Received: 30 October 2019, Accepted: 6 November 2019, Published 27 December 2019

ENHANCING STUDENTS' THINKING SKILLS: THE USE OF REAL-WORLD CONTEXT IN THE PROBLEM SOLVING METHOD IN THE ISLAMIC AND ASIAN CIVILIZATION COURSE

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Abstract

Thinking skill is one of the skills that students are expected to have, particularly students of higher education. One of the compulsory courses that the Malaysian higher education students need to complete during their undergraduate study is the Islamic and Asian Civilization (TITAS) course. This course is made compulsory by the Malaysian Ministry of Education and it aims to provide students with the understanding of various elements of civilization and the implication of this course to national development. The course also aims to produce students who are able to relate civilization with current societal issues. In an observation that the researcher made on a group of 97 students who completed this course in 2017, the researcher found that most of these students have not been able to relate TITAS with current issues that the country is grappling with. Similar observation was made by Mustapha Kamal Ahmad Kassim who wrote that although the course is vital, most students have not been able to master most of the course content. The students' failure to understand the content is visible through the way the students articulate their ideas in their written assignments and verbal presentations that are usually assessed in the course. The research found that the problem solving method as a teaching and learning method is able to enhance students' thinking skills. The main question is, how does the use of problem solving method, specifically the use of today's real-world context, in the teaching and learning of civilization concepts in the TITAS course enhance students' thinking skills? To what extent is problem solving method effective in enhancing thinking skills through the use of real-world context when the concepts of civilization are taught to students through this method? Having these questions in mind, this study seeks to fulfil two main objectives. Firstly, to examine and improve the use of problem solving method, specifically the use of today's real-world context, in the teaching and learning of civilization concepts in the TITAS course. Secondly, to examine the

effectiveness of the use of the problem solving method, specifically the use of real-world context, in the teaching and learning of civilization concepts in the TITAS course, in enhancing thinking skills. Data were obtained through observation and documentation. Observations, aided by the use of checklists were carried out during the students' presentations. The students' written reflections were analysed through content analysis. Three action research processes were identified during the application of the problem solving method. The research also identified the effectiveness of the use of problem solving method, specifically the use of real-world context, in the teaching and learning of civilization concepts in the TITAS course. It was a matter to attempt and to stimulate students understanding to make problem solving as a way for knowledge acquisition and developing cognitive abilities in terms of reasoning, critical thinking, problem solving and decision making.

Keywords: TITAS, Thinking Skills, Civilization

1.0 INTRODUCTION

1.1. Background of The Study

In the field of education, specifically pedagogy, thinking skill is a skill that is centrally important in individual's cognitive development. Based on the research carried out by the researcher, it was found that teaching that centre on thinking skills could produce effective students who could think deeply and analytically on any issue. The thinking skills demonstrated by such students also indicate the students' ability to master a learned subject. Nevertheless, there is one often-debated question, namely, to what extent could a teacher produce students who have thinking skill and ability (Johnson, Siegel, & Winch, 2010).

One of the methods recommended by past researchers is problem solving method that could enhance thinking skills. Problem solving method is a process that resulted in effective solutions, specifically when it involves real-world problems. Each existing problem has a solution. Problem solving does not rely solely on a person's ability to solve problems but it goes beyond this. One also needs to have a proactive mindset in order to produce effective environment, and to do this, one needs to work on solving real-world problems (Watanabe, 2010).

One of the thinking skills is having a proactive mindset. Real problems are able to drive people to think proactively. Problem solving process is not a process that is inherited from one's forefathers but rather it is a process that could be learned (Watanabe, 2010).

The above discussion has shown that thinking skills could be learned and one of the simulations that could sharpen one's thinking skills is problem solving that makes use of real-world context problems.

1.2. Problem Statement

Islamic and Asian Civilization (TITAS) course is a compulsory university core course that all university students in Malaysia have to complete, irrespective of their skin colour, race or religion. The course aims to expose students to a variety of major human civilizations, focusing specifically on the Islamic and Asian civilizations (Malay, Chinese, and Indian). The course also aims to provide students with deep understanding of each civilization and the impact of human civilization on national development. The course is expected to be able to produce students who are able to link elements of civilization to current societal issues (Kementerian Pendidikan Tinggi, 2017). Students who have completed this course are expected not only to be knowledgeable in other types of knowledge, including Information Technology, but also possess critical and creative thinking skills, as well as be well-prepared to overcome current global challenges (Mustapha Kamal bin Ahmad Kassim, 2015).

Nevertheless, there are students who regard TITAS as a repetitive course which is similar to the History subject that they had taken in their secondary schools. There are also students who felt as though they were forced to complete this course since it is part of their graduation requirements. This negative conception has made them dismiss TITAS course as not a very important course. Consequently, they demonstrate poor interest to the course itself and are not keen to understand the context and content of the course (Mohamad Azhari Abu Bakar, 2012).

In an observation that the researcher made on a group of 97 students who completed this course in 2017, the researcher found that most of these students have not been able to relate TITAS with current issues that the country is grappling with. Similar observation was made by Mustapha Kamal Ahmad Kassim (2015) who wrote that although the course is vital, most students have not been able to master most of the course content. The students' failure to understand the content is visible through the way the students articulate their ideas in their written assignments and verbal presentations that are usually assessed in the course.

Therefore, thinking skills among students are much needed in today's world. In the context of thinking skills, thinking process refers to higher-order thinking activities, which comprise analyzing, evaluating, and synthesizing. All these activities lead to problem solving or producing complex solutions (Butterworth & Thwaites, 2013).

Problem solving method in real current context could be employed in ensuring that students could think critically and hence, be able to link prevalent concepts in TITAS with current real situations. This method requires students to solve the problems given to them. This approach also reflects the unanimous decision made at the National Workshop on Improvement of Local University's TITAS Teaching and Learning Quality held in Lumut in 2003 in which emphasis should be placed on student-centred teaching and learning process. The use of real-world context problem in teaching and learning is one of the approaches recommended for effective teaching and learning of TITAS course (Rahimah, 2003).

Students are encouraged to play active roles in their learning sessions. They will spend more time exploring and resolving their learning issues with the aid of their teachers who play the role as facilitators (Shahabudin, Rohizani & Mohd Zohir 2003). Based on this notion, this study seeks to examine real-world context problem solving method that is geared on civilization concepts to enhance students' thinking skills, specifically Group I, TITAS students of the 201/2017 session at Universiti Utara Malaysia.

1.3. Research Questions and Hypotheses

This research is guided by two main objectives:

a. to examine and improve the use of problem solving method, specifically the use of today's real-world context, in the teaching and learning of civilization concepts in the TITAS course.
b. to examine the effectiveness of the use of the problem solving method, specifically the use of real-world context, in the teaching and learning of civilization concepts in the TITAS course, in enhancing thinking skills

2.0 REVIEW OF THE LITERATURE

The survey carried out on the available literature on this topic has identified three major themes pertaining to the context of the study. The first is that problem solving method could enhance

thinking skills. Studies also show that problem solving could make use of real-world problems. Thinking skills are also related to certain platforms, concepts or philosophies.

As for the first theme that centres on the possibility of the use of problem solving methods in enhancing thinking skills, some of the studies that have looked into this issue are studies conducted by Ismail and Atan (2011), Idris, Ariffin, and Mohd Ishak (2009), Sabran (2013), Nordin (2013), and Hashim (2012). Studies that discussed types of problems, including problems that are related to real-world context, include studies carried out by Idris et al. (2009), Saaid (2011), Kasim and Tamuri (2010), and Rahman (2002). The third theme which focused on thinking skills and its relation with specific platforms, concepts or philosophies was examined by researchers such as Seng (2005), Hashim (2012), Yusoff, Osman, Shaari, and Ghazali (2012) as well as Rasul, Ismail, Ismail, Rajuddin, and Rauf (2009).

From the survey, it could be summarized that the use of the problem solving method, specifically the use of real-world context, is a combined method that has been accepted by scholars. Hence, this research has applied the use of the problem solving method, specifically the use of today's real-world context, in the teaching and learning of civilization concepts in the TITAS course, in order to enhance thinking skills.

3.0 METHOD

My class (as lecturer) consisted of 91 students from different programme in Universiti Utara Malaysia. The course introduced students to the study of Asian civilizations. It discusses academic approaches to civilization, historical interactions among various civilizations (Malay, Chinese and Indian), the role of Islam in Malay civilization and in contemporary Malaysia, issues in Islamic and Asian civilizations. 91 students who were my respondents participated in this research. These students who registered under group I, were placed under the lecturer's responsibility. Most of them were first- and second-years students from various undergraduate programs. The lecturer has split these students into several small groups, which each group consisted of six to seven members.

Prior to the execution of the problem solving process, the lecturer identified today's real-world context problems by adapting the concepts of civilization. The lecturer began by presenting problems that tapped on students' prior knowledge. This action was taken in order to boost the

students' confidence and commitment. The problem was displayed in real form or real context through videos or social media reports, such as the news.

Some of the forms of problems used by the lecturer included (Barrett, & Moore, 2010):

a. Scenario
b. Dilemma
c. Challenges
d. News
e. Issues triggered by the media

The lecturer also introduced problem solving method to students since the students will employ this method in their learning process. In addition, the lecturer also informed the students of the actions that they need to take while using this method and its relationship to civilization. The groups of students were then formed (Campbell & Norton, 2007).

The processes involved in this research in applying problem solving methods in the TITAS course to enhance students' thinking skills based on the civilization concepts (Abdul Sukor Shaari, 2011) are as follows.

a. Students will be given a problem and they will find ideas and relate the problem to their prior knowledge.
b. Students will ask questions and define what they already know.
c. Students will answer questions based on the concepts of civilization.
d. Students will explore new information.

This research, specifically, has used the following five items in identifying the process involved in problem solving. These items, adapted from Delisle, Supervision, and Development (1997), were used as a guidance by the students in their problem solving process. The items are presented in the following chart:

Table 1: *Items used in problem solving*

Idea	Facts	Learning issues	Civilization concepts	Further actions
1.	1.	1.	1.	1.

The following were the steps taken by the students in their attempt to solve the problems presented to them in this research (Campbell & Norton, 2007):

a. Students were introduced to the problem solving method and its relation to the concepts of civilization. They needed to show their understanding of the methods as well as able to enhance their thinking skill, particularly in the context of today's real-world problems that touched upon the concepts of civilization.

b. Students were placed in groups and later discussed the given problem based on the students' experience and prior knowledge.

c. Each student attempted to examine and think deeply about the following matters:
    i. Things that are closely related to the problem
    ii. Things that are not closely related to the problem
    iii. Students agree or disagree as to whether the problem is a problem or otherwise
    iv. The gaps found in the problem
    v. The facts that support each argument

d. Findings from each individual were then discussed. Discussion went on until all members came to a consensus on the best response to the questions raised by their lecturer.

e. Each step taken were presented until the group had arrived to what they perceived as the best solution to the problem. Lecturers and other group members then reflected on the findings.

3.1 Flow Chart of The Problem Solving Method Application Used In The Current Research

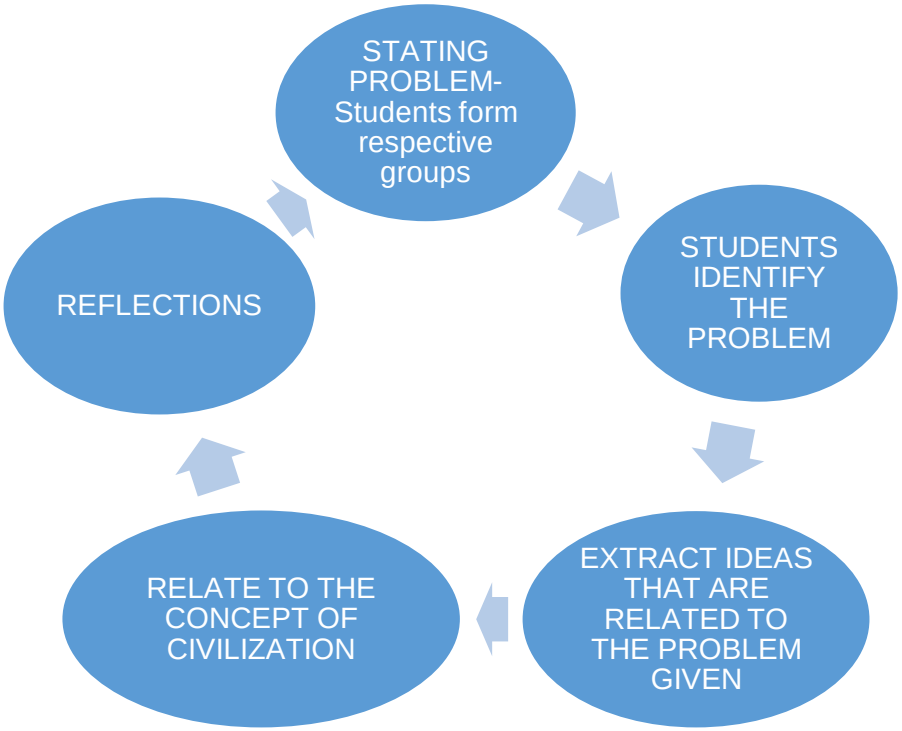

Diagram 1: *Reflections Utilized in This Research*

Lecturers' Reflections

Two types of evaluation were used in the present research (Fayer, 2010):

a. Checklist. Reflection is used to determine the effectiveness of this method. The following checklist was used in this research, particularly during the students' presentations. Some of the questions included in the checklist are as follows:

   i. What is the knowledge or information that the students should have?
   ii. What is the knowledge or information that the students should learn in order to know?
   iii. How did the students learn to know what they should know?
   iv. What have the students learned?
   v. What resources have been used?

vi. Were the students able to relate the problem to the concept of civilization?
vii. Mentor's observation and reflection.
viii. Five of the researcher's classes will be observed by the researcher's mentor, the dean's representative and a colleague.

Students' Reflections

b. Some of the questions that the students referred to while working on their reflections, include, among others
   i. How was your experience in utilizing the problem solving strategies?
   ii. What have you learned from the related topics?
   iii. How was your experience working in groups?
   iv. What new information have you acquired?
   v. What changes do you think need to be made?
   vi. What do you think should be retained?

Process and Findings for Action Research 1

The following is the problem statement created by the researcher:

"*Students are required to make a decision pertaining to the need of having only one race, that is the Malaysian race (Bangsa Malaysia), in forming a Malaysian Civilization.*"

Students were allotted 5 minutes to come up with an individual decision and were asked to form two big groups (one group for those who agreed to the notion and another for those who disagreed). These two groups were then split into two smaller groups for ease of discussion sessions. The students were advised to discuss and seek information from the Internet and later presented their findings to their classmates. Their lecturer then reflected on their findings.

Check List Used During Students' Presentations

The following check list was used to inspect the students' knowledge and learning during their presentations, in particular the presentations of five students who represented their groups. These five students presented findings from their respective group discussion. The following table sums up their performance during their presentations:

Table 2: *Students performance during presentations*

Items Employed	Available	Not Available	Level/Lecturer's Comments
What is the knowledge or information that the students should have?	All five groups were able to provide information on nation-state		Information given not comprehensive.
What is the knowledge or information that the students should learn in order to know?	All five groups were able to state the challenges that they might encounter should they decide to implement nation-state. They were also able to suggest steps that could be taken to overcome the challenges.		Students were able to explore the challenges
How did the students learn to know what they should know?	The five groups had Internet references and held discussions among their group members.		Did not make any justifications in validating their references and why the references were used
What have the students learned?	All five groups were able to identify the challenges and possible steps that could be taken to overcome the challenges.		Students were not able to establish whether the proposed solutions to overcome the problem could be implemented or not.
Were the students able to relate the problem to the concept of civilization?		Not a single group was able to relate the problem or the challenges they faced to the concept of civilization.	

Mentor's Observation and Reflection

The reflection produced was prepared from a discussion held with colleagues.

The learning objectives for the teaching session were met based on the students' responses. The researcher's lesson plans were well-executed, apart from one item, which was: I did not allocate specific duration of time when listening to views put forth by the students. This has led to use of excessive time for only one question. The teaching aspect that I should modify is I must make sure that in the future, I need to allocate specific time that students need to adhere to when they express their views. Some students were excited in sharing their ideas, while some chose to listen without taking part in the discussion. To ensure that all students participate in the class activities, I will vary my questions and ensure that the students be with their group members until the session ends. Before I begin the lesson, I will make sure that I memorize my lesson plans and try not to use ineffective strategies during class I also accept the views and suggestions given by my colleague in order to improve and enhance my teaching and learning. I must keep to time.

Based on the two reflections, problems that were identified and issues that need to be improved in the second action research to enhance TITAS students' thinking skills are as follows:

Table 3: *Problems and actions to enhance TITAS students' thinking skills*

Problems Identified	**Actions That Could Be Taken to Enhance Students' Thinking Skills in the Second Action Research**
1) Some of the solutions suggested did not take current real-world into consideration. The practical implementation of the solution is questionable.	Prepare related resources for the students. Employ the just-in-time approach to remind the students of current real-world context.
2) Some students were not able to articulate their views in groups.	I will be more involved by approaching each group to ensure that each student express their opinions and help them look for information.
3) Students were no able to relate suggested issues or solutions with the concept of civilization.	I need to discuss the issue by relating it to the concept of civilization and ask the students to do the same in the next discussion session. (Second action research)

Process and Findings for Action Research 2

The following is the problem statement created by the researcher:

"*Having a religion is a person's voluntary choice than cannot be forced. Anyone could choose his or her faith, be it Islam, Christianity, Hinduism, Buddhism or others. One could also choose to not have any faith. This is because, being religious is related to an individual's confidence. If religion is forced upon a person, his/her faith is not sincere."*

The Improvements Made On the Second Action Research Was Carried Out as A Result of the Reflections Made On the First Action Research

a. I prepared additional material for my students.
b. I employed the just-in-time approach during students' discussion to ensure that the students could acquire thinking skill through problem solving method.
c. I participated in the students' discussion (just-in-time) by posing questions that require the students to think in the context of civilization.

Check List Used During Students' Presentations

The following check list was used to inspect the students' knowledge and learning during their presentations, in particular the presentations of five students who represented their groups. These five students presented findings from their respective group discussion. The following table sums up their performance during their presentations:

Table 4: *Problems and actions to enhance TITAS students' thinking skills from second action research*

Items Employed	Available	Not Available	Level/Lecturer's Comments
What is the knowledge or information that the student should have?	All five groups presented different information. Three groups did not support the statement given by arguing that it was a problem. Two other groups did not view the notion as a problem. They perceived the notion as basic human rights that deserve to be celebrated. They presented their arguments as well.		Good. All five groups presented their arguments.
What is the knowledge or	All five groups were able to present their		Students were able to explore their arguments.

information that the students should learn in order to know?	arguments and support their view whether it is a problem or otherwise.		However, the information they acquired was not comprehensive.
How did the students learn to know what they should know?	The five groups had Internet references and held discussions among their group members.		Did not make any justifications in validating their references and why the references were used
Apakah yang pelajar telah pelajari? What have the students learned?	Three groups considered the notion as religious liberalism while two other groups viewed it as basic human rights.		The way the students think is clearly affected by their philosophy or culture. This explains why there were two distinct views, i.e. those who accepted the notion as a problem and those did not perceive it as a problem.
Were the students able to relate the problem to the concept of civilization?	The groups which viewed the notion as a problem were able to relate it to the concepts of civilization. In fact, they considered Islamic civilization as the foundation and other civilizations as relational.		Good

Based on the reflection, problems identified and issues that need to be improved in the third action research to enhance TITAS students' thinking skills are as follows:

Table 5: *Problems and actions to enhance TITAS students' thinking skills from third action research*

Problems Identified	**Actions That Could Be Taken to Enhance Students' Thinking Skills in The Second Action Research**
1) Students were able to think but their thoughts were cultural, life syle or philosophical driven.	I have to relate to the fact that the way students think is influenced by their culture, lifestyle, and philosophy. These three aspects are supposed to be related to the concepts of civilization.

2) Some of the students were not able to relate the issue or proposed solutions to the concepts of civilization.	I need to discuss the issue by relating it to the concepts of civilization and ask students to do the same in in the next discussion session. (Third action research)

Process and Findings for Action Research 3

The following is the problem statement created by the researcher:

"Characters such as Hang Tuah or Hang Jebat is needed by today's Y generation to overcome today's challenges."

The Improvements Made On the Third Action Research Was Carried Out as A Result of the Reflections Made On the Second Action Research

a. Always believe that the students' way of thinking is not only influenced by the available resources they have discovered or have at their disposal but also driven by their culture, lifestyle, ideology, theology, as well as philosophy.

Items Employed	Available	Not Available	Level/Lecturer's Comments
What is the knowledge or information that the student should have?	All five students have the answers and reasons to support their answers.		Good. All the groups have their own reasons.
What is the knowledge or information that the students should learn in order to know?	Only one group chose Hang Tuah, the remaining groups chose Hang Jebat They were able to present their arguments.		Good
How did the students learn to know what they should know?	The five groups had Internet references and held discussions among their group members.		
What have the students learned?	Debating and able to relate to other issues.		The way the students think was clearly influenced by their philosophy or culture. As

			a result, they were two different sets of views.
Were the students able to relate the problem to the concept of civilization?	All five students were able to relate to the concept of civilization		Good

I then asked the students to prepare a written reflection. Some of the information that needs to be included in their reflections are as follows:

- How was your experience in utilizing the problem solving strategies?
- What have you learned from the related topic?
- How was your experience working in groups?
- What new information have you acquired?
- What changes do you think need to be made?
- What do you think should be retained?

Nevertheless, the students were also allowed to write anything that is related to the course in their reflection. The following is some of the reflections produced by the students:

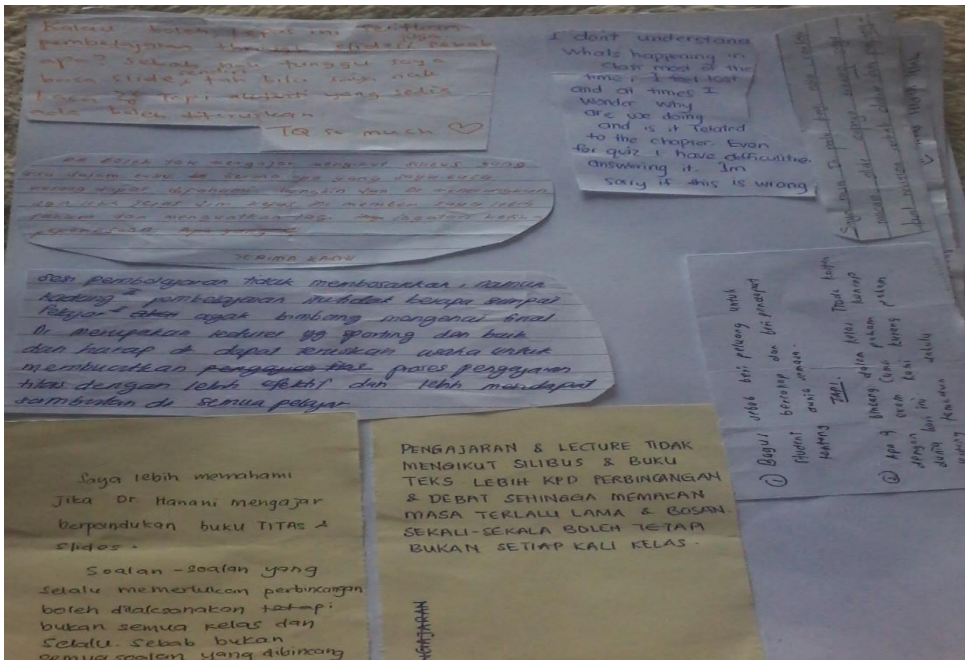

Diagram 2: *Reflections by students*

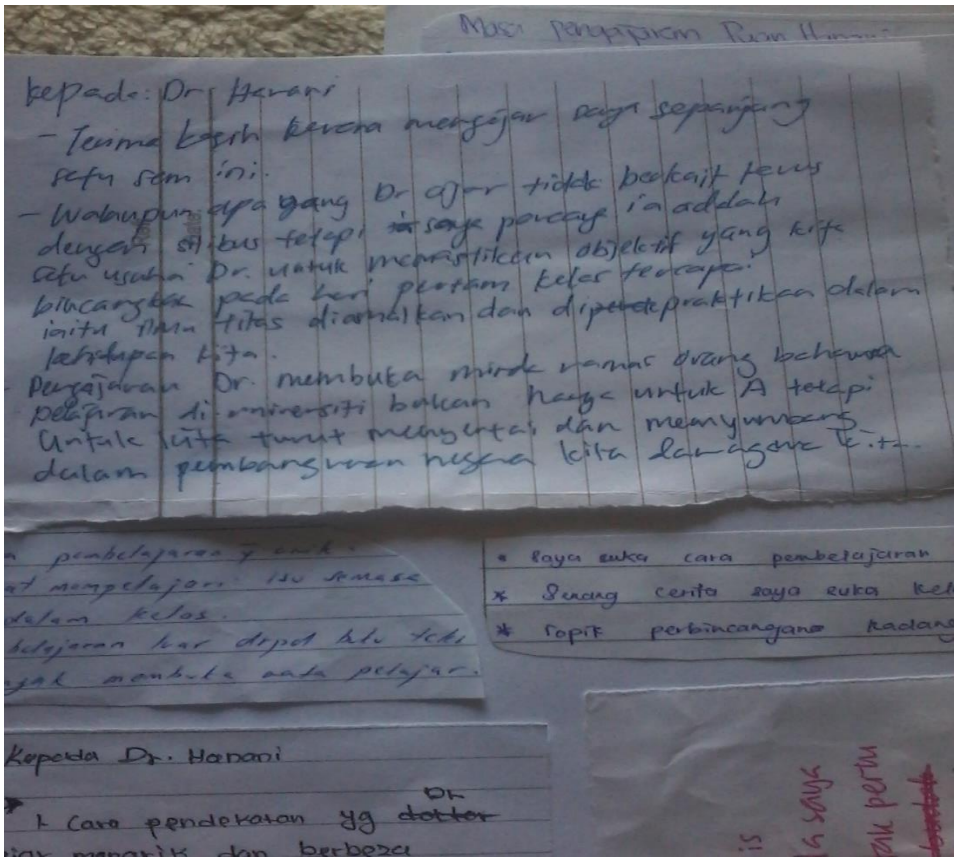

Diagram 3: Reflections by students

Analysis of the students' reflections demonstrates that the students went through the thinking experience. However, they felt that they were forced to think and had to think about certain issues. Students also felt that the problem assigned to them was too heavy to be resolved. They also agreed that the problem had multiple answers or solutions and that the problem presented to them was related to other problems. Hence, the students came to a conclusion that the problem or issue given requires further research and should be continued beyond the TITAS course. The students' reflections show that the problem solving method has inevitably forced the students to think as deeply as possible. The researcher, however, is of the opinion that, in the case of her students, although the students felt that they were forced to think, these students need to be guided on how to think. The problem solving method has successfully made a person think but the thinking skill needs to be polished further to ensure that individuals are able to think better and critically.

4. CONCLUSION

In a nutshell, thinking skill is vital for each individual, specifically tertiary students. Problem solving method in teaching and learning, specifically through the use of today's real-life problem is perceived to be able to make the students' think. However, since the students were mostly young with the majority of them in their first and second semesters, they need to be guided correctly on how to think and the right way to think. It was a matter to attempt and to stimulate students understanding to make problem solving as a way for knowledge acquisition and developing cognitive abilities in terms of reasoning, critical thinking, problem solving and decision making.

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