

Analysis of Critical Thinking Abilities of Office Administration Education Students in Surakarta

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Critical thinking has become essential in teaching office administration education (PAP). It needs to be carried out because the student's critical thinking will affect their ability to comprehend lecture material and its implementation when they graduate to become a teacher. PAP students as prospective educators definitely need to know the level of their critical thinking, then hone their critical thinking according to their field of ability. That way, it is expected that after they become educators, they can transmit, share, and provide learning to improve students' critical thinking abilities. Therefore, finding out critical thinking abilities for prospective teaching staff or students of office administration education is considered essential. This study aimed to determine and analyse the critical thinking abilities of office administration education students. The research type used in this article was descriptive research with quantitative methods performed in the office administration education study program in Surakarta with a total sample of 74 students. The results obtained a percentage score of 77% from the test given to 74 samples with the critical thinking test indicator. Based on the criteria of the measurement scale, the results show that critical thinking ability of office administration education students was in a good category, indicating that this ability can still be improved to achieve better criteria. The results of this study only represent the critical thinking ability of office administration education students in Surakarta.

Key words: *Critical Thinking, Office Administration, Education*

INTRODUCTION

Critical thinking has become essential in teaching office administration education (PAP). Therefore, finding out critical thinking for prospective teaching staff or students of office administration education is considered essential. It needs to be carried out because the student's critical thinking will affect their ability to comprehend lecture material and its implementation when they graduate to become a teacher (Bezanilla et al., 2019; Ninghardjanti, 2020) as well as performing in social, economic, political, and everyday life (Ananiadou & Claro, 2009; D'Alessio et al., 2019; de Bie et al., 2015; Lee et al., 2016; Pattanapichet & Wichadee, 2015).

One of the objectives of the "study program" of office administration education at college is to produce graduates with high competence in the PAP field who are ready to become professional educators. An educator will be faced with the fact that they need to be able to improve the critical thinking abilities of their students (D'Alessio et al., 2019; Voogt & Roblin, 2010, 2012). Therefore, PAP students as prospective educators definitely need to know the level of their critical thinking, then hone their critical thinking according to their field of ability. That way, it is expected that after they become educators, they can transmit, share, and provide learning to improve students' critical thinking abilities.

Critical thinking is a process, and obtaining it takes time. Indeed, students' critical thinking can be improved through various processes that need to be passed, such as reading the text comprehensively from various sources (Bezanilla et al., 2019), which will help them overcome their lack of experience. It is believed that critical thinking is only obtained through experience and maturity gained over the years (Arum & Roksa, 2011; Lee et al., 2016; Quitadamo et al., 2009; Snyder & Snyder, 2008). On the other hand, experts see that growth in critical thinking is closely related to teaching factors (Tsui, 2002; (Safian A Forawi & Mitchell, 2012; Sufian A. Forawi, 2016; Sarigoz, 2012), so that lecturers are required to prepare the right methodology. Several methodologies and activities that can be used to improve critical thinking include writing activities, debates and cooperative work, questions and inquiries, problem-solving (problem and project-based learning), case study, oral presentations: teachers and students, real-world activities, feedback, and drama (Bezanilla et al., 2019).

Before planning the right lesson for learning to increase critical thinking, it is important to measure students' critical thinking as a reference for further actions. These measurements can be carried out using several ways, such as a test. The test can be performed based on the concepts in the Watson-Glaser critical thinking appraisal test (WGCTA) (Din, 2020; Fajrianthi et al., 2016). In WGCTA, critical thinking consists of five dimensions, including inference,

recognition assumption, deduction, interpretation, and evaluation of arguments (Watson & Glaser, 2002). Therefore, this study aimed to measure and analyse students' critical thinking to find out the critical thinking ability of office administration education students and as a reference for determining further actions.

METHODS

The research type was descriptive which describes phenomena or events systematically in line with field conditions. The method used was descriptive quantitative. The research was conducted in the office administration education program in Surakarta City with a total sample of 74 students. The data that we present are the results of critical thinking tests from 74 samples of students.

The test was in the form of multiple-choice and description with outlines and item creation based on the concepts in the Watson-Glaser critical thinking appraisal (WGCTA) test. In WGCTA, critical thinking consists of five dimensions, including inference, recognition assumption, deduction, interpretation, and evaluation of arguments. Based on these five dimensions, the researchers designed the items as set out in Table 1.

Table 1. Design of Question Items

Dimension	Number of Items
Inference. The ability to score the probability level of accuracy/correctness of a conclusion based on available information.	15
Recognition Assumption. Ability to identify the assumptions implied in a statement.	13
Deduction. Ability to determine whether conclusions are made logically based on available information.	11
Interpretation. Ability to score evidence and make decisions whether the generalisation/conclusions produced are warranted based on available data.	8
Evaluation of arguments. Ability to evaluate the strength and relevance of an argument associated with a certain issue or problem.	5

Furthermore, the researchers set a measuring scale to measure critical thinking ability adopted from Din, who had categorised student performance into four categories, including excellent, good, average (moderate), and poor based on the percentage of scores obtained by the sample. The details of the scale are presented in table 2:

Table 2. Measuring scale of critical thinking

Score Percentage	Category
81-100	Excellent
61-80	Good
31-60	Average (Moderate)
0-30	Poor

Source: (Din, 2020)

FINDINGS

This study aimed to measure and analyse students' critical thinking to find out the critical thinking of office administration education students and as a reference for determining further actions. The researchers had conducted critical thinking tests on 74 student samples and analysed the results. The results of the analysis are shown in the following data:

Table 3. Critical Thinking Test Results

Sample Initials	Test Results	Sample Initials	Test Results	Sample Initials	Test Results
S1	75	S26	72	S51	83
S2	80	S27	72	S52	79
S3	86	S28	85	S53	80
S4	77	S29	85	S54	82
S5	79	S30	78	S55	71
S6	76	S31	75	S56	76
S7	72	S32	70	S57	81
S8	70	S33	82	S58	83
S9	62	S34	73	S59	80
S10	70	S35	70	S60	83
S11	77	S36	74	S61	85
S12	80	S37	76	S62	75
S13	71	S38	79	S63	81
S14	77	S39	80	S64	79
S15	85	S40	76	S65	80
S16	85	S41	71	S66	77
S17	72	S42	79	S67	62
S18	72	S43	76	S68	62
S19	77	S44	73	S69	72
S20	72	S45	78	S70	78
S21	89	S46	70	S71	76
S22	77	S47	80	S72	78
S23	73	S48	81	S73	71

S24	79	S49	75	S74	82
S25	76	S50	84		

Source: Primary Data, 2020

Table 4. Data Frequency Distribution

Data Distribution	Amount of Data
Number of Samples	74
Average	77
Median	77
Mode	72
Standard Deviation	5.527
Minimum	62
Maximum	89

Source: Primary data processed, 2020

Based on Table 4 of the data frequency distribution, a detailed explanation is as follows:

- 1) The average indicates the average score of answers to the tests given to the samples. Table 4 shows the average score of the answers used in this study of 77.
- 2) The median shows the data midpoint when sorted and divided into two equal parts. Table 4 shows the median score in the sample answers of 77.
- 3) The mode is the number that appears most frequently in data. The mode in this study shows the scores that often appear on the test results that had been answered by the samples. Table 4 shows the mode with a value of 72.
- 4) Standard deviation indicates the mean dispersion of the data. Standard deviation is a statistical score that is used to determine the data distribution in the sample and how close the individual data points are to the average sample score. Table 3 shows that the standard deviation of the data above is 5.527.
- 5) The minimum indicates the smallest data. The minimum score in table 4 shows the smallest score from the samples of 62.
- 6) The maximum shows the highest data. The maximum score in table 4 shows that the highest score of the samples is 89.

After obtaining data from the critical thinking test results, the next step was using the critical thinking measurement scale that had been determined previously to find out the critical thinking level of the samples based on the category. The results found by the researchers are presented in table 5.

Table 5. Analysis of Test Results Based on the Critical Thinking Scale.

Sample Initials	Test Results	Sample Initials	Test Results	Sample Initials	Test Results
S1	GOOD	S26	GOOD	S51	EXCELLENT
S2	GOOD	S27	GOOD	S52	GOOD
S3	EXCELLENT	S28	EXCELLENT	S53	GOOD
S4	GOOD	S29	EXCELLENT	S54	EXCELLENT
S5	GOOD	S30	GOOD	S55	GOOD
S6	GOOD	S31	GOOD	S56	GOOD
S7	GOOD	S32	GOOD	S57	EXCELLENT
S8	GOOD	S33	EXCELLENT	S58	EXCELLENT
S9	GOOD	S34	GOOD	S59	GOOD
S10	GOOD	S35	GOOD	S60	EXCELLENT
S11	GOOD	S36	GOOD	S61	EXCELLENT
S12	GOOD	S37	GOOD	S62	GOOD
S13	GOOD	S38	GOOD	S63	EXCELLENT
S14	GOOD	S39	GOOD	S64	GOOD
S15	EXCELLENT	S40	GOOD	S65	GOOD
S16	EXCELLENT	S41	GOOD	S66	GOOD
S17	GOOD	S42	GOOD	S67	GOOD
S18	GOOD	S43	GOOD	S68	GOOD
S19	GOOD	S44	GOOD	S69	GOOD
S20	GOOD	S45	GOOD	S70	GOOD
S21	EXCELLENT	S46	GOOD	S71	GOOD
S22	GOOD	S47	GOOD	S72	GOOD
S23	GOOD	S48	EXCELLENT	S73	GOOD
S24	GOOD	S49	GOOD	S74	EXCELLENT
S25	GOOD	S50	EXCELLENT		

This data shows that 17 samples were in the excellent category on the critical thinking scale, and the remaining 57 samples were in a good category. Then, the average score obtained was 77, as analysed using a critical thinking scale, the score was in a good category. Therefore, the researchers found that the average critical thinking ability of office administration education students in Surakarta was good.

DISCUSSION

This study found that students' critical thinking as the research samples was categorised as good with an average score of 77. This score was obtained from 74 samples with a median of

77, mode of 72, the standard deviation of 5.527, the minimum of 62, and the maximum of 89. Furthermore, a deeper study is needed regarding the relationship, influence, and correlation between critical thinking with several other aspects in the world of education, particularly office administration.

Regarding academics, D'Alessio et al., (2019) revealed that there is a positive relationship between critical thinking and student academic performance. Each student with good critical thinking skills has harmonious academic achievement. In their studies, Kirmizi et al., 2015; Rodzalan & Saat, 2015 revealed that there is a positive relationship between critical thinking and students' problem-solving abilities. This ability will be an essential part that office administration education students need to have as prospective teachers in the field of office administration, to overcome issues that are being or will be faced when they become teachers. It is reinforced by Živkovič (2016) that critical thinking skills are very much required in the world of work and social life. Critical thinking supports people to be communicative, collaborative, creative, innovative, and more competent in their work. Other researchers had also confirmed that critical thinking is indeed closely related to creativity (Villalba, 2016), self-leadership (Ay et al., 2015), executive functions (Sanz de Acedo Lizarraga et al., 2012), and self-efficacy (Gloude-mans et al., 2013).

It is also necessary to note that researchers had put forward several factors influencing critical thinking such as Mahapoonyanont (2012), including educational factors, family factors (nurturing children), and personal factors (students). The educational factor consists of learning methods, media, and educational atmosphere. The family factor (nurturing children) consists of social status, attitudes and the process of raising children. The personal factor (students) consists of learning outcomes, reading ability, motivation for success, learning intention, learning attitudes, and emotional intelligence. Besides, other factors that can be found in influencing critical thinking include age, experience, level of competence, motivation, and unsustainability in working (Harpendewisasmita, 2016), study self-efficacy, regulatory mode (assessment/locomotion), and self-construal (independence/interdependence) (Manalo et al., 2013), learning and teaching factors, learner factors, individual factors, and concern with critical thinking skills (Mahapoonyanont, 2010).

Moreover talking about relationships and related factors, in the case of critical thinking, the researchers also found that it can be improved by treatment in learning. One researcher (de Jager, 2012) even suggested that it took three months to develop students' critical thinking. Another researcher (Ninghardjanti, 2020) found that learning treatment using the debate method can improve students' critical thinking. It can also be found in several previous studies

that applying debate in learning, can increase students' critical thinking (Abrami et al., 2015; Arslan et al., 2014; Marín-Calderón, 2014) since in a debate there is dialogue, question and answer sessions, and arguments so that students can practice their critical thinking (Abrami et al., 2015; Hendricson et al., 2006; Jiménez, 2017; Makhene, 2017). Another finding that is often found in improving critical thinking (Núñez-López et al., 2017; Suprpto et al., 2017) is the application of the problem-based learning (PBL) method. The researcher claimed that PBL is more effective than conventional learning, in which with PBL, students getting positive results on their conceptual development. Alternative methods and other activities include questions and inquiries, case studies, oral presentations: teachers and students, real-world activities, and drama (Bezanilla et al., 2019).

After obtaining some information and findings from several previous studies, further actions that can be applied in the office administration education study program include the application of learning methods to improve critical thinking, a more in-depth analysis of factors affecting the critical thinking of office administration education students, and deeper analysis associated with relationships, influences, impacts, and the like to find out the relationship of critical thinking with aspects or variables related to office administration education.

CONCLUSION

This study aimed to measure and analyse students' critical thinking to find out the critical thinking ability of office administration education students. Therefore, a test based on the concepts in the Watson-Glaser critical thinking appraisal (WGCTA) test was conducted. The results show that the average score obtained from the 74 samples of students was 77. The score was categorised into a good category based on the predetermined measurement scale.

Furthermore, the researchers suggest that the office administration education study program conduct further studies associated with students' critical thinking with variables related to education and office administration. Besides, it is expected that the study program can arrange learning that can maintain and/or improve students' critical thinking abilities since based on previous research, critical thinking is highly influential in various aspects that had been studied. Other researchers are expected to measure the critical abilities of office administration education students on a wider scale, then follow up on the results of their research.

The researchers realise that this study has some shortcomings. Some of them are that several studies had several different measuring scales, while the researchers decided to use the measuring scale from Din. If the results of this research are measured using another



measurement scale, the results of the categorisation will be different, maybe it will be moderate (average) or even excellent. Moreover, this research is only limited to Surakarta City, so the results of this study only represent the critical thinking ability of office administration education students in Surakarta.



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