CHAPTER 4

FINDINGS AND DISCUSSION

This chapter presents the findings and discussion of the study about the cognitive process that are involved in CBA course assessment tasks in State University of Jakarta.

4.1 Data Description

Below is the data description of cognitive processes involved in CBA assessment tasks. This study was aimed at describing the cognitive processes that are involved in CBA course assessment tasks referring to Anderson & Krathwohl (2001, p. 67). The data of this study were gained though document analysis and interview. The document that was used to analyze is CBA course outline (RPKPS). The writer analyze the learning outcomes of the study and also the assessment tasks that are used in Classroom Based Assessment course.

There were ten participants who were chosen to be interviewed related to topic. The participants are English department students batch 2012 who were joined Classroom Based Assessment course. The interview was conducted to support the data from the document.

4.2 Findings

This chapter outlines findings and discussions in regards to the research questions:

1) How can CBA course assessment tasks in ELE-SP course units be described by the level of cognitive processes involved in them?

To answer that question detailed, the writer has made four sub research questions as follows:

a) What types of assessment tasks are employed in CBA course unit?

b) What types of cognitive processes are involved in each type of the assessment tasks in CBA course?

c) What proportion of the assessment tasks in CBA course unit requires students to perform Low Order Thinking (LOT)?

d) What proportion of the assessment tasks in CBA course unit requires students to perform High Order Thinking (HOT)?

4.2.1 The Cognitive Processes Involved in CBA Course

To answer the main research question, the total percentage from the document has been calculated. Following is the table of cognitive processes involved in CBA course based on the document:

Assessment Tasks	Task Types	n	LOT		HOT	
			n	%	n	%
Matching	1. Assessment of learning 2. Summative assessment 3. Formal assessment 4. Selected-response assessment	1	1	100%	0	0%
Essay	1. Assessment of learning 2. Summative assessment 3. Formal assessment 4. Extended written Response	7	6	86%	1	14%
Project Paper	1. Assessment of learning 2. Summative assessment 3. Formal assessment 4. Extended written response	12	7	58%	5	42%

Table 4.1 Cognitive Process Involved in CBA Course Assessment Tasks

From the table above it can be interpreted that the cognitive process that involved in CBA course assessment tasks are mostly Low-Order Thinking which appeared in 58%. Meanwhile, the High-Order Thinking only emerged in 42%.

4.2.2 Types of Assessment Task in CBA course

To answer the first sub-research question; *What types of assessment tasks are employed in CBA course unit?* The writer analyze the assessment tasks stated in course outline (RPKPS) and also students' interview as the supporting data. There are three assessment tasks that were given to the students in the CBA course.

a. **Matching**

Learning outcome	Assessment task	Assessment types							Method of assessment			
		method		time		Purpose			SR	EWR	PA	PC
		formal	informal	formative	summative	AoL	AfL	AaL				
Demonstrate an understanding of the rationale, purposes, and strategies for conducting classroom based assessment (CBA) how to interpret and make use of information obtained from CBA activities.	(Mid-term test - Week 1 to Week 8 Topics) A written test consisting of both objective and subjective items.	V			V	V			V			

Table 4.2 Types of assessment in Matching

Based on the table above, it can be seen that this assessment requires students to demonstrate an understanding of the rationale, purposes, and strategies for conducting classroom based assessment (CBA). This assessment task is considered as *formal assessment* and *summative assessment* since it was done at the end of topics 1-8. Additionally, this assessment also categorized as *assessment of learning* because of the result of this assessment will confirm the students' understanding about the topics and also because of this assessment occurs after their learning. The methods of this assessment considered as *selected response* since it is supported by interview findings:

Extract 1:

Hmm..Untuk UTS seinget saya dalam bentuk online test. Setelah kami sign in, kami diberi waktu selama kurang lebih 1,5-2jam untuk mengisi soal. Jika lebih maka otomatis akan ke-sign out dengan sendirinya. Soal-soal dalam uts yaitu PG atau menjodohkan gitu tapi ada essay juga. [Transkripsion_S4]

b. Essay

Learning outcome	Assessment task	Assessment types							Method of assessment			
		method		time		Purpose			SR	EWR	PA	PC
		formal	informal	formative	summative	AoL	AfL	AaL				
Demonstrate an understanding of the rationale, purposes, and strategies for conducting classroom based assessment (CBA) how to interpret and make use of information obtained from CBA activities.	**(Mid-term test - Week 1 to Week 8 Topics)** A written test consisting of both objective and subjective items.	V			V	V				V		

Table 4.3 Types of Assessment in Essay

Based on the table above, it can be seen that this assessment requires students to demonstrate an understanding of the rationale, purposes, and strategies for conducting classroom based assessment (CBA). This assessment task is considered as *formal assessment* and *summative assessment* since it was done at the end of topics 1-8. Additionally, this assessment also categorized as *assessment of learning* because of the result of this assessment will confirm the students' understanding about the topics and also because of this assessment occurs after their learning. The methods

of this assessment considered as extended-written response since it is supported by interview findings:

Extract 2:

Jenis soalnya ada yang PG dan esai. Yang PG itu kalau nggak salah seingat saya itu ada 10 soal atau 15 gitu. Nah yang esai ada 5. Soalnya itu berkaitan dengan apa itu assessment dsb. [Transkripsion_S9]

c. **Project (Paper)**

Learning outcome	Assessment task	Assessment types							Method of assessment			
		method		time		Purpose						
		formal	informal	formative	summative	AoL	AfL	AaL	SR	EWR	PA	PC
Critically evaluate CBA tools used in EFL education programs (schools or private courses).	(Assessment 1) Critical analysis of the Design and development of a set of CBA instrument for a target audience of participant's interest.	V			V	V				V		
Develop a set of CBA tool for use with a specific EFL learning	(Assessment 2) A set of classroom	V			V	V				V		

program of their own choice.	assessment tool designed by students for a particular group of target audience of student's own interest.													

Table 4.4 Types of Assessment in Project (paper)

Based on the table above, it can be seen that this assessment requires students to use their critical thinking in order to analyze, evaluate and design CATs (Classroom Assessment Tools). This assessment task is considered as *formal assessment* and *summative assessment* since it was done at the end of the lesson. Additionally, this assessment also categorized as *assessment of learning* because of the result of this assessment will confirm the students' understanding about the whole lesson and also because of this assessment occurs after their learning. The methods of this assessment considered as extended-written response since it is supported by interview:

Extract 3:

Itu disuruh analisis assessment berdasarkan 5 principles. Dosen memerintahkan find our own partner to work in group of three. Analisis Classroom Assessment Tools milih sendiri. Terus bikin dalam bentuk paper yang dia jelasin komponen apa aja yang masuk, spesifikasi, prinsip, recommendation kalo ga salah. [Transkripsion_S2]

Extract 4:

Iya itu disuruhnya analisis principles dari assessment yang kita pilih gitu secara kelompok. Misalnya kelompok saya milihnya assessment listening,

nah assessment itu dianalisis menurut principles dari assessment.
[Transkripsion_S3]

Extract 5:

Tugas akhir yang diberikan oleh dosen yaitu kami diperintahkan untuk meng-create soal/test untuk berbagai skill lalu tentukan dan jelaskan bagaimana teknik penilaiannya. Namun, pada tugas akhir kami menyelesaikannya dengan perorangan bukan lagi kelompok.
[Transcripsion_S4]

4.2.3 Cognitive Process Involved in each types of assessment in CBA Course

In answering the second sub- question of this study which is: *what types of cognitive processes are involved in each type of the assessment tasks in CBA course?*; the transcription of students' interview were coded and course outline were analyzed then described and categorized based on the revised Bloom's taxonomy (Anderson & Krathwohl, 2001) to find out the cognitive process involved in each types of assessment tasks in CBA course. The cognitive process are remember, understand, apply, analyze, evaluate, and create.

a. **Matching**

ILO	ATs	I	LOT			HOT		
			Remember	Understand	Apply	Analyze	Evaluate	Create
Demonstrate an understanding of the rationale, purposes, and strategies for conducting classroom based assessment (CBA) how to interpret and	**(Mid-term test - Week 1 to Week 8 Topics)** A written test consisting of both objective	Define the concept of 'Assessment' and differentiate it from 'Evaluation' and 'Testing' activities.		V				

make use of information obtained from CBA activities.	and subjective items.						
TOTAL			**0**	**1**	**0**	**0**	**0**	**0**
PERCENTAGE			**0%**	100 %	**0 %**	**0 %**	**0 %**	**0 %**

Table 4.5 The Cognitive Processes Involved in Matching

Remember – based on the data gained through document analysis, it can be seen that there is none of remember level that is involved as matching assessment task in CBA course.

Understand – based on the data gained through document analysis, it can be seen that almost 100% of assessment tasks as matching in CBA course involved understand level of cognitive process.

Apply – based on the data gained through document analysis, it can be seen that there is none of apply level that is involved as matching assessment task in CBA course.

Analyze – based on the data gained through document analysis, it can be seen that there is none of analyze level that is involved as matching assessment task in CBA course assessment tasks.

Evaluate – based on the data gained through document analysis, it can be seen that there is none of evaluate level that is involved as matching assessment task in CBA course assessment tasks.

Create – based on the data gained through document analysis, it can be seen that there is none of create level that is involved as matching assessment task in CBA course assessment tasks.

Overall, after calculating the data gained through document. It can be conclude that understand (100%) is the most cognitive level that is involved in matching assessment tasks in CBA course, however it was revealed that remember, apply, analyze, evaluate and create are not involved in this assessment tasks.

Extract 6:

Online test.. hmm ada pg, matching, kalo essay kebanyakan soal penjelasan gitu. Jabarin jawaban panjang-panjang gitu. [Transkripsion_S8]

b. **Essay**

ILO	ATs	I	LOT			HOT		
			Remember	Understand	Apply	Analyze	Evaluate	Create
Demonstrate an understanding of the rationale, purposes, and strategies for conducting classroom based assessment (CBA) how to interpret and make use of information obtained from CBA activities.	(**Mid-term test - Week 1 to Week 8 Topics**) A written test consisting of both objective and subjective items.	Outline the purposes of Classroom Assessment (CA) and identify types of assessment activities accordingly.		V				
		Give examples of CATs as proposed by Angelo & Cross (1993).		V				
		Define the five principles of language assessment.	V					
		Outline strategies to ensure best application of the language assessment principles.		V				

		Explain what traditional assessment and alternative assessment are and their complementary positions in current educational setting.	V					
		Identify different assessment techniques/formats and describe their strengths and weaknesses.					V	
		Construct assessment tasks/items of traditional and alternative methods.		V				
TOTAL			1	3	2	0	1	0
PERCENTAGE			14 %	43 %	29 %	0 %	14 %	0 %

Table 4.6 The Cognitive Processes Involved in Essay

Remember – based on the data gained through document analysis, it can be seen that almost 14% of assessment tasks as essay in CBA course involved remember level of cognitive process.

Understand – based on the data gained through document analysis, it can be seen that almost 43% of assessment tasks as essay in CBA course involved understand level of cognitive process.

Apply – based on the data gained through document analysis, it can be seen that almost 29% of assessment tasks as essay in CBA course involved apply level of cognitive process.

Analyze – based on the data gained through document analysis, it can be seen that there is none of analyze level that is involved as essay assessment task in CBA course.

Evaluate – based on the data gained through document analysis, it can be seen that almost 14% of assessment tasks as essay in CBA course involved apply level of cognitive process.

Create – based on the data gained through document analysis, it can be seen that there is none of create level that is involved as essay assessment task in CBA course.

Overall, after calculating the data gained through document. It can be conclude that understand (43%) is the most cognitive level that is involved in essay assessment task in CBA course, however it was revealed that analyze, and create are not involved in this assessment tasks.

Extract 7:

Online test.. hmm ada pg, matching, kalo essay kebanyakan soal penjelasan gitu. Jabarin jawaban panjang-panjang gitu. [Transkripsion_S8]

Extract 8:

Iya sebelum UTS kami sudah membahas topik-topik yang akan di ujikan. Contohnya topik tentang formative dan summative assessment. Bagaimana perbedaan keduanya, dan bagaimana cara penilaian dari masing-masing jenis penilaian tersebut.[Transkripsion_S2]

c. Project (Paper)

			LOT			HOT		
ILO	ATs	I	Remember	Understand	Apply	Analyze	Evaluate	Create
Critically evaluate CBA tools used in EFL education programs (schools or private courses). Develop a set of CBA tool for use with a specific EFL learning program of their own choice.	**(Assessment 1)** Critical analysis of the Design and development of a set of CBA instrument for a target audience of participant's interest. **(Assessment 2)** A set of classroom assessment tool designed by students for a particular group of target audience of student's own interest.	Define the concept of 'Assessment' and differentiate it from 'Evaluation' and 'Testing' activities.		V				
		Outline the purposes of Classroom Assessment (CA) and identify types of assessment activities accordingly.		V				
		Give examples of CATs as proposed by Angelo & Cross (1993).			V			
		Define the five principles of language assessment.	V					
		Outline strategies to ensure best application of the language assessment principles.		V				
		Explain what traditional assessment and alternative assessment are and their complementary positions in current educational setting.		V				
		Identify different assessment techniques/formats and describe their strengths and weaknesses.					V	
		Construct assessment tasks/items of traditional and alternative methods.			V			
		Evaluate the assessment tool with reference to the					V	

		principles of language assessment.						
		Determine the purpose and objectives of a set of CA activities.				V		
		Write up the specification/blue-print for a set of CA Activities.						V
		Develop the tools/instrument and the guidelines for administering, scoring/marking and preparing report of the CA activities.						V
TOTAL			1	4	2	1	2	2
PERCENTAGE			8%	33 %	17 %	8 %	17 %	17 %

Table 4.7 The Cognitive Processes Involved in Project (Paper)

Remember – based on the data gained through document analysis, it can be seen that almost 8% of assessment tasks as project (paper) in CBA course involved remember level of cognitive process.

Understand – based on the data gained through document analysis, it can be seen that almost 33% of assessment tasks as project (paper) in CBA course involved understand level of cognitive process.

Apply – based on the data gained through document analysis, it can be seen that almost 17% of assessment tasks as project (paper) in CBA course involved apply level of cognitive process.

Analyze – based on the data gained through document analysis, it can be seen that almost 8% of assessment tasks as project (paper) in CBA course involved analyze level of cognitive process.

Evaluate – based on the data gained through document analysis, it can be seen that almost 17% of assessment tasks as project (paper) in CBA course involved evaluate level of cognitive process.

Create – based on the data gained through document analysis, it can be seen that almost 17% of assessment tasks as project (paper) in CBA course involved create level of cognitive process.

Overall, after calculating the data gained through document. It can be conclude that understand (33%) is the most cognitive level that is involved in project (paper) assessment tasks in CBA course, however it was revealed that remember (8%) and analyze (8%) are less involved in this assessment tasks.

Extract 9:

Iya itu disuruhnya analisis principles dari assessment yang kita pilih gitu secara kelompok. Misalnya kelompok saya milihnya assessment listening, nah assessment itu dianalisis menurut principles dari assessment. [Transkripsion_S2]

Extract 10:

UASnya disuruh membuat paper yang isinya membuat sendiri assessment tools yang kita mau sesuai dengan levelnya dengan merujuk pada principles of assessment. Jadi assessment yang kita buat harus sesuai dengan principles of assessemt. [Transkripsion_S8]

4.2.4 The proportion of Low-Order Thinking and High-Order Thinking

In answering the third sub- question of this study which is: *What proportion of the assessment tasks in CBA course unit requires students to perform Low Order Thinking (LOT)?*; and *What proportion of the assessment tasks in CBA course unit requires students to perform High Order Thinking (HOT)?*; and course outline were

analyzed then described and categorized based on the revised Bloom's taxonomy (Anderson & Krathwohl, 2001) to find out the proportion of assessment tasks in CBA require students to perform Low-Order Thinking The Low-Order Thinking are remember, understand, and apply, while the High-Order Thinking are analyze, evaluate, and create.

ILO	ATs	I	LOT			HOT		
			Remember	Understand	Apply	Analyze	Evaluate	Create
Demonstrate an understanding of the rationale, purposes, and strategies for conducting classroom based assessment (CBA) how to interpret and	**Mid-term test - Week 1 to Week 8 Topics)** A written test consisting of both objective and subjective items.	Define the concept of 'Assessment' and differentiate it from 'Evaluation' and 'Testing' activities.		V				
		Outline the purposes of Classroom Assessment (CA) and identify types of assessment activities accordingly.		V				
Critically evaluate CBA tools used in EFL education programs (schools or private courses).	**(Assessment 1)** Critical analysis of the Design and development of a set of CBA instrument for a target audience of participant's interest.	Give examples of CATs as proposed by Angelo & Cross (1993).			V			
		Define the five principles of language assessment.	V					
Develop a set of CBA tool for use with a specific EFL learning program of their own choice.		Outline strategies to ensure best application of the language assessment principles.		V				
	(Assessment 2) A set of classroom assessment tool designed by students for a particular group of target	Explain what traditional assessment and alternative assessment are and their complementary positions in current educational setting.		V				
		Identify different assessment techniques/formats and					V	

audience of student's own interest.	describe their strengths and weaknesses.						
	Construct assessment tasks/items of traditional and alternative methods.		V				
	Evaluate the assessment tool with reference to the principles of language assessment.					V	
	Determine the purpose and objectives of a set of CA activities.				V		
	Write up the specification/blue-print for a set of CA Activities.						V
	Develop the tools/instrument and the guidelines for administering, scoring/marking and preparing report of the CA activities.						V
TOTAL		1	4	2	1	2	2
PERCENTAGE		8%	33 %	17 %	8 %	17 %	17 %
		58%			42%		

Table 4.8 The Proportion of LOT and HOT

Based on the Table above, it can be seen that understand level (33%) is mostly involved in the Low-Order Thinking level. Meanwhile, remember level only occurred in 8% and apply level also occurred in 17%. The assessment tasks that categorized in the area of remember, understand, and apply mostly appeared in matching and essay.

Based on the table above, it can be seen that evaluate level (17%) and create level (17%) are mostly involved in the High-Order Thinking level. Meanwhile, analyze and analyze level only occurred in 8%. The assessment tasks that

categorized in the area of analyze, evaluate, and create mostly appeared in project (paper).

From the diagram above it can be interpreted that the cognitive process that involved in CBA course assessment tasks are mostly Low-Order Thinking which appeared in 58%. Meanwhile, the High-Order Thinking only emerged in 42%.

4.3 Analysis and Discussion

To address the research question, the discussion focuses on five research sub questions as the assessment tasks in CBA course can be described by level of cognitive processes. The sub questions are the types of assessment tasks employed in CBA course, the types of cognitive processes involved in each type of assessment tasks, the proportion of assessment tasks require students to perform Low-Order Thinking, and also the proportion of assessment tasks require students to perform High-Order Thinking.

4.3.1 The cognitive processes involved in CBA course

To answer the main research question, the total percentage from the document has been calculated. Based on the data gained from document, it shows that 58% of assessment tasks in CBA course require students to perform Low-Order Thinking referring to the literature. After calculating the data, it shows that the cognitive processes involved in the assessment is also mostly understand level (33%). From 13 indicators of the assessment, it 58% (7/13 of indicators) contributed to low-order thinking, while 42% (5/13 of indicators) contributed to high-order thinking which means that the

assessment tasks require students to perform low-order thinking and high-order thinking even though understand was mostly involved in the tasks.

4.3.2 Types of assessment tasks in CBA course

   Matching—it also can be seen that the methods of this assessment is selected response because students only require to select and match the appropriate statement or definition to its terminology. This assessment requires students to demonstrate an understanding of the rationale, purposes, and strategies for conducting classroom based assessment (CBA). Students have to match the best answer to the question about the topics. This assessment was done by online as the mid-term test at the end of topics 1-8.

   This assessment task is considered as *formal assessment* and *summative assessment* since it was done to measure the students' knowledge and also their understanding about the topics and also based on time of its implementation. It is supported by Brown in 2004 who stated that Summative assessment aims to measure, or summarize, what a student has grasped, and typically occurs at the end of a course or unit of instruction. Additionally, this assessment also categorized as *assessment of learning* because of the result of this assessment will confirm the students' understanding about the topics and also because of this assessment occurs after their learning. It also can be seen that the methods of this assessment is selected response because students only require to select and match the appropriate statement or definition to its terminology.

Extract 11:

Hmm..Untuk UTS seinget saya dalam bentuk online test. Setelah kami sign in, kami diberi waktu selama kurang lebih 1,5-2jam untuk mengisi soal. Jika lebih maka otomatis akan ke-sign out dengan sendirinya. Soal-soal dalam uts yaitu PG atau menjodohkan gitu tapi ada essay juga. [Transkripsion_S4]

Essay—this assessment requires students to demonstrate an understanding of the rationale, purposes, and strategies for conducting classroom based assessment (CBA). Students have to write an explanation about the topics. This assessment was done by online as the mid-term test at the end of topics 1-8. The number of the questions are 10 essay questions.

This assessment task is considered as *formal assessment* because it was assessed systematically, planned, and allowed with set of procedures. Besides, it also categorized as *summative assessment* in the term of its time of implementation. However, this assessment task is considered as *assessment of learning* because of the result of this assessment will confirm the students' understanding about the topics and also because of this assessment occurs after their learning. In addition, extended-written response as a method used in order to measure students' understanding so that rubric or scoring guide might be used for judging quality.

Extract 12:

Jenis soalnya ada yang PG dan esai. Yang PG itu kalau nggak salah seingat saya itu ada 10 soal atau 15 gitu. Nah yang esai ada 5. Soalnya itu berkaitan dengan apa itu assessment dsb. [Transkripsion_S9]

Project (Paper)—this assessment tasks require students to use their critical thinking in order to analyze, evaluate and create CATs (Classroom Assessment Tools). This kind of assessment is used as the assignment 1 and also assignment 2 (Final work). In assignment 1, the students require to analyze critically of the design and development of a set of CBA instrument for a target audience of students' interest. Students have to evaluate the CATs that they choose according to the five principles of assessment, and then they have to decide and give comment whether the assessment already align with the five principles or not. While in assignment 2, the students require to develop a set of classroom assessment tool designed by students for a particular group of target audience of student's own interest. Students have to choose the types of assessment that they will design, after that they create the CATs based on the criteria of five principles of assessment.

These assessment tasks are considered as *formal assessment* and *summative assessment* since it was done to measure the students' skills and understanding to create their own Classroom Assessment Tools by their own choice and also based on its time of the implementation. Besides, this assessment is also categorized as *assessment of learning* which is used to know the students' understanding and knowledge at the end of the topics. By doing this assessment, teachers also can see students' ability in analyzing, evaluating, and also creating the CATs.

From the document, it also can be seen that this assessment used extended-written response as their method. Since the students require to

analyze critically of CATs, and also design a CATs, it means that the assessment needs more explanation about their findings after they do analysis and evaluation.

It can be concluded that the types of assessment tasks that are mostly employed in CBA course assessment based on time is summative assessment, while based on method is formal assessment, and based on purpose is assessment of learning.

4.3.3 The types of cognitive processes involved in each type of assessment tasks

Matching— data from cognitive processes involved in matching stated that it was 100% contribute to understand level, while there are none of remember, apply, analyze, evaluate and create levels are involved in this assessment tasks. From 1 indicator of matching, it 100% (1/1 indicator) contributed to lower-order thinking 0% for higher-order thinking. This assessment task required students only to lower-order thinking not to higher-order thinking. As one of students said that this task demanded them to do into higher level:

Essay—data from cognitive processes involved in essay stated that it was 14% contribute to remember level, 43% for understand level, 29% for apply level, 0% for analyze level, 14% for evaluate level, and 0% for create level. From 7 indicators of essay, it 86% (6/7 of indicators) contributed to low-order thinking, while 14% (1/7 of indicators) contributed to high-order thinking which means that this assessment task required

students to lower-order thinking and higher-order thinking even though understand was mostly involved in this task.

Project (paper)— data from cognitive processes involved in project (paper) stated that it was 8% contribute to remember level, 33% for understand level, 17% for apply level, 8% for analyze level, 17% for evaluate level, and 17% for create level. From 13 indicators of project (paper), it 58% (7/13 of indicators) contributed to low-order thinking, while 42% (5/13 of indicators) contributed to high-order thinking which means that this assessment tasks require students to perform low-order thinking and high-order thinking even though understand was mostly involved in this task.

Based on the data above, it can be seen that the cognitive processes that mostly used in each types of assessment tasks is understand level which means the assessment tasks mostly require students to perform low-order thinking even though the assessment also has reached high-order thinking.

4.3.4 The proportion of assessment tasks require students perform LOT and HOT

The result of document analysis of assessment tasks in CBA course, it showed that the cognitive processes that involved in CBA course assessment tasks are mostly Low-Order Thinking which appeared in 58%. Meanwhile, the High-Order Thinking only emerged in 42%. Thus findings also supported by the previous study which found that only 33.8% of the assessment tasks in pharmacy school required higher-order thinking and 66.3% of the assessment required lower-order thinking. It might be happens

because teachers are focusing on enriching students in terms of their understanding about the topics rather than asked them to more analyze and evaluate the topics that they learned.

To sum up, findings of the study reveal that Low-Order Thinking level are mostly involved in CBA course assessment tasks rather than High-Order Thinking. It was 8% contribute to remember level, 33% for understand level, 17% for apply level, 8% for analyze level, 17% for evaluate level, and 17% for create level. From 13 indicators of assessment tasks, it 58% (7/13 of indicators) contributed to low-order thinking, while 42% (5/13 of indicators) contributed to high-order thinking which means that the assessment tasks require students to perform low-order thinking and high-order thinking even though understand was mostly involved in the tasks.

4.4 Limitation

In this study, the writer only focuses on the cognitive processes in CBA course assessment tasks without including the knowledge dimensions. The writer found that there are formative and summative assessment which involved in CBA course assessment, and yet the writer only focus on the cognitive processes involved in summative assessment. However, this study has some limitations associated with the sample of students, the data collection methods, and the overall the study design approach. Moreover, the writer did not do classroom observation. The writer only focus on analyzing the document (course outline) to categorize the assessment tasks into the cognitive processes that are involved. All the limitations occur because of the writer's expertise and resource.