

Critical Thinking in Accounting Textbooks

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ABSTRACT

A textbook is the main source of learning in many universities, yet there are only a few studies which specifically evaluate accounting textbook. This research aimed to evaluate the accounting textbooks used in some Indonesian universities and is expected to provide recommendations of accounting textbooks which are potential to develop students' critical thinking ability. This study was a content analysis. The analysis was based on the Bloom's taxonomy as well as the indicators of contextual representation intensity level. The results demonstrated that critical thinking receives little attention, either in the components of learning objectives, practice exercises or the materials/main content. Accounting textbook written by foreign authors seems to have higher quality than those written by local authors. It is suggested that the accounting academicians in Indonesia collaborate with accounting practitioners to develop a better quality textbook by adapting the superiorities of textbooks written by foreign authors and eliminating the weakness.

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1. INTRODUCTION

Critical thinking is a high level of thinking ability encouraged in all fields of study, not only in science but also in the field of social and humanities, such as management [1] and business [2]. In accounting, students are not only expected to be able to "calculate" but also to think critically in solving various accounting issues in different contexts [3]. The changed accounting standards from GAAP-based standards to IFRS standards also affect the change from rule-based to principle-based accounting learning paradigm. Higher educational institutions should prepare the graduates to understand and implement the IFRS well. The first step that should be taken is to change the previous learning direction of rule-based learning to principle-based learning by fostering accounting students' ability to make a judgment, in which critical thinking plays a key role. One of the effective ways to encourage students' critical thinking is by choosing and utilizing an accounting textbook that prompts students' critical thinking skill through its content.

A textbook is a primary source of learning in almost all universities. It underlies the learning strategies. It does not only dominate the teaching-learning process but also the learning evaluation [1], [4]. This so-called textbook-based teaching approach employs a textbook for knowledge acquisition. As a textbook becomes the main reference in accounting teaching and learning, the quality of the textbook should become our concern. The materials in textbooks which do not have critical thinking elements are potential to decrease the level of criticism of both the lecturers and students [4].

The evaluations of critical thinking aspect of a textbook have been done through some research, even though the number is limited (e.g. [4], [5]). Most research on critical thinking focus more on exploring the critical thinking aspect theoretically, or during the learning process, and not in the 'source of learning'

such as a textbook. This research aimed to evaluate accounting textbooks used in some universities in terms of critical thinking. The problem of this research was “has critical thinking being elaborated in accounting textbooks used in universities?”

The importance of this research was based on several reasons. First, a textbook has an essential role in learning. The selection of the right textbook would create a conducive learning environment and learning process that potentially increase accounting students’ performances, especially to develop their critical thinking ability. Second, critical thinking is required in accounting since graduates have to think critically when encountering complex accounting problems. An accountant with an excellent critical thinking ability may find alternative solutions for various complex issues they encountered. Third, the selection of the textbook which supports students’ critical thinking ability can be made by evaluating the textbooks used in universities. This research was expected to be able to discover such potential accounting textbook.

1.1. The Importance of Critical Thinking

The managerial and leadership aspects of the society require critical thinking [1]. To the accounting practitioners, such as public accountants, the term of critical thinking refers to the definition of competence including the cognitive and non-cognitive attributes, attitude and behavior [6]. Kurfiss [7] defined critical thinking as “... a rational response to a question that cannot be answered definitely and for which all the relevant information may not be available (p. 20). Either academicians or practitioners have urged the development of critical thinking ability of accounting graduates [3], [6]. Thus, business education should regard critical thinking ability as the main goal that needs to be followed up during the learning process or evaluation [2], [8]. Due to the importance of critical thinking, the CPA (Certified Public Accountants) test always provides some contents which require critical thinking. The participants of CPA test will be given questions requiring in-depth analysis, and the participants will be necessary to provide solutions to the assigned problems [9].

Factors that emphasize the importance of critical thinking in accounting education are the new role of accounting work, which is not a clerical work anymore (such as manually counting depreciation, calculating deposit, and preparing accounts receivable for client confirmation) [3], [10]. Such clerical jobs are already replaced with computers. Nowadays, accountants are expected to ‘add some values’ to information and communicate it effectively to the relevant parties. While evaluating the system of an entity, accountants are also supposed to detect, predict, and give suggestions and recommendations [3]. Pascarella & Terenzini, in Cunningham [11] said that critical thinking has a significant role in such activities. Students who use to think critically would think and make decisions objectively, evaluate new ideas and techniques efficiently, evaluate arguments and claims critically, and make a decision logically when faced with such activities of processing and utilizing new information.

The changes in the roles of an accountant should go hand in hand with changes in accounting education obtained by future accountants. Besides promoting students’ intellectual skill, accounting education should sufficiently accommodate students’ soft skills, such as communication and interpersonal skills. The learning process of accounting needs to be designed to be able to develop students’ critical thinking ability, such as by integrating global issues in business and their implications on accounting [3], [10].

1.2. Developing Critical Thinking Ability

Students’ critical thinking ability could be developed. The role of universities in developing students’ critical thinking ability is vital. Smith [2] and He, Craig, & Wen [12] suggested that the curriculum, the way of teaching and evaluation should be changed to be able to improve the critical thinking ability of students majoring in business.

Derstine et al. [13] recommended a fully integrated case approach to replace an ancient pedagogy in accounting education, such as reading books, listening to a lecture, doing assignments and tests by remembering the given lessons. Derstine et al. [13] proposed a better learning approach for accounting, for example through teamwork in analyzing a financial statement, studying newly emerging issues, analyzing an issue and connecting it with the client’s condition, determining the effects to the client’s financial condition and the necessary disclosure. The evaluation of such learning approach can be done on the aspects of students’ communicating, critical thinking, and decision analysis abilities, and mastery of the quantitative aspects of accounting.

Bonk and Smith [8] emphasized that memorizing is not an appropriate method to learn accountancy since it is not effective to prepare accounting graduates with the ability to solve many complex business issues. According to Bonk and Smith, a consultative model of teaching is the effective method to teach accounting because it stimulates students’ critical thinking ability and creativity which can meet the demand of the working world. Consultative teaching model utilizes active learning and student-centered approaches.

Tan, Satin, & Lubwama [14] implemented a new approach to teach managerial accounting which integrates the concept of cost with critical thinking ability. Tan, Satin, & Lubwama called it as 'a real world business approach.' The students can experience the real business world through 4 ways of learning, namely by doing tasks, personally discussing the concept of costing with their lecturer, summarizing research articles, and the most important is by actively participating in a team to develop a business plan. Tan et al. [14] claimed that this approach is different from the usual project-based learning since students can choose their business model in accordance with their interest. The lecturer will not provide the students with market/industrial costing or data. Therefore, they will get used to perform research and collect the relevant information to make business decisions.

Springer and Borthick [15] pointed out that the design of the accounting course should be changed from 'knowing' to 'thinking.' They proposed the use of business simulation to develop students' higher-order thinking skills, to develop their communicating ability, to analyze various alternatives and their influence on decision making. The main idea of such business simulation is to replace the structured problem simulation approach by an approach that involves more authentic work. With such approach, there will be a higher opportunity for students to develop their critical thinking ability.

The above explanation showed that students' critical thinking ability could be developed gradually by providing a case/issue/problem which, according to Cascini and Rich [9], should be accompanied by clear learning objectives and rubrics; asking the students to use the concept/principle of accounting in solving the problems. However, it is quite difficult to provide the right case/issue/problem. Academic skills and comprehensive practices are necessary in deciding a case/problem/issue which can improve students' critical thinking ability. Therefore, accounting lecturers tend to employ textbooks as the primary guideline in teaching.

1.3. The Role of Textbooks in Developing Students' Critical Thinking Ability

Massey and Hise [16] criticized textbooks which are less responsive to the current accounting practices in the business world. From the survey involving 30 most popular management textbooks, it can be seen that they are still incapable of supporting the students in developing their critical thinking [1]. The static material presentation in the textbooks without involving the critical thinking elements is potential to lower the level of teacher and student's criticism. Hence, Hashemi [4] emphasized that it is necessary to include the aspect of critical thinking in the content of the textbooks so that the old learning pattern that only transferred information can be improved to enhance students' critical thinking ability.

The evaluation of critical aspect provided in textbooks has been done in some research although the number is very limited [4], [5]. Hashemi [4] evaluate the critical thinking element in textbooks by Lipman model. Lipman model involves nine evaluation aspects, namely reasoning, questioning, assessment of examples and statements, group work, interpretation, true judgment about issues, analysis and evaluation, explicitness, and logic skills. Shaw and Holmes [5] employed the Paulian's theory of critical thinking and Bloom's taxonomy to measure the students' critical thinking ability. The six cognitive areas in Bloom's taxonomy can be classified into two thinking groups: lower-order thinking, and higher-order thinking. Knowledge, comprehension, and application are included as lower-order thinking, while analysis, synthesis, and evaluation reflect higher-order thinking. The detailed explanation of each cognitive level in Bloom's taxonomy along with the useful operational verbs can be seen in the research article of Riazi and Mosalanejad (17) and Reinstein and Bayou [3].

Most research around critical thinking in accounting explores the aspect more theoretically or during the learning process, and not in the 'learning resource' such as a textbook. Prior textbook evaluation studies conducted by Stokes [18] ignored the fact that textbook consists of three interrelated components, namely learning objectives, materials, and practice exercises. This research expands Stokes' study by examining critical thinking in three elements of a textbook.

2. RESEARCH METHOD

This research is a content analysis research. Content analysis is a type of research which is commonly conducted in the field of social science, usually involving coding and categorizing processes [19]. Accounting textbooks are the collections of written and printed information so that it is appropriate to be observed by using the content analysis method. The objects of this research were accounting textbooks used in universities and the focus of the observation was on the aspect of critical thinking. Since there are different varieties of textbooks, the textbooks chosen in this research are financial accounting textbooks that adopt the newest accounting standards-IFRS and has been used in many Indonesian universities. The identification of financial accounting textbooks that met the criteria was made through textbook provider websites, such as amazon.com, gramedia.com, periplus.com or through direct observation of several universities in Indonesia.

The data of this research were analyzed through coding and categorizing techniques. The accounting textbooks were analyzed based on three main parts, namely the learning objectives, materials, and practice exercises. The criteria used by the researchers in setting the categories were Bloom's taxonomy used to evaluate the "learning objectives" and "practice exercises," while the "materials" was evaluated through "case-based instrument." The focus of the evaluation on the materials is whether or not the materials in the accounting textbooks have provided contextual issues (issues in the contemporary business world) or have based on cases in accordance with the justification made by research in the field of business education.

Coding and categorizing were performed by distributing the operational verbs used for the learning objectives and questions for practice given in the textbooks into the relevant cognitive areas of Bloom's taxonomy. If the operational verbs are mostly distributed in the first 3 cognitive domains, namely knowledge, comprehension, and application, so they can be categorized into lower-order thinking. Meanwhile, if the operational verbs tend to be distributed in the last 3 cognitive domains of Bloom's taxonomy, i.e. analysis, synthesis, and evaluation, they are categorized as higher-order thinking. The material in the accounting textbooks was distributed into partial/minimal support and substantial support for the critical thinking development which can be identified by the level of contextual issues or the amount of case-based materials.

Table 1. Data Analysis

Book	Learning Objective						Practice exercises						Materials	
	Lower order thinking			Higher order thinking			Lower order thinking			Higher order thinking			P	S
	K	C	A	A	S	E	K	C	A	A	S	E		
1														
2														
.....														

Lower –order thinking: K: Knowledge, C: Comprehension, A: Application

Higher-order thinking: A: Analysis, S: Synthesis, E: Evaluation

P: partial/minimal support for critical thinking development

S: substantial support for critical thinking development

3. RESULTS AND ANALYSIS

3.1. Results

Based on the identification of the most widely used accounting textbooks in Indonesian universities, the researchers obtained 8 books consisting of 5 accounting textbooks written by Indonesian authors, and 3 other books written by foreign authors. The general characteristics of the 8 books can be seen in Table 2.

Table 2. General Characteristics of Accounting Textbooks

Book	1	2	3	4	5	6	7	8
Title	Akuntansi Keuangan Menengah: Berbasis PSAK (PSAK Konvergen si IFRS)	Akuntansi Keuangan Menengah (1): Perspektif IFRS	Akuntansi Keuangan Berdasarkan SAK Berbasis IFRS	Akuntansi Keuangan Lanjutan (Edisi IFRS)	Akuntansi Keuangan Dasar: Berbasis PSAK Per Juni 2012 (1st book)	Akuntansi Keuangan (International Financial Reporting Standards- IFRS)	Akuntansi Keuangan: Intermediate Financial Reporting (Perspektif IFRS) (2nd Book) (2nd edition)	Financial Accounting, IFRS 2nd Edition
Year	2012	2012	2012	2012	2014	2013	2014	2012
Language	Indonesian	Indonesian	Indonesian	Indonesian	Indonesian	Indonesian (translation)	Indonesian (translation)	English
Publisher	Salemba Empat	UPP STIM YKPN	Salemba Empat	Erlangga	Mitra Wacana Media	Erlangga	Salemba Empat	Wiley
	Indonesian Author					Foreign Author		

Furthermore, the above accounting textbooks were analyzed based on three main components: learning objectives, practice exercises, and materials. The first two elements were analyzed by Bloom's taxonomy, while the component of material was analyzed by using the indicator of contextual case presentation intensity. After the coding and categorizing processes, each component was classified in Table 3.

Table 3. Results of Coding and Categorizing

Book	Learning Objectives		Practice Exercise		Materials	
	Lower-order thinking	Higher-order thinking	Lower-order thinking	Higher-order thinking	P	S
1	v		v	v		v
2	v		v		v	
3	v		v		v	
4	v		v		v	
5	No learning objectives		v		v	
6	v		v	v		v
7	v		v	v		v
8	v		v	v		v

In the aspect of learning objectives, there was one textbook that did not provide any learning objectives, and therefore the assessment could not be performed to the book. Furthermore, it can be seen from the table that the operational verbs utilized to summarize the learning objectives in accounting textbooks had the tendency to be categorized in Lower-Order Thinking level. Some examples of learning objectives provided in the analyzed textbooks are: to identify business combination transaction, to calculate the company investment income in the current year and the following year, to draft the cash flow from financing activities, to record transactions in the journal, or to give a definition of financial instruments.

The aspect of questions for practice in the accounting textbooks is better than the aspect of learning objectives. Several textbooks (book 1, 6, 7, and 8) have evenly distributed compositions of questions, both in lower-order thinking and higher-order thinking. The examples of questions which are categorized in lower-order thinking are: “what are the aims of financial statements?” and “calculate the net cash flow obtained from the operational activities!”. Meanwhile, the example question for higher-order thinking is “discuss the implications of foreign currency to having assets in China and purchasing securities in Europe and England.”

In the aspect of the materials, out of the eight books, only 4 of them (book 1, 6, 7, 8) substantially have the materials that contained ‘real case of business world’ to help students understanding the actual context of business, the relevant position of accounting in such context, and to develop critical thinking. Some examples of materials that show substantial support to critical thinking are depicted in the following table.

Table 4. Citations of Materials that Support Critical Thinking Development

Book	Material Substantial Support
1	“Unilever...for the need of financial report publication that should be handed to the British capital market, the company shall arrange a consolidated financial report from its affiliates and branches in various countries. Before the use of IFRS, each country has its standards of accounting used as the basis to arrange the financial report...”(p. 2)
6	As a retail company, inventory is an essential part in Bossini operational activities which become its second biggest asset. Bossini possesses some inventories which are higher than the total number of its non-current assets. Besides, the biggest responsibility of Bossini in its profit and loss statement is the cost of inventories sold to its customers. (p. 335)
7	“Qantas Airways Limited, the second oldest airline in the world and the biggest international airline in Australia, uses the direct method in presenting its financial statement concerning cash flow in its operational activities in 2010 cash flow report ...”(p.379)
8	“ExxonMobil Corporation (USA), like many U.S. companies, uses a cost flow assumption called Last-in, first-out (LIFO) to value for financial reporting and tax purposes. In one recent year, this resulted in a cost of good sold figure that was \$5.6 billion higher than under FIFO. By increasing cost of good sold, ExxonMobil reduces net income, which reduces taxes.” (p. 275)

If seen from the compositions of textbooks written by Indonesian and foreign authors, the accounting textbooks written by foreign authors were better in terms of variations of questions and cases. Unfortunately, the cases provided in foreign textbooks are not fully recognize the situations in Indonesia, such as how the accounting standards in Indonesia influence the accounting treatment in the field of business in Indonesia. The textbooks, both written by Indonesian and foreign authors, have not sufficiently set the learning objectives since they are dominated by lower-order thinking.

3.2. Discussions

In terms of business, accounting is used as a primary mean to demonstrate the performance of an entity to external parties as well as utilized by the managers to get information in managing the entity. Therefore, the ability to understand and interpret information becomes very important for an accountant since he or she would frequently have to deal with situations which require him/her to make decisions by applying the principles and techniques that they already mastered. Decision making will always involve problem-solving which closely relates to critical thinking. In various leading business universities, critical thinking ability acts as the main learning outcome. Companies also have a perception that soft skills, e.g., communication and critical thinking are more important than technical skills, in their relation to the company recruitment for accountants [19].

A textbook, either printed or digital, is a main source of learning for accounting students. The integration of critical thinking in textbooks is necessary, either in the components of learning objective, material, or practice. Bloom's taxonomy has provided guidelines on how the use of an operational verb in a sentence will create a different cognitive effect from another verb. The cognitive domain can be classified into 6 levels: knowledge, comprehension, application, analysis, synthesis, and evaluation. The characteristics of the Bloom's Taxonomy can be seen in Reinstein and Bayou [3]. If the operational verbs found in the learning objectives and practice exercises in the textbooks tend to be in the first three cognitive domains in Bloom's taxonomy, it means that the students would perform lower-order thinking. Hence, such accounting textbook does not sufficiently support the development of the students' critical thinking ability, and vice versa.

Results of this study appeared to be consistent with Stokes [18] analysis of learning objectives on various accounting textbooks who found that the learning objectives in accounting textbooks mostly belong to the knowledge and comprehension domain or in the Lower-Order Thinking level. The learning objectives generally start with the verbs 'define', 'calculate', or 'identify'. The most frequently used operational verb which turned out to be a weak verb was the word 'understand'. For instance, in book 1 and 7, the learning objectives were to understand the scope of financial instruments, to understand the reclassification of financial assets, and to understand the basis of the accounting information system. In Bloom's taxonomy, the word 'understand' is not an operational verb since it cannot be measured clearly, and therefore should be avoided. It can be substituted by the terms of define, describe, label, list, reproduce, select and state, or if it focuses on the higher levels of learning, the term 'understand' can be replaced by criticize, create, justifies, or revise. Stokes [18] argued that since the majority of textbook readers and users are the students, students have to be made clear about the outcome they should perform after learning the textbook. The lack of clarity in learning objectives could impact textbook readers. Eide [20] further suggested that reading the objectives of each chapter in the textbook should be the first step to comprehend the materials and would appear to be an important part of the student's total learning experience. This suggestion is in line with that of Phillip and Phillip [21] who recommended educators to advise students to read learning objectives first. The recommendation was made due to the finding of their study found that most students who skipped the learning objectives were in the bottom quartiles of academic ability.

Another finding of this research is that the aspect of questions for practice in the accounting textbooks is better than the aspect of learning objectives. Practice exercise in a book has the same function with assessment in the teaching and learning activities. Biggs [22] suggests that if students are expected to obtain a particular learning outcome, then the role of the teacher is to create an assessment that aligns with the intended outcome. Since the practice exercises in the textbook under investigation were not aligned with the learning objective, this implied the textbooks' authors viewed the objective and practice exercises separately. Biggs advocates that the assessment should contain the verb in the learning objective, thus enabling teacher and student to judge how well students' performance meets the criteria. For example, if the learning objective is 'upon completion of this chapter, students will be able to analyse the financial statement', then the practice exercise might be asking students to analyse the financial statement of two published financial statement in retail sector and to judge which company has a more promising future for the investor.

In terms of the materials or the main content of the textbooks, Derstine et al. [13] proposed that to develop students' critical thinking, lecturers should ask students to identify the accounting issues related to a company. Therefore, the students have to perform research to analyze, synthesize, and evaluate the uncertain, incomplete, or even less accurate information. Then, students have to consider their experience in handling the previous cases and the opinions of all team members in order to make a right and clear decision which is supported by good and accurate reasoning in accordance with the professional standards. Thus, it is necessary to integrate the real-case business world into the textbook materials as supported by some research [9], [13], [14].

Massey and Hise [16] stated that the materials for developing a custom-published textbook might come from four useful sources of information: textbooks, professional and business publications, articles describing the results of academic research, and resources posted on reliable Internet websites. The business cases can also be gathered from some specific sources such as Deloitte website, Issues in Accounting Education journal published by the American Accounting Association, and from AICPA's professor-practitioner cases. In order to meet the national context, the cases can be obtained from the accounting practitioners in the relevant country. Such accounting practitioners could provide some inputs in the form of samples of cases in relation to accounting. It will be better if authors of a textbook are a collaboration between academicians and accounting practitioners.

An interesting finding from this study is that accounting textbooks written by foreign authors seem to have higher quality than those written by local authors. The evidence derived from the content analysis showed that Indonesian accounting textbooks are not closely comparable to American textbooks both in terms of the depth and coverage. Books originally published in the USA provide various contextual accounting cases and business-like practice exercises that promote critical thinking. Books authors in the USA are very productive, frequently modify the textbook according to the change in the accounting standard and business practice. Books authors productivity might be because the leading accounting standard and professional bodies such as FASB and AICPA are based in the USA. The accounting standards are published in the English language, making them more accessible to American books author. This problem, however, is not exclusively occurred in Indonesia. Other countries, such as Armenia, China, Spain and Rusia voiced similar problem [23]-[26]. In China, Ministry of Education urges universities to use the first-rank foreign textbook to teach students advanced accounting knowledge [24]. This policy is beneficial to promote the internationalization of Chinese universities. The cost of foreign textbooks, nevertheless, are too expensive for the average Indonesian students and for those in other countries such as Rusia [26] and the USA itself [27]. For this reason, American accounting textbooks had been translated into Armenia [25]. Indonesian publisher seems to follow this approach, translating some most popular American accounting textbooks which are more cost effective for students. The drawback for translation is the quality. The quality of translation may be less than perfect [26]. Spain takes a different approach to overcome the problem. Spain starts publishing accounting textbook in Spanish that adapted new accounting standards combine with local accounting standard [23]. In line with the approach taken by Spain, accounting educators in Indonesia may collaborate with accounting practitioners to develop a high-quality accounting textbook that suitable for the accounting practice in Indonesia as well as promote the enhancement of students' critical thinking.

Developing an accounting textbook is not a trivial task. However, there are many benefits associated with creating a textbook. According to Massey and Hise [16], the benefits are: faculty can design the textbook to support custom-created curriculum, faculty can revise the text regularly to keep content current, and the textbook is generally more cost effective for the students. The biggest challenge, nonetheless, is the time required to create such textbook, especially if the authors have not made any prior assessment of the current content and curriculum [16].

4. CONCLUSION

Critical thinking is a necessary skill in accounting education to prepare graduates to have technical and non-technical competence. Based on the results and discussion of the research, the following conclusions can be drawn. First, the accounting textbooks used in Indonesian universities gave little attention to the aspect of critical thinking, either in the components of learning objectives, practice exercises and materials. Second, the accounting textbooks written by foreign authors are better in all components, especially in the presentation of materials and practice exercises which require students to think critically. However, there was a disadvantage since such textbooks did not fully represent the context of accounting in Indonesia.

Based on the results of this research, the following suggestions are given. First, since textbook holds an important role in the learning process, there should be an alignment between learning objectives, materials, and practice exercises to accommodate both lower-order and higher-order of thinking. Second, the evaluation performed in this research showed that the textbooks written by foreign authors are more potential to develop students' critical thinking ability compared with Indonesian textbooks. Therefore such foreign textbooks can be used as the main learning resources. Third, although promising, foreign textbooks do not signify national cases. The collaboration between accounting practitioners and academicians/accounting lecturers in Indonesia is necessary to develop an accounting textbook that can go beyond the superiorities of foreign textbooks by adapting the strengths of foreign textbooks and minimizing the disadvantages.

This study is a first attempt at analyzing accounting textbook in the Indonesian context. The research only sampled several textbooks in the area of financial accounting. Future research in this area is

encouraged to expand the study to another type of accounting textbooks such as management accounting and auditing.

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