the multiple linear regression test show the significance levels

of two extraneous variables, namely, gender (0.076) and essays as manipulation checks (0.844 presented in Table 2. These demonstrate that extraneous variables have no effect on the performance of the instructor in the model being tested.

Table 2. Results of the Regression Analysis of the Extraneous Variables

Model	Coefficient	Coefficient Standard	t	Sig.
Gender	13.84	7.72	1.79	0.076*
Manipulation Check	-1.37	6.95	0.20	0.844

\*\*\*, \*\*, and \* correlations are significant at the 0.01, 0.05, and 0.10 levels, respectively (1-tailed).



Table 3. Results of One-Sample t-Test

Variable	t	F	(2-tailed)	Mean Difference	Confidence Interval of the Difference	
					Lower	Upper
Basic test Value = 0.65	-0.631	107	0.530	-0.0117	-0.0483	0.025
Intermediate Test Value = 21.6	-2.298	107	0.023	-1.933	-3.60	-0.27

Hypothesis 1A states that the basic knowledge levels of the accounting instructors have no difference. Using one-sample t-test, the basic knowledge levels of the accounting instructors were compared in one group using 45 question items. The results of the test are presented in Table 2. The result of one sample t-test is  $t_{\text{statistic}} = -0.631$ , whereas the values of  $t_{\text{table}}$  with Sig level (2-tailed)  $> 0.05$  are  $-1.98238$  and  $1.98238$ . The results of the t-statistic are shown between  $t_{\text{table}}$ , which indicates that, with a 95% confidence level, there is no difference in the levels of basic knowledge among the accounting instructors. Hence, H1A is statistically supported.

Hypothesis 1B states that the intermediate knowledge levels of accounting instructors are different. Using one-sample t-test, the intermediate levels of accounting knowledge were compared in one group using 48 question items. The result for intermediate knowledge is  $t_{\text{statistic}} = -2.298$ , whereas the values of  $t_{\text{table}}$  with Sig level (2-tailed)  $> 0.05$  are  $-1.98238$  and  $1.98238$ . These indicate that the result of the t arithmetic is beyond the value of  $t_{\text{table}}$ , which means that, with a 95% confidence level, the intermediate knowledge levels of accounting instructors are different. Thus, H1B is statistically supported.

First, this study tests classical assumption test of BLUE (Best Linear Unbias Estimator), to ensure that the regression equation obtained has the accuracy of estimation, is consistent, and is not biased by the classical assumption test, i.e., normality test with skewness  $0.253/0.233 = 1.085$  and kurtosis  $-0.082/0.461 = -1.7788$ , thereby

indicating compliance with the assumption of normality. The autocorrelation test with the Durbin-Watson value of 1.858 shows the autocorrelation coefficient equal to zero or no autocorrelation. In addition, the multicollinearity test with VIF score and collinearity statistics VIF values for all variables are not more than 10; hence, the model is free from the multicollinearity problem. Meanwhile, the partial correlation test results of all variable values are not less than 0.05, indicating the lack of multicollinearity. The heteroscedasticity test shows that, from all explanatory variables, the  $t_{\text{statistic}}$  value is not statistically significant; hence, this model does not suffer from the heteroscedasticity problem. Hypotheses 2, 3, and 4 were tested simultaneously by using the multiple regression equation given below.

$$\text{Instructor Performance} = \alpha + \beta_1 \text{Competence} + \beta_2 \text{Thoroughness} + \beta_3 \text{Rigor} + \beta_4 \text{Gender} + \beta_5 \text{ManipulationCheck} + \varepsilon \quad (1)$$

Multiple regression analysis aims to determine the effect of independent variables on the dependent variable. Table 3 shows the results of the statistical tests. The statistic shows that the value of the adjusted R square is 0.828, which means that the variation of instructors' performance can be explained by the variation of three independent variables, namely, competence, rigor, and thoroughness, whereas the rest of 0.171 can be explained by other variables not discussed in this hypothesis test analysis.

Table 4. Multiple Regression Analysis Results

Model	Coefficient	Coefficient Standard	t	Sig.
Constanta	-222.3	33.7	-6.60	0.000
Competence	30.9	14.8	2.09	0.039**
Rigor	318.5	12.58	12.58	0.000***
Thoroughness	138.7	6,27	6.27	0.000***
R square	= 0.8358			
Adjusted R Square	= 0.8278			

\*\*\* and \*\* correlations are significant at the 0.01 and 0.05 levels, respectively (1-tailed).

Table 5. Simultaneous Significance Test Results

Model	df	Adjusted SS	Adjusted MS	F-Value	Sig
Regression	3	657.406	219.135	170.03	0.000
Error	104	134.032	1.289		

The criterion used is whether  $F_{\text{statistic}}$  is greater than  $F_{\text{table}}$  and if it has a significant contribution and vice versa. Based on the F test, the value of F arithmetic statistic is 170.03, whereas that of  $F_{\text{table}}$  is 3.08. Given that the  $F_{\text{statistic}}$  value is greater than that of  $F_{\text{table}}$  ( $170.03 > 3.08$ ), there exists a positive relationship between competence, rigor, and thoroughness, on the one hand, and performance on the other hand. The value of significance (probability) is 0.000, where the probability value is smaller than 0.05. Hence, the coefficients of regression of competence, rigor, and thoroughness are not equal to zero and the three independent variables together affect instructor performance. The performance variable of the instructor can be explained by the mathematical equation given below.

$$\text{Instructor Performance} = -222,3 + 30.9 \text{ Competence} + 318.5 \text{ Rigor} + 138.7 \text{ Thoroughness} + 13.84 \text{ Gender} + 1.37 \text{ Manipulation Check} \quad (2)$$

Of the three variables included in the model, all three have a significance level that is less than 0.05. This means that if the value is less than 0.05, then  $H_0$  is rejected. In other words, there exists a significant relationship between one independent variable and a dependent variable. Based on the above statistical results, we can state that competence, rigor, and thoroughness have positive effects on the performance of accounting

instructors; hence,  $H_2$ ,  $H_3$ , and  $H_4$  cannot be rejected.

This research supports the opinion of Dunkin & Biddle (1974), which revealed that instructors have a strategic role in learning process. Also, these results support a similar finding that concludes that accounting instructor basic knowledge overall are equal. On the contrary, accounting instructor middle knowledge tends to differ because of constant change on the standard.

This confirmed by Cherry & Reckers (1983) that propose accounting instructor opinion on dynamically changing accounting topic are vary. Therefore, fundamental change in accounting field must be observed by the instructor to align instructor and student perceivment. Using a suitable learning method will ease up accounting instructor transfer of knowledge (D'Aquila et al., 2019; Diaz, 2016; Porter, 2019).

Also, this research strengthen the previous finding, which stated that instructor competency is critical to improve their student performance (Ng & Feldman, 2009; Pincus et al., 2017). Instructor role becoming very strategic in account learning as proposed by (Dunkin & Biddle, 1974). Pincus et al., (2017) suggest that faculty have a responsibility in their expertise. Separately, Pincus et al., (2017) express that such thing is used to respond to change in accounting education by making a strategic plan for the future and bring

development model in learning approach and research.

Besides, Wells (2018) suggest that most accounting textbooks have limitation in implementing practice; hence, student poorly understood accountant roles in practice. This was becoming a future work for the instructor to becoming effective and efficient in accounting learning. Besides, Jones (2014) emphasizes on how responsibility in giving student knowledge on how to deal with the main real task in accounting practice. Understanding how accountant behaves and work need to be given by the instructor since classical accounting class.

This study provides the implication that accounting instructors play a strategic role in accounting learning. As stated by Zuhro et al., (2009) there is a need from the industry for accounting graduates who have accounting skills and have solid knowledge. Therefore, as a part of the learning process that affects learning outcome, rigor and thoroughness principles must be possessed by the instructor that directly influence student performance in the future. Also, instructors are required to be more up to date on dynamic changes in accounting for the achievement of learning objectives both in the classroom and in the world of work.

#### **4. Conclusion**

Accounting instructors play an important role in the development of accounting education. According to Dunkin & Biddle (1974), teachers (instructors) contribute in the outcomes of the learning process. Accounting instructors have a duty to deliver courses to learners so that required competencies are gained in accordance with the learning objectives set. Unlike intermediate knowledge, basic knowledge of accounting is generally the same among instructors as there has been no significant change in the basics of accounting since 1494 as introduced by Luca Pacioli. The development of a business requires changes in accounting standards in an effort to

comply with the requirement of providing accurate information for the stakeholders. Accounting standards are becoming increasingly complex and have grown widely with the emergence of various sources (content and information). As a result, the intermediate knowledge of accounting instructors now has to be multi-perspective in nature.

This study shows that some of the main factors an accounting instructor must have to encourage performance are competence, rigor, and thoroughness. The performance of accounting instructors is a benchmark in encouraging successful accounting education. Such factors capable of improving the performance of accounting instructors cannot be ignored. This is because accounting associations with numbers, financial information, and the development of accounting standards require competencies that are appropriate to the field, namely, rigor and thoroughness.

This study has several limitations. First, we did not consider the ages of the participants. The sample was heterogeneous in terms of age. The ages of the participants may affect the performance of accounting instructors in this study, because based on the facts, younger people are more updated in terms of access to information, including trends in accounting standards.

Second, we did not conduct a pre-test to determine the initial knowledge levels of the participants; we only used the test data after they completed the teaching workshop. Future studies should thus conduct a pre-test to determine the difference in knowledge levels before and after the field experiment.

Third, we have not yet to test another variable of instructor teaching experience. Finally, we used the Indonesian curriculum to differentiate between basic and mid-level knowledge (intermediate). Given that every country has different curricula on basic accounting and intermediate level accounting, the results limited to be generalized to other contexts.

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