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Research Project

**21<sup>st</sup> Century Skills:**

**A Case Study on Cambodian Teacher and Student's Perspectives about Critical Thinking  
in Higher Education**

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February 28<sup>th</sup>, 2017

**Submitted for Annual Research Competition**

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## **Acknowledgement**

The success of our research findings owe much gratitude to helpful people, some of whom we cannot mention the names and one of whom our gratitude would never reach.

First of all, we owe sincere and earnest thankfulness to our supervisor, Lecturer. **Mom Pheng**. This research finding would have never been fully completed, if we did not have him as a core supervisor who always gave us a lot of constructive feedback and resourceful information.

Second, we give special thanks to some lecturers and students who were the participants in our research sampling. Although we cannot credit them by his/her name, we are so grateful to three lecturers of the Department of English and International Studies for allowing us to interview them, as well as 100 students studying in International Relations, Professional Communication, and Education for being participants in our survey.

Lastly, we would like to thank you to all members of our team who really worked hard and actively collaborated to make this research project happen.

## **Abstract**

This research project has looked deeply into the footing of the twenty first century skills by exploring a Cambodian teacher and student's perspectives about critical thinking in higher education. In this sense, this research project aims at projecting a full image of critical thinking into four angles: (1) different perspectives of the teacher and the student regarding critical thinking, (2) the significance of studying this subject, (3) the challenges of teaching and studying the subject, and (4) the practical methods on improving the students' learning process.

Mixed method would be an ideal tool to utilize while conducting this research due to two main reasons. Firstly, we are planning to conduct a semi-structured interview with three expertise who work in a renowned Cambodian university to gain knowledge about their perspectives regarding critical thinking in higher education in four angles. Secondly, as to digest our understanding about critical thinking from the students' perspectives, we decided to do a survey which involves 100 university students as our participants. Moreover, in the sampling selecting techniques, fishbowl technique was incorporated. We wrote down the name of all the prestigious universities and put them in a bowl, and randomly selected one. Then, we continued to select departments and generation. By so doing, we wanted to increase the level of research validity and credibility.

Because of the wide range of experiences of three lecturers and the responsive students, we were able to fully understand the concept of critical thinking in Cambodian university within four angles. Finally, we found that critical thinking skills is not just an ability to make human think critically and logically in dealing with issues relating to academics, but it is a tool which helps people see issues in different perspectives and angles with rational thinking through the process of absorbing knowledge from the outside environment.

*I declare that this research project is my own work. It is submitted in partial fulfillment of the requirements for the Annual Research Competition of the Royal University of Phnom Penh. It has not been submitted before for any degree or examination in any other University.*

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## Chapter I:

## Introduction

### 1.1 Research Problems

We are living in the 21<sup>st</sup>-century contemporary society where we are facing a lot of challenging issues which could not ignore. In a similar vein, there are some of the 21<sup>st</sup> century skills like communication, collaboration, leadership, problem solving, and critical thinking (Pacific Policy Research Center, 2010). Critical thinking is one of the most significant skills for the students to learn this skill or subject since there are a lot of emerging issues such a global warming, natural disaster, and terrorism just to name a few. Thus, it is crucial for the students to learn critical thinking in order to find ways to solve these problems. Particularly, Cambodia is a developing country which contains a low level of educational standard. Likewise, it is compulsory for the Cambodian students to study critical thinking, certainly in the higher education. By learning this subject, it can broaden students' ideas and abilities in solving the problems with a good judgement. Because of these points, the Ministry of Education, Youth and Sports (MoEYS) has inserted the critical thinking subject into the school's curriculum since they understood about the side-effect of the globalization (MoEYS, 1994). So, Cambodian students have to study this subjects as a way to improve their critical thinking skills and to enhance their knowledge in evaluating the problems. By the way, we know that critical thinking is one of the hardest subjects for students to learn as stated in the literature review part. It is also true that critical thinking is a challenging subject for the Cambodian students which makes them fear and lose confidence in learning this subject. Thus, we can see that there is a loophole for us to conduct a research on how to teach this subject in effective ways. In addition, we also look for the challenging issues in teaching critical thinking in the Cambodia's context. Before we can

teach students with the right methods, we need to figure out the root-cause of the problems as well.

In the nutshell, we have thrown a light on the importance of learning critical thinking, how to teach this subject, and the challenges in teaching it in the Cambodia's context. Therefore, we aim to conduct a research in order to study about critical thinking in the higher education in Cambodia since we see that this gap needs to be filled.

## **1.2 Research Objective**

The main aim of this research finding is to project an idea of what is critical thinking based on the teacher and students' point of view. Furthermore, since we are living in the 21<sup>st</sup> century, we also want to know about the significant of this skills towards the student in helping them solve their facing issues. As we have already mentioned, there are a lot of challenges in teaching and studying in this subject that is why we decided to conduct this research project to figure out some possible and practical methods in dealing with these problems. Last but not least, there are only a few people who have conducted a research in this topic, especially in the Cambodia's context, so the gap need to be filled by doing our research finding.

## **1.3 Significance of the Research**

### **i. The Significance of the Research**

Human resource is one of the main factors which helps Cambodia to develop and foster its country, in terms of economics, politics and social welfare. Fascinatingly, it would be an ideal for the Cambodian students to know the importance of the study of critical thinking since they can use this knowledge to develop their countries as well. Teachers also need to pay more

attention to how to transfer their knowledge to the students. It is true that most of the students will find it hard to study this subject. Moreover, it is vital for the teachers to recognize some practical methods on how to teach their students. Hence, our research finding will be a great resource for the Cambodian researchers, scholar, teachers and students to learn from it and to do further research.

## **ii. The Scope and Limitation of the Research**

The research finding is assigned to make a sense about the importance of the Cambodian university students in studying critical thinking. The research finding will study only in the Cambodia's context, and attempts to answer those three main research questions above. Since the time is constraint, and we have a helpful supervisor, so he has facilitated in making an appointment for us with participants. That is why we do not write consent or request letters to our participants.

## Chapter II:

### Literature Review

This literature review captures some of the most critical issues related to the aspects of the critical thinking which is one of the most popular skills in the 21<sup>th</sup> century, namely, (1) definition, (2) the significance of studying critical thinking, (3) the methodologies in teaching critical thinking, and (4) the challenging issues in teaching critical thinking.

#### 2.1 Operational Definition

It is important to understand deeply about the definitions of the critical thinking before taking up our studies on this topic. According to Mr. Halpern (1998) defined critical thinking as a way of thinking related to solving problems, formulating inferences, and making decisions. Furthermore, based on Warnick and Inch, communication scholars defined critical thinking as "involving the ability to explore a problem, question, or situation; integrate all the available information about it; arrive a solution or hypothesis; and justify one's position." Thus, according to the definitions of the critical thinking are defined by these scholars, we can see that critical thinking refers to the subject which provides students with an ability to evaluate problems, and think critically before they take actions. From Ann Coughlan (2007) acclaimed that "The need to be right all the time is the biggest bar to new ideas. It is better to have enough ideas for some of them to be wrong than to be always right by having no ideas." By seeing his ideas, if we always need to be right, it will block your chances to things in different angles, but if we have to be wrong sometimes in order to seek for the right thing, we will be a great person with an amazing

judgment. Moreover, critical thinking also help students to have a special ability to solve the problems and to reach a valid conclusion.

## **2.2 The Significance of Studying Critical Thinking**

As we know that critical thinking is crucial for the students to absorb the knowledge, they can use this skill to solve any issues or doubts. Interestingly, there are increasing numbers in inserting this subject in the school's curriculum because critical thinking helps students learn better about solving the problems. This subject is important for students in living in the society and for their educational career (McMillan, 2015). Hence, when students have a chance to learn critical thinking, they are likely to become critical and reasonable. Students will start to evaluate the problems and try to accumulate more information from different sources before they decide to do something. In addition, some journals state about the importance of the critical thinking in the higher education. They think that it is vital for the students in the university or college to study this subject because students can use this skill to develop their ways of thinking in resolving any issues. Bernie Trilling & Charles Fadel (2009) said that "[I]t is importance for the school to include critical thinking into the curriculum because it is one of the 21<sup>st</sup> century skills which students should have a chance to learn it." That is why most of the schools in the developed countries have provided this subject since decades ago. So, we can see that there are a lot of advantages of the studying critical thinking, especially in the higher education.

### **2.3 The Methodologies in Teaching Critical Thinking**

The teachers need to develop their strategies on how to transfer their knowledge to their students because different students have different experiences and backgrounds of knowledge. Thus, the teachers should encourage, simulate, and facilitate the students in their learning. The scholars have noticed about the academic performance of the students in critical thinking skills. They found out that most of the students succeed their education based on non-standard rather than standard academy (Dawit T. Tiruneh; An Verburgh & Jan Elen, 2013). Likewise, we can imply that standard academy which demands students to learn, based on the text books and subject matters, and is not an effective way for students to learn critical thinking. To some extent, students need to learn critical thinking according to non-standard academy because they have more chances to explore and experience with the outside environment. It is importance for the students to interact with the environment in order to gain more experiences and to increase their knowledge regarding the issues. The scholars have mentioned about “The Need of Cognitive Scale”. The Need of Cognitive Scale is a reliable instrument to measure the ability of the students receiving cognitive efforts. The Need of Cognitive Scale is an indirect method of assessing students’ disposition toward critical thinking because it measures students’ self-reported responses (Dr. Al Bensley; Dr. Robert Doyle; Dr. Linda Lyon & Ms. Sharon Robinson, 2006). Thus, the teacher will use this scale to measure their student’s interests in learning critical thinking. One more thing, they recommend some methods to teach critical thinking in the effective ways. The teachers should encourage students to ask questions, raise objections, and point out difficulties in the teaching methodologies (Peter A. Facione, 1990). So, the teachers can do their best to simplify the lessons for the students. In other words, when teachers know the

difficulty of their students, they will adjust their teaching methodologies, in order to help students learn better.

## **2.4 Challenges in Teaching Critical Thinking**

McMillan (2015) has pointed out three challenging issues in teaching critical thinking. First of all, because of the short time for the teachers to teach their students, the students fail to learn some main concepts of the critical thinking. For instance, as we have already known that students have to study many subjects besides critical thinking, the teachers do not have enough time to cover all the aspects of the critical thinking. So, the students will miss some concepts and techniques in learning this subject. Second, the instruction should be more specific and straight to the point rather than go around the lessons (Dawit T. Tiruneh; An Verburgh & Jan Elen, 2013). Some teachers do not really make their instructions clear enough which is a major challenge for the students to learn this subject. Critical thinking is one of the most difficult subjects for the teachers to teach their students. Hereby, some of the teachers who have a little knowledge about this subject is hard to transfer their knowledge to the students. Third, some of the teachers only sticks with curriculum and textbook. That is why students fail to learn and to interact with the environment. It is crucial for the students to gain on hand-experience from the surrounding environment, but their teachers do not really take these matters into their consideration. In conclusion, we can see that teachers fail to teach their students about critical thinking subject because of some barriers like short time allowances, teachers' knowledge and curriculum of the schools.

Basically, our research finding aims to answer the following questions:

**3.1. Main Research Question:**

- Why do Cambodian teachers and students in the higher education think that the study of critical thinking is important?

**3.2. Sub-research Questions:**

- i.** What are the significances of the study critical thinking?
- ii.** To what extent, are there any challenges in teaching and studying this subject?
- iii.** What are the practical methodologies which teachers should implement in teaching this subject?

**3.3 Hypothesis Testing**

By and large speaking, we anticipate that the teachers and students' perspectives about critical thinking subject in these followings:

1. Critical thinking is an important subject students should be required to learn.
2. The teachers' perspectives, critical thinking is one of the most difficult subjects for them to teach students.
3. Students' perspectives, critical thinking is one of the toughest subjects for them to learn.
4. In the point of view of teachers, in order to teach students about critical thinking effectively, we need to be open-minded and approaching to other students.
5. Students' ideas, they have to read a lot of sources as to accumulate idea and knowledge from different scholars and people, so they can learn this subject better.

**4.1 Data Collection**

In this research finding, we are going to employ mixed method because we believe that this method will be an ideal tool for us to understand the perception of the expertise, teachers and students deeply and critically. First, for the qualitative method manner we are going to interview three expertise in one of the well-known Cambodian universities in order to understand their perspectives about what critical thinking is, the challenges in teaching it, and some practical methods on how teach this subject effectively. Second, quantitative method will be employed since we are going to conduct a survey by doing a questionnaire which involves 100 university students to figure out their understanding about critical thinking. In this manner, we are able to capture all the aspects of critical thinking from the teachers and students with a comprehensible output.

**4.2 Sample Selecting Method**

In addition, we have used fish bowl sampling method to pick up our sample. First, we have written down all the well-known universities' names and put it into a bowl. Then, we randomly selected one university among them. Fortunately, we got the Royal University of Phnom Penh (RUPP) as our sample which is a potential sample because RUPP is known as the largest and oldest university in Cambodia. Second, we narrowly selected the department and generation, and got two departments of the Institute of Foreign Languages, RUPP. They are the Department of International Studies (DIS) and Department of English (DoE). Third, we also continued randomly selecting years of our respondents. Coincidentally, senior students of the

two departments were selected. Thus, as our plan we are going to conduct semi-structured interview with the three lecturers from the two departments (one from DIS and two from DoE) since this method will provide us with valuable information and experiences from the expertise. We also conduct a survey by doing questionnaire which engage 100 students, who will be our respondents, from the two departments. In doing our survey, we use collective administration, it is one of the best way of administering questionnaire, especially to obtain a captive audience such as student in the classroom (Kumar, 2011).

### 4.3 Participants' Profiles

#### A. The First Participant

Name	Sex	Working experiences
Dr. A (represented name)	Male	Currently, he is working as a lecturer of the Department of International studies. He has been involving in teaching career around 20 years. He used to teach students in some subjects relating to critical thinking like Critical Thinking, Foreign Policies, International Relations, and Southeast Asia Studies.

#### B. The Second Participant

Name	Sex	Working experiences
Mr. B (represented name)	Male	Currently, he is working as a lecturer of the Department of English. He has been involving in teaching career around 5 years. He used to teach

		students in some subjects relating to critical thinking like Global Studies, Writing Skills, and Read Skills.
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**C. The Third Participant**

Name	Sex	Working experiences
Ms. C (represented name)	Female	Currently, she is working as a lecturer of the Department of English. She has been involving in teaching career around 3 years. She used to teach students in some subjects relating to critical thinking like Literature Studies, Core English, and Debating Skills.

**4.4 Data Analyses**

We will use discourse analyses method since we are going to analyze in each word of the expertise, teachers and students to make our finding become more validity. By using this method, we also can see clearly of how the teachers think about critical think and the reasons why students should learn this subject. We also utilize Statistical Package for the Social Sciences (SPSS) to analyze our survey as to receive comprehensive understanding from students’ perspectives about critical thinking subject. We firmly believe that these methods will be underpinned into the ground for our findings more realizable and credible.

**5.1 Teachers' Perspectives About Critical Thinking**

After conducting interviews with the three lecturers from the DIS and DoE, we have figured out their point of views about critical thinking such as the definitions, significances of studying it, challenges of teaching this subject, and methods to teach students to learn it better.

**A. The First Interviewer**

Based on Dr. A, a lecturer of the DIS, defined critical thinking as “the intellectual ability of the student views an issue from different perspectives and angles”. By his definition, critical thinking can make students think critically and deep down in the ground before they make their own judgements. Next, he also mentioned about the significances of studying it. “Since we are living in a globalization era, encountering a lot of information which some of them are real, but some of them are fake and people just created it to cheat you. Also, we are living with the situation with a lot of predicament like deciding which career you will choose, which schools you will go for, and which parties you will vote for”. Thus, it is a crucial thing for the students to learn critical thinking in order to think with a logical reason and to make a right decision. As Dr. A, has a wide-range experiences of teaching this subject, he said that there are a lot of challenges in teaching it because in order to make students think critically, students have to have an adequate information about fact (not only one field, but also from the other fields). For instance, we ask people to think about climate change. We are probably not to think about Geography, and Biology, we also need to think about Chemistry, Sociology and History of the literature. So, it is a type of multi-disciplinary and it is vital to teach students of how to digest and how to evaluate that information based on the resource and information they have. Interestingly, he said,

“Teachers need to be an open-minded in order to accept the idea that you like it and don’t like it, and the classroom management, teachers should know the ways to manage students in a kind of democratic and student-centered classroom”. By so doing, students will learn this subject better. One more thing, teachers have to lead students to have a good habit of reading, by not just reading in the text books, but from the other useful resources. Hence, once students have enough information, students will think better regarding a particular issue. Last, we have to encourage students to think at a different angle to endorse good judgment on that issue.

### **B. The Second Interviewer**

Moreover, Mr. B, a lecturer of the DoE, thought that critical thinking is “the skills that a person has to think beyond the line.” So, it means that once everyone has learned this subject, they will become a person who has an ability to think ahead and tries to seek for drawing a good conclusion. According to his perspective, he think that “when a person process with a critical thinking ability, he/she is much more superior to others because before he/she believe or accept those ideas, he/she has already collected enough information to analyze that idea whether it is correct or not”. Thus, it is important for students to learn this subject in order to become an efficient and critical person. He also stated about the challenges in teaching critical thinking whether directly or indirectly. For example, when teaching some subjects like Global Studies, reading and writing, he always urges the students to think beyond the line, but students tend to have different knowledge in critical thinking, so it is hard for him to push students to think logically and critically. Lastly, in order to teach students this subject in effective ways, he said, “we have to ask students with a leading question, and it is important to create a platform for the students to discuss and work in the group, so by so doing students can enhance their levels of

thinking.” It is a very helpful strategy for teachers to take it into their accounts as well as to drive their students to learn this subject well.

### **C. The Third Interviewer**

It was very helpful for us to talk with Ms. C, also a lecturer of the DoE, because she shared with us her ideas and information about critical thinking. She defined it as “the ability to analyze the information from different sources and perspectives.” She means that students will think deeply down in the ground with a good judgement regarding any issues. Based on her point of view, critical thinking is one of the most important subject for the Cambodian students to absorb this knowledge. Since we do not have an acute course about critical thinking, but we have some courses relevant to this subject such as Literature Studies, Global Studies, and Core English class which require students to think globally and not think from the immediate environment, but also to absorb the ideas from the surrounding environment, especially, they are able to accept other people’s ideas. Additionally, she said that “One of the challenges teaching critical thinking is that most of the students are shy and easy to lose their confidence in speaking up their ideas; although, most of them process with a very good critical thinking ability.” It is difficult for the teachers to provoke their students’ interests in order to think of one issue critically and reasonably. Therefore, she has come up with some practical implementation in teaching this subject to the students. Teacher should provide some background knowledge of the issue to students such early marriage, the effects of smoking and global warming. Then, we can ask students with provoking questions and let students to think rather than give them with the direct answers. Fascinatingly, she firmly believe that everyone has critical thinking ability; even though, we go to the market to buy vegetable and also decide and think before we buy it that is

somehow about critical thinking. Thus, the important thing is how we can inspire and motivate students to think critically before they make a decision.

## 5.2 Students' Perspectives About Critical Thinking

As we have conducted a critical thinking survey, our samples were around 100 students from the DIS and DoE (Professional Communication and Bachelor of Education). We aim at finding out students' perspectives about critical thinking such as the significance of studying it, difficulty in studying this subject, and their satisfaction of their teachers' teaching methodology.

### A. Students' Perspectives Regarding the Importance of Studying Critical Thinking

#### Critical Thinking Survey Result

		Statistics	
		Major	Importance of CT subject
N	Valid	100	100
	Missing	0	0
	Mean	1.74	1.18
	Median	2.00	1.00
	Std. Deviation	0.760	0.557

Figure. 1

Based on the Figure. 1, we can see that all students are from difference majors who think that critical thinking subject is importance for them. These could show how the vital of this subject to Cambodian students.

### Importance of CT Subject

	Frequency	Percent age	Valid Percentage	Cumulative Percentage
Valid	Yes	90	90.0	90.0
	No	2	2.0	92.0
	No idea	8	8.0	100.0
	Total	100	100.0	100.0

Figure. 2

In the Figure.2, 90 percentages of students think that critical thinking is an important subject for them, but there are only 2 percentages of the students who think that it is not importance for them. Moreover, there are approximately 8 percentages who have no ideas about what critical thinking is. Hence, we can draw conclusion that critical thinking is an important subject which Cambodian students should learn this subject as to improve their level of thinking and to become a rational and critical thinking.

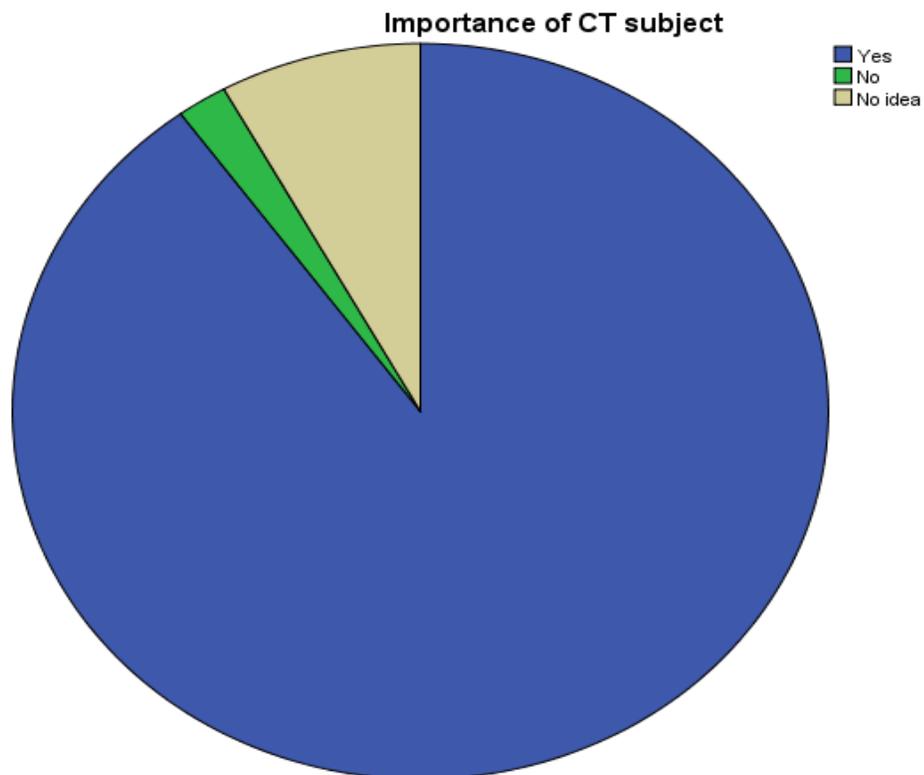


Figure. 3

If we look at the pie chart, we can see that there are three different colors which represent the various levels of the students' thinking about the important of critical thinking. For instance, the biggest area is blue which showed that most of the students think that critical thinking is important. On the other hand, the grey one demonstrates that students are either thought critical thinking is important or unimportant for them, and the tiny area of the green have showed that students do not think that critical thinking vital for them. Thus, we can draw a conclusion that students think that critical thinking is more important to them.

### B. The Levels of the Difficult in Studying Critical Thinking

#### Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Is CT a difficult subject?	99	99.0%	1	1.0%	100	100.0%

Figure. 4

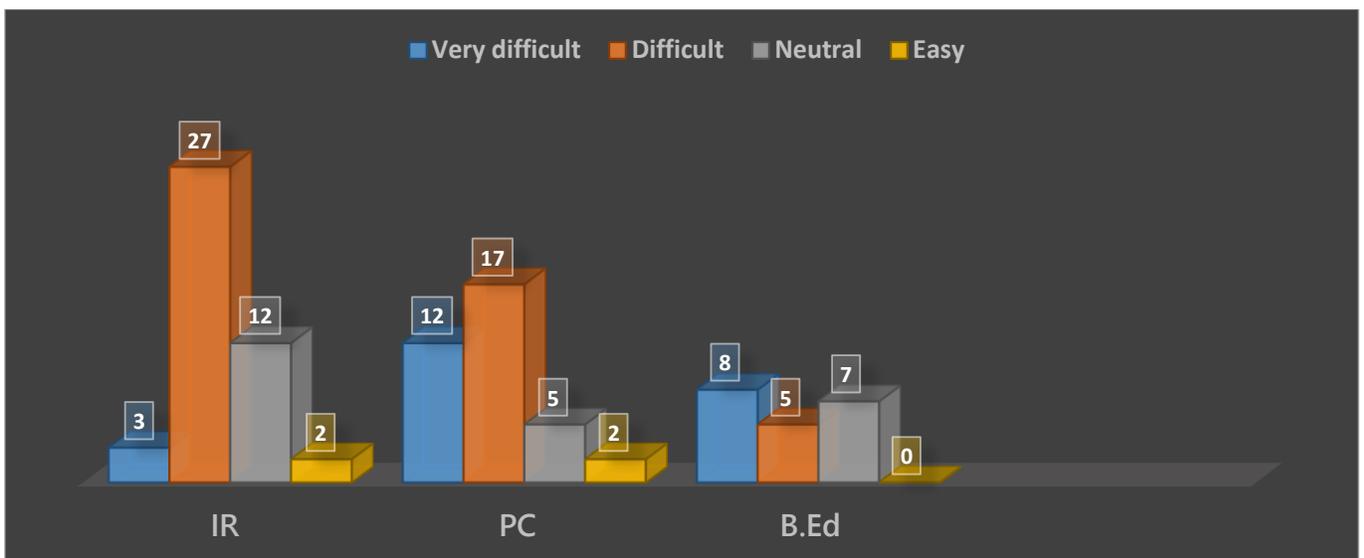


Figure.5

In the Figure. 4, there are around 99 percentages of the students who think that critical thinking is the tough subject to learn, but there are only 1 percentage of the students who think

that it is an easy subject to learn. Furthermore, in the Figure. 5, there are approximately 3 DIS's students out of 44 students who think that critical thinking is a very difficult subject, 27 students think that it is a difficult one, 10 students think that it is neither difficult or easy subject to learn, and 2 students think that it is an easy subject to learn. Interestingly, there are 12 PC's students out of 36 students who think that critical thinking is a very difficult, 17 students think that it is a difficult one, 5 students think that it is neither difficult or easy, and no one thinks that it is an easy subject to learn. Last, there are approximately 8 B.Ed.'s students out of 20 students who think that critical thinking is a very difficult subject, 5 students think that it is a difficult one, 7 students think that it is neither difficult or easy, and no one thinks that it is an easy subject to learn. Therefore, we can draw a conclusion that critical thinking is not an easy subject for the students to learn it, and it needs the efforts from both teachers and students in order to learn this subject better.

**C. Students' Satisfaction of Their Teachers' Methodology in Teaching This Subject**

**Do you like the methods that your lecturer teaches you in this subject?**

	Frequency	Percentage	Valid Percentage	Cumulative Percentage
Valid Like	36	36.0	36.4	36.4
Valid Neutral	54	54.0	54.5	90.9
Valid Dislike	9	9.0	9.1	100.0
Valid Total	99	99.0	100.0	
Missing System	1	1.0		
Total	100	100.0		

Figure. 6

In the Figure. 6 could show us that there are 36 percentages of the students who like their lecturers' methodology in teaching them about critical thinking. Moreover, there are 54 percentages of the students who either like or dislike their lecturers' methodology, and 9 percentages do not like their lecturers' methodology. Thus, we can see that there are some flaws of the lecturers' methodology in teaching this subject from the students' perspectives.

## Chapter VI:

## Discussion

After having a long discussion about the importance of the critical thinking of both teachers and students' perspectives, we also found out some controversial and conflicting ideas which we could not ignore. For instance, according to Dr. Faranak Rohani (2013) claimed that "It is not so compulsory that students must study critical thinking in the school curriculum, but they can absorb this knowledge in the surrounding environment." And Mr. A, a lecturer of the DoE proclaimed that "Although he has never taught students directly about critical thinking, students still could learn it indirectly from some activities like group discussions, group debating, and writing classes." Based on these two people's ideas, we can draw a conclusion that students can learn critical thinking both directly and indirectly, especially from our everyday activities. In addition, we do not need to stick on our heads that in order to teach and study critical thinking efficiently and effectively, the schools need to put this subject in their curriculum. Similarly, in our survey result we also see that some students do not like studying and think that this subject is important for them. Let's take a look at our survey data in the Figure.7.

### Do you like studying CT subject?

		Do you like studying CT subject?		Total
		Yes	No	
Major	IR	33	12	45
	PC	27	9	36
	B.Ed	13	6	19
Total		73	26	100

Figure. 7

In this figure, it shows that 12 students out of 45 students who study International Relations (in the DIS) do not like studying this subject, and they do not want to include this subject in the school's curriculum. If we look at the students who study Professional Communication, there are 9 students out of 36 students who also dislike studying critical thinking. In addition, B.Ed students, there are approximately 6 students out of 19 students that do not like studying this subject. Therefore, we can draw conclusion that not everyone likes studying this subject, and it is not 100 percentages that all students have to study it because they can acquire this knowledge from different available resources and the surrounding environment. These statements have some merits on the surface.

Nonetheless, since we are living in the 21<sup>th</sup> century and the breakthrough of the globalization era, encountering some many dilemma situations and issues such as global warming, terrorists, crimes and so on. This is why critical thinking has played a predominant role in helping students solve those hotbed problems, and they will be a logical and rational person in making their decisions. For example, during our interview we perceived some resourceful knowledge and ideas from Dr. A, a lecturer of the DIS, acclaimed that “we are living in the globalization era which we are facing with many predicament and controversial situations, so it is important for the Cambodian students to study critical thinking.” In this sense, he intends to project the significant roles of the critical thinking in resolving the problem in this contemporary society. Once someone processes with critical thinking skills, they will be able to use these particular skills to sharpen their knowledge and attitude toward a certain issue. Lastly, critical thinking helps a student to achieve better marks, become an autonomous learner, and a creative student (The Open University, 2008).

**9.1. Conclusion of the Research Finding**

In the nutshell, based on our research findings from the teachers and students' perspectives we be clear that we have truly discovered some new things about critical thinking, particularly in the Cambodia context. Firstly, we fully understand about what critical thinking is from distinguish scholars, expertise, and researchers in the literature part. Even interestingly, we have also found new definitions of the critical thinking from our interviewing with the professors and lecturers of the Cambodian university. For example, Dr. A, a professor of a Cambodian university has defined critical thinking as “the intellectual ability of the student views an issue from different perspectives and angles”. Thus, we can understand that a student processes with critical thinking ability, he/she will be able to view an issue from different contexts and ideas. Secondly, we could visualize a full image of what the significance of the critical thinking to the Cambodian students are. For instance, in our survey result there are 99 percentages of the Cambodian students who think that critical thinking is a crucial subject for them both in studying and outside environment. To some extent, in our interviewing parts with all of the lecturers of the Cambodian university also provide us some light of the importance of the critical thinking for their students. Actually, they claimed that critical thinking has a fundamental role in their studying and living, because their students will be the purposive and responsive people of why they are carrying on when they have critical thinking skills. Thirdly, the challenges of teaching and learning critical thinking have been revealed from both teachers and students' perspectives. Generally speaking, most of the Cambodian teachers have faced a lot of challenges in teaching this subject due to the limited knowledge of their students and the teachers, his/herself, the constrain of the institution, and the limitation of the resources. In a similar fashion, most of the

Cambodian students also show a high level of their difficulty in learning this subject in an account of the nature of the subject, low quality of the teaching method, and lacking of information and resources. Last but not least, the good news is that we have also figured out some practical implementation and method in teaching critical thinking from the teachers' point of view. In an incisive example, Dr. A, Mr. B and Ms. C proclaimed that "In order to teach and learn this subject better, teachers have to be open-minded and responsive people to their students. Importantly, in terms of classroom management, the classroom should be a democratic classroom which could easily discuss and share to the other students." By so doing, students will learn this subject better and teacher can improve their teaching methodology in teaching other subjects as well. All in all, this research finding will be served as a resourceful document for the scholars, researchers, and students, certainly Cambodian students to digest knowledge about the powerful impacts of the critical thinking skills on their life.

## **9.2. Recommendation**

In our research finding, we have found out some constructive feedback and resourceful recommendation from the teachers and students. Dr. A has suggested that "To be a critical thinker either the teachers or students, he/she has look at an issue into two sides both positive and negative sides, and one more thing is that they have to be a positive and optimistic person." We do agree with the Dr. A's suggestion, for on the behalf of the critical thinker we should think deeply down in the ground of an issue with a positive way before making our decisions. Moreover, Ms. B has given us tips for the students to learn critical thinking better such as students have to think critically and rationally before realizing on any sources of information, be inspired to share their concerns and ideas, and be a bookworm. We also received some feedback

from the students which the teachers should take them into their accounts. Some students want their lecturers to give them more chances to share ideas in the classes, as well as to express their thoughts without constraining from anyone. They offer the teacher to give them more lectures about critical thinking rather than just let them do it since it is a difficult subject, so the students need to have a big picture and background of information about one issue first, before they could do the activities. Lastly, due to the limitation of our time and resources we, researchers of this topic, would like to recommend to the other researchers or scholars to continue doing this research with a larger sample and an in-depth research.

## Appendix

### Chapter VIII:

#### 8.2 Appendix I

##### Interviewing Questions

- A). what do you think Critical Thinking is?
- B). Based on your perspectives, why is studying critical thinking is significant?
- C). Are there any challenges in teaching this subject?
- D). what are some of the effective methods implemented to engage students in critical thinking?

#### 8.2. Appendix II

##### Questionnaire

##### Twenty First Century Skills:

##### **A Case Study on Cambodian Teacher and Student's Perspectives about Critical Thinking in Higher Education**

Hello everyone! We are year-four and year-three students majoring in Education and International Studies of the Institute of Foreign Languages, the Royal University of Phnom Penh. We have been conducting a research project on “21<sup>st</sup> Century Skills: A Case Study on Cambodian Teacher and Student's Perspectives about Critical Thinking in Higher Education”. We promise to keep your information confidential. For any doubts please contact these numbers: 070 678 761 or via e-mail: [neak\\_Piseth@yahoo.com](mailto:neak_Piseth@yahoo.com). We hope you take some time to respond to the questionnaires below. Your contribution and participation are valuable for our search project and higher education system in Cambodia.

## I. Background Information

1.  Male  Female
2. How old are you? I am .....years old.
3. Which university or institute have you been studying? You may choose more than one.  
 RUPP/IFL  NUM  RULE  PUC  
 CamEd  UC  ITC  Norton University  
Other.....
4. What year are you in? If you have been studying two universities, you may tick more than one answer.  
 Year 1  Year 2  Year 3  Year 4  
 Year 1  Year 2  Year 3  Year 4
5. What is your major? Please write your answer below  
.....  
.....

## II. The definition of the Critical Thinking

Critical Thinking (CT) is a way of thinking related to solving problems, formulating inferences, and making decisions. Furthermore, critical thinking is involving the ability to explore a problem, question, or situation; integrate all the available information about it; arrive a solution or hypothesis; and justify one's position.

6. Have you ever studied or been studying Critical Thinking subject?  
 Yes  No
7. According to above definition, your experience or your opinion, is Critical Thinking subject important?  
 Yes  No  No idea
8. Do you like studying Critical Thinking subject?  
 Yes  No
9. Based on your learning experiences, what do you think of Critical Thinking?  
 Very difficult  Difficult  neutral  Easy
10. Why do you think that Critical Thinking is a difficult subject? You can tick more than one answer.  
 A few lecturers can teach this subject  A few students like studying this subject  
 A few students can get high score  other...
11. What are the challenges in your studying Critical Thinking experience? You can tick more than one answer.

- The difficulty of understanding the lesson     The problematic of teaching this subject  
 The lack of information     Too broad subject     other...
12. Based on your perspective, why do we need to study critical Thinking subject? You can tick more than one answer.
- School's curriculum     Job market     developing interpersonal skills     others...
13. Do you like the methods that your lecturer teaches you in this subject?
- Like     neutral     Dislike
14. What kinds of methods do you prefer your lecturers to teach you?
- Student center     Teacher center     other...
15. Do you agree, partly agree or not agree with the statement below? Please tick in the box provided accordingly.

( Agree=1    Partly agree=2    Neutral=3    Not agree=4)

Description	1	2	3	
1. <b>CT skills</b> teach a variety of skills that can be applied to any situation in life that calls for reflection, analysis and planning.				
2. CT promotes people's ability to think clearly and rationally.				
3. <b>CT is very important in the new knowledge economy.</b> The global knowledge economy is driven by information and technology. One has to be able to deal with changes quickly and effectively.				
4. <b>CT enhances language and presentation skills.</b> Thinking clearly and systematically can improve the way we express our ideas and analyze the logical structure of texts.				
5. <b>CT promotes creativity.</b> To come up with a creative solution to a problem involves not just having new ideas but also generating useful and relevant idea to the task.				
6. <b>CT is crucial for self-reflection.</b> In order to live a meaningful life and to structure our lives accordingly, we need to justify and reflect on our values and decisions.				
7. <b>Good CT is the foundation of science and a liberal democratic society.</b> The proper functioning of a liberal democracy requires citizen to think critically to overcome biases and prejudice.				
8. <b>CT</b> is something that is valued both in the university setting and in the professional situations you will find yourselves in after you graduate, and is part of lifelong learning.				
9. <i>Critical thinkers</i> consider all options before they act. If time is an important factor, they consider the fastest method of achieving a goal.				

**Additional comments:**

.....  
 .....  
 .....  
 .....

**Thank You!**

**8.4 Appendix III**

**Remaining data analyzes**

	Frequency	Percent	Valid Percent	Cumulative Percent
	31	31.0	31.3	31.3
	10	10.0	10.1	41.4
	5	5.0	5.1	46.5
	12	12.0	12.1	58.6
	4	4.0	4.0	62.6
Valid	13	13.0	13.1	75.8
	12	12.0	12.1	87.9
	9	12.0	12.1	100.0
Total	99	99.0	100.0	
Missing System	1	1.0		
Total	100	100.0		

### Statistics

		Q15_1	Q15_2	Q15_3	Q15_4	Q15_5	Q15_6	Q15_7	Q15_8	Q15_9
N	Valid	100	97	100	100	99	100	100	100	100
	Missing	0	3	0	0	1	0	0	0	0

### Q15\_2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	62	62.0	63.9	63.9
	partly agree	26	26.0	26.8	90.7
	Neutral	9	9.0	9.3	100.0
	Total	97	97.0	100.0	
Missing	System	3	3.0		
Total		100	100.0		

### Q15\_3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	45	45.0	45.0	45.0
	partly agree	41	41.0	41.0	86.0
	Neutral	13	13.0	13.0	99.0
	Not agree	1	1.0	1.0	100.0
Total		100	100.0	100.0	

**Q15\_4**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	43	43.0	43.0
	partly agree	34	34.0	77.0
	Neutral	21	21.0	98.0
	Not agree	2	2.0	100.0
	Total	100	100.0	100.0

**Q15\_5**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	48	48.0	48.5
	partly agree	35	35.0	83.8
	Neutral	12	12.0	96.0
	Not agree	4	4.0	100.0
	Total	99	99.0	100.0
Missing System	1	1.0		
Total	100	100.0		

**Q15\_6**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	42	42.0	42.0
	partly agree	38	38.0	80.0
	Neutral	19	19.0	99.0
	Not agree	1	1.0	100.0
	Total	100	100.0	100.0

**Q15\_7**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Agree	43	43.0	43.0	43.0
partly agree	43	43.0	43.0	86.0
Neutral	13	13.0	13.0	99.0
Not agree	1	1.0	1.0	100.0
Total	100	100.0	100.0	

**Q15\_8**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Agree	47	47.0	47.0	47.0
partly agree	35	35.0	35.0	82.0
Neutral	15	15.0	15.0	97.0
Not agree	3	3.0	3.0	100.0
Total	100	100.0	100.0	

**Q15\_9**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Agree	47	47.0	47.0	47.0
partly agree	28	28.0	28.0	75.0
Neutral	22	22.0	22.0	97.0
Not agree	3	3.0	3.0	100.0
Total	100	100.0	100.0	

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