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UBON RATCHATANI UNIVERSITY STUDENTS' IDENTIFICATION AND EVALUATION OF REASONING FALLACIES IN POLITICAL ARGUMENTS

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(Mr.Seksan Dhana)

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บทคัดย่อ

ชื่อเรื่อง : การแยกแยะและการประเมินเหตุผลวิบัติในวาทะกรรมทางการเมือง ของนักศึกษามหาวิทยาลัยอุบลราชธานี

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ศัพท์สำคัญ : ถ้อยแถลง ข้อเสนอ เหตุผลวิบัติ

งานวิจัยชิ้นนี้ได้ศึกษาความสามารถการแยกแยะและการประเมินเหตุผลวิบัติในวาทะกรรมทางการเมืองของนักศึกษามหาวิทยาลัยอุบลราชธานี โดยมีผู้ร่วมวิจัยจำนวน 108 คนมาจากระดับปริญญาตรี 90 คนและ จากระดับบัณฑิตศึกษา จำนวน 18 คน เครื่องมือที่ใช้ในการเก็บรวบรวมข้อมูลคือ แบบทดสอบจำนวน 6 ข้อ ในแต่ละข้อจะอยู่ในรูปของบทสนทนาของบุคคล 2 คน โดยมีบุคคลที่ 2 จะทำหน้าที่ให้เหตุผลวิบัติ ซึ่งแต่ละข้อที่ประกอบด้วยข้อเสนอที่เป็นเหตุผลวิบัติแตกต่างกันจำนวน 6 ชนิด โดยคำถามในแต่ละข้อจะถามนักศึกษาว่าเห็นด้วยหรือไม่เห็นด้วยกับบุคลที่ 2 และนักศึกษาจะต้องอธิบายเหตุผลว่าทำไมเห็นด้วยหรือทำไมไม่เห็นด้วย เกณฑ์การให้คะแนนจะพิจารณาจากคำอธิบายของนักศึกษา ผลการศึกษาครั้งพบว่า นักศึกษามีความสามารถในการแยกแยะและการประเมินต่ำ โดยได้คะแนน 14 คะแนน จากคะแนนเต็ม 648 ผลการการศึกษายังระบุว่า นักศึกษาระดับบัณฑิตศึกษาได้คะแนนเฉลี่ยสูงสุด และชนิดเหตุผลวิบัติที่นักศึกษาสามารถแยกแยะได้ง่ายที่สุดคือ Appeal to authority รวมทั้งผลการศึกษายังบ่งชี้ว่า ระดับการศึกษาเป็นตัวบ่งชี้ความสามารถในการแยกแยะและประเมินเหตุผลวิบัติ อย่างไรก็ดี นักศึกษาส่วนใหญ่แสดงความคิดเห็นต่อประเด็นในบทสนทนาและต่อถ้อยแถลงของข้อเสนอในบทสนทนามากกว่าที่จะระบุว่าข้อเสนอนั้นเป็นเหตุผลวิบัติ ซึ่งแสดงให้เห็นว่านักศึกษาขาดความสามารถในการประเมินข้อเสนอทั้งชุดและแยกแยะเหตุผลวิบัติในข้อเสนอ

สรุปโดยรวม ผลการวิจัยแสดงให้เห็นว่านักศึกษามหาวิทยาลัยอุบลราชธานีมีความสามารถในการแยกแยะและการประเมินเหตุผลวิบัติในวาทะกรรมทางการเมืองต่ำ โดยพิจารณาจากคะแนนของนักศึกษาที่ทำได้เพียง 14 คะแนนจากคะแนน 648 ซึ่งหมายถึงนักศึกษาขาดความสามารถในการแยะแยะและการประเมินเหตุผลวิบัติในวาทะกรรมทางการเมือง โดยนักศึกษา

ได้ให้เหตุผล อธิบายให้กับหัวข้อสนทนา หรือต่อถ้อยแถลงในข้อเสนอมากกว่าที่จะให้เหตุผลหรือให้คำอธิบายต่อข้อเสนอทั้งชุด นอกจากนั้นนักศึกษายังไม่เข้าใจถึงความสัมพันธ์ระหว่างถ้อยแถลงที่ทำหน้าที่สนับสนุนข้อสรุปในข้อเสนอ

ABSTRACT

TITLE : UBON RATCHATANEE UNIVERSUTY STUDENTS' IDENTIFICATION AND EVALUATION OF REASONING FALLACIES IN POLITICAL ARGUMENTS

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DEGREE : MASTER OF ARTS

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KEYWORDS : FALLACY / INFORMAL REASONING FALLACY / ARGUMENT

This study investigates Ubon Ratchathani University students' identification and evaluation of reasoning informal fallacies in political arguments. A total of 90 undergraduate, 18 graduate students provided a test of their ability to identify and explain informal reasoning fallacies. Informal reasoning fallacy questionnaires consist of six topics of scenario, which one fallacy was presented and served each scenario. Participants were asked to agree or disagree with the arguments in each situation and to explain why they agreed or disagree. To examine participants' ability to identify informal fallacy, participants' explanations were considered and given a score depending on their explanations. The finding demonstrates that score of UBU students' identification and evaluation of reasoning fallacies was extremely low. Participants received a total of score of 14 out of 648. Graduate level received the highest score for their explanation for the fallacy; the identifying ability progress of students was nonlinear. Contrary to the hypothesis, the fallacy who received highest score from participants was appealing to authority. This means subjects found this fallacy easier to detect than other kinds.

In summary, the finding of the study demonstrates that UBU students' identification and evaluation of reasoning fallacies in political arguments have very low score. They received a total score of 14 out of 648. This means they lack of ability to evaluate and identify the fallacies in political arguments. This also indicates

they are not aware of the relation between the premises and the conclusion of any arguments.

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CHAPTER 1
INTRODUCTION

This chapter introduces the rationale, purpose, scope and significance of the study, the research questions, as well as the definition of key terms.

1.1 Rationale

The reasoning ability of Thai people has drawn a lot of public attention recently. This is due to the Thai society breakdown and conflicts influenced by political beliefs that have been taken place in recent years. The conflicts have permeated deep down in every part of society including groups of lecturers regarded as very knowledgeable. This seems questionable Why do they believe differently in which the same issue is made? What evidences are inferred and what are their belief based on? It is undeniable that the mass media has a lot of influence on public opinion, amidst of propaganda or one-sided media reports found in news, advertisement, political discourses and so forth. How the Thai people are able to analyse, detect or define facts or information fed by media and avoid falling prey to different forms of propaganda is certainly an important question. Thai students of all levels and backgrounds will eventually take their place to shape our society. How will they be able to distinguish rationally? It is widely known and accepted that political discourses are psychologically persuasive but often logically incorrect (Copi & Burgess-Jackson,1996). It is therefore not surprising that people are often tricked or manipulated into accepting some arguments that they are not supposed to. In a democratic country, it is of crucial importance that the citizens can think critically. This is simply because critical thinking and good reasoning is indispensable to the democratic system in which people are expected to fully participate (be it directly or indirectly) in policy making at every level of their political life. In short, rational justification and judgment of the citizens are the very foundation of democracy (Blaug, 2000 ; Weinstock, 2010).

The quality of political judgment will certainly have consequence on Thai society in future. Simply put, how to recognize or detect fallacies would help Thai people not to fall prey to mass media or propaganda of any kind. Undoubtedly, how good Thai students are at detecting fallacies will be crucial for the future of Thai society as they will be our future working citizens; the next generation who will shape and build a good strong society and there must be a firm and strong foundation to support it. It is therefore necessary to find out how well the students can detect fallacies in political discourses.

1.2 Purpose of the study

This study is to investigate UBU students' abilities at identifying fallacious arguments in political discourse and to study whether educational level can predict the students' performance in identifying fallacies in political arguments.

1.3 Research question

1.3.1 What are UBU students' abilities in identifying fallacies in political arguments?

1.3.2 How are they aware of relation between premise and conclusion?

1.3.3 Do grade levels predict the performance of fallacies identification?

1.4 Hypotheses

1.4.1 The Graduates will be better at identifying fallacy than the Sophomores and the Juniors.

1.4.2 The easiest fallacy to be identified by UBU students is appeal to popularity.

1.4.3 The true value of premise and conclusion will play an important role to participants' fallacy identification.

1.5 Scope of the study

This study investigates the ability of UBU students to identify informal fallacies in political arguments at Ubon Ratchathani University, Thailand. The study underscores how good they are at identifying fallacies.

1.6 Significance of the Study

The results of the finding were expected to provide evidence of how UBU students handle fallacies in political arguments. This would be beneficial to our education. If we can identity what type of fallacies in arguments and propaganda can deceive the students we can train them to be critical and not to fall prey to such arguments. This will equip them with the ability to question and to think in a wider scope rather than be limited to what they see and hear from the media and political announcements.

CHAPTER 2
LITERATURE REVIEW

This chapter will discuss fundamentals and different types of reasoning and contains a review of some of the literature relevant to this study.

2.1 Definition of reasoning

Reasoning is defined differently by various people but the meaning of the word has the same outcome although the process of reasoning itself differs. For example, it means the process of thinking about something in order to make decision meanings of reason (Cambridge Advanced Learner's Dictionary, 2005: 1056). Defined by Thomson (2005), the meaning of reasoning is the act or process of drawing conclusions from facts, evidence, etc. Adler (2008) describes that reasoning is the transition of thought, where one belief or thought provide the foundation for arriving at another belief or thought. Walton (1990) has provided differences of definition of reasoning in his study. The accounts of reasoning are:

(1) The process of inferring conclusion from statement.

(2) The making or granting of assumption called premises (starting point) and the process of moving toward conclusions (end point) from these assumptions by means of warrant.

Reasoning, thus, refers to the process of drawing a conclusion from fact or information, the process of inferring conclusion from statement and the making or granting of assumption called premises(starting point) and the process of moving toward conclusions (end point) from these assumption by means of warrant.

2.2 Definition of proposition

Proposition is a statement containing an opinion or suggestion and appears in a sentence, phrase or passage, depending on ways of speaking or writing (Copi & Cohen, 1998). Bowell and Kemp (2002) describes that a proposition is the factual content expressed by declarative sentence on a particular occasion.

For instance:

"Legalizing prostitution leads to less spread of sexually transmitted diseases". (Bowell and Kemp, 2002: 8)

This proposition in a sentence is an idea expressing that if prostitution has been legalized it will decrease sexual diseases from person to person.

2.3 Definition of argument

Argument is a set of proposition whereby one proposition is drawn from other propositions (Walton, 1989). Propositions functioning as a scaffold to support or to justify other proposition is called "**premise**", one supported is called "**conclusion**". More specifically, the premise is the proposition asserted as proving support for the conclusion and the conclusion is the proposition that is asserted on the ground of other proposition. . Every argument involves the relation between premise and conclusion or among proposition, whose one proposition is followed from the others (Copi & Cohen, 1998). For example,

"Article 112 constricts freedom of speech that is foundational right and a basis of democratic society, is used as a device to attack opponent political identification, and implies that there is no real democracy in Thailand. Thus, this article needs to be amended". (Bowell & Kemp, 2002: 9)

The illustration above constitutes four propositions in two sentences; concerning the problems of les-majestic law in Thailand and exhibits that article 112 restricts freedom of speech, thus this is being used as rhetoric to strike different political beliefs and show that there is no democracy as propositions of this argument and article 112 needs to be amended as its conclusion.

Another example consists of numerous propositions as premise and no clear proposition as the conclusion in a passage. The following example demonstrates this point:

"Government campaigns against smoking are always based on the assumption that the greatest risk to health from smoking is the risk of getting lung cancer. But this is not so. It is true that heavy smoking roughly doubles a person's chance of dying of heart disease, whereas it increases the chance of dying from lung cancer by about ten times. But we have to take into account the fact that there is a much higher incident of heart disease than of lung cancer in the general population. This means for every smoker who develops lung cancer, there will be about three who die of self-induced heart disease". (Thompson, 2005:11)

The instance above demonstrates an argument consisting of four sentences but no direct proposition as the conclusion. In this argument, all four sentences are premises supporting for the conclusion of the argument, where it is assumed that it should be accepted that the greatest risk to heath from smoking is not the risk of getting lung cancer but heart disease.

In everyday life, arguments always appear when there is different position between two parties or disagreements such as in a debate, quarrel, suggestion or discussion. It can be said that an argument is used for reasoning, aiming to express the standpoint one holds to convince the other or to demonstrate the belief.

2.3.1 Types of argument

In any argument that has produced at least one conclusion is supported by one premise to establish an opinion, and the conclusion is the result of the premise. To do this, the argument constructs a conclusion well-grounded on the premise. Such argument can be called a "**valid argument**".

2.3.2 Valid argument

A valid argument refers to the relationship between the proposition serving as a premise and the proposition serving as a conclusion; the conclusion is drawn from the premise or logically follows from the premise. In doing so, the argument is valid.

For instance,

Citizen in democratic country hold the right and freedom of speech by the constitution

Thailand is a democratic country

Hence, Thai citizen hold the right and freedom of speech by constitution (Bowell & Kemp, 2002: 50)

The example above is valid argument because its two premises are relevant to and justify its conclusion. That is, the conclusion is supported by the premises which are the truth attributes to the proposition. Of course, it is deniable that Thailand is a country of democracy and in such a country people have rights and freedom of speech determined by constitution of that country. Concluding that Thai citizens have the right and freedom of speech and writing follows from two true-premises and are well-preserved truths. Propositions that show what the case attributes to are called "**true propositions**" –it is true that if there is no possibility to be false in contrast, if the proposition is false there is no possibility to be true; in the given example, the conclusion follows from two premises and if its premises are true, its conclusion inevitably must be true.

In summary, given that valid argument is based on reasonable premise it consists of true premise that guarantees true conclusion. Validity of argument is associated with the relation between proposition functioning as premise and as conclusion in which premise provides ground for its conclusion or its conclusion is basis of premise. It should be noticed that true proposition of valid argument certainly lead to true conclusion.

On the contrary, an argument that does not make such a claim or lack such qualification can be called "**invalid argument**".

2.3.3 Invalid argument

An argument is invalid when its conclusion is not the sequence of a premise and premises do not provide justification for its conclusion. This is an illustrative argument,

If Mr.Dhanin Chearavanont owned the currency in Bank of Thailand, he would be wealthy.

Mr.Dhanin Chearavanont does not own all the gold in Bank of Thailand

Hence, he is not wealthy. (Copi & Cohen, 1998: 34)

In Forbes Asia 2011 or 'The RICHEST PEOPLE' that appears on http://www.therichest.org/nation/richest-people-in-thailand/,it can be understood the conclusion of the argument is false whereas two premises are true. Mr.Dhanin does not possess the currency and all the gold in the bank of Thailand is true, it does not necessarily mean that Mr.Dhanin (known as the richest in Thailand and listed in Forbes Asia 2011) own such things. His CP group is one of Asia's largest businesses in nearly all sectors nationwide in Thailand and in other Asian countries. His wealth worth $7.4 billion assures he is rich, it is clear that in this argument the conclusion that Mr.Dhanin is not wealthy is not the consequence of two premises saying that Mr.Dhanin does not own the currency and all gold in Bank of Thailand used to support it. If the argument is valid, its conclusion has to be true because of true premises.

What is different between valid and invalid argument is that the argument is valid when its conclusion follows from its premise but invalid when it does not and that in a valid argument the true premise leads to true conclusion but invalid does the contrary. In addition, invalid argument provides premise or conclusion based on incorrect information in reality that is not acceptable.

2.3.4 Deductive argument and inductive argument

Deductive argument is an argument where its premises assure its conclusion to be justified and acceptable. Such an argument provides true premises and links the premise to the true conclusion (the conclusion is drawn from premises). In short, deductive arguments offer premise and conclusion whereby its truth and its relationship is impossible to deny.

For example:

Whoever gets highest electoral vote in U.S. presidential election will be the president

Gorge W. Bush got highest electoral vote

Bush was a U.S. president. (Gibb, 2010: 640)

The instance above illustrates deductive argument consisting of three propositions in which the two plays the role of premise and one is of the conclusion. It is not deniable that The U.S. president is the person who gets the highest electoral vote and that Bush got the highest electoral vote in 2004 election and that Bush was a president of the US.

This is a deductive argument showing the truth of premises and conclusion and the relation between premises and the conclusion. It can be said that this argument is deductive because the conclusion is drawn from two premises and the premises contain the truth and guarantee that conclusion or the argument as a whole is true. In addition, deductive argument cannot be made worse or better or weaker or stronger. Additional information or evidence cannot be added into a deductive argument to make it better because it is strong enough. As a given deductive instance, suppose if an additional premise was added into this argument "Bill Clinton or Dwight Eisenhower got the highest electoral vote", it is not able to make the entire argument stronger or provide more reason or information. Deductive argument can be called "stable argument".

Inductive argument, on the other hand, does not do so. Inductive argument does not make a claim that its conclusion is not drawn from premise and the premise does not tell whether premise or conclusion are true. Strictly speaking, inductive argument does not certify that premise, conclusion are true or correct.

For an example:

Law against military junta should be proposed and legitimated because it can threaten and prevent military officer to commit coup d'état (Bowell & Kemp, 2002: 82)

This is an illustration of inductive argument asserting that law against military coup should be legitimate in order to prevent what groups of the military tends to do when political incident happens. This argument is inductive because if the legitimacy of law against military junta is enforced, it does not completely ensure that the law can prevent a military coup. Of course, democratic administration can be dissolved by the coup as they desire because law can be both legitimate or abolished, especially when the coup is in power. As it can be seen, this argument only provides

some degree of certainty, it is possible that the law can prevent the military from committing a coup but how could one know this law is followed or how could it assure us that there will be no more coup d'états when the law is legitimized? If there is no guaranteed law against a military coup that can ceaselessly prevent such phenomenon and there is no guarantee that the law cannot be amended or abolished. It goes without saying that inductive arguments merely provide some degree of probability. The merit of such argument– in other word, the high level of certainty– depends on fact, information, evidence, or reason. Inductive arguments can be strengthened or weakened, depending on reason or evidence that the topic, issue, or thesis involved.

In short, the difference between deductive and inductive argument is that inductive argument do not prove that argument is true or correct and make a certain claim.

2.4 Type of reasoning

Reasoning can be categorized in to two types: formal reasoning and informal reasoning.

2.4.1 Formal reasoning refers to an argument, in which its conclusion is drawn from a set of premises that appear within standard form (in logic) found in a particular area such as mathematic, syllogism or statistic (Weinstock, Neuman and Glasner, 2006 ; Risen & Gilovich, 2007 ; Johnson-Laird, 2010).

In formal reasoning, premises are set by a formal rule in order to make a system in which the conclusion can be drawn from premises (Johnson-Laird, 2010).

An argument used in this field is called the "formal argument"

For instance:

All human are mortal

Socrates is human

Socrates is mortal

The instance above is syllogisms, where the conclusion is inferred by two premises and takes argumentative form like this:

All F are G

x is F

x is G (Gregory, nd: 5)

The evaluation and construction of formal argument rests on its structure. To examine whether formal argument is valid– conclusions drawn from premises– in reasoning formal, the structures or standard forms of reasoning need to be analysed.

There have been several studies that investigate the participants' ability to reason in formal form such as Blanchette & Richards, 2004 ; De Neys, 2006 ; Evans, Barston & Pollard,1983 ; William James,1890 ; Revlin et al., 1980 ; however, this study will not focus on this kind of reasoning.

2.4.2 Informal reasoning

Informal reasoning is a use of argument in everyday life. Unlike formal, informal reasoning has no certain form or criteria. This type of reasoning is considered as difficult to define and seeks standard for constructing and evaluating the premise and a reasonable conclusion, that the conclusion is drawn from premise as logically good as it should be (Copi & Cohen, 1998 ; Neuman, Weinstock and Glasner, 2006 ; Risen & Gilovich, 2007).

Without the standard form and criteria, evaluation and construction of informal argument depends on the context and content of argument (Neuman, Weinstock and Glassner, 2006). It should be noted that arguments that are used in this field are called an informal argument.

Informal arguments are inductive and found in any structure and range of word, sentence, or passage. Not to appear only in particular areas and only made by educating or educated people; like formal, informal reasoning can be made by all people and permeates every area of study and parts of society.

To define whether an informal argument is good, Johnson & Blair (2006) have proposed the terminology of criteria for a logically good argument. The first one is soundness. Sound argument refers to an argument that premises are

true and the argument itself is valid, to be more specific, an argument is sound when the premises involves the conclusion deductively.

From their accounts, the second is acceptability. Acceptability means that the premises of an argument must be acceptable to its audience. The third one is relevance, referring to premises must be relevant to or bear on the conclusion. The fourth is sufficiency. Sufficiency of a good argument is when the premises are put together and they provide enough support for the conclusion. (Blair, 2006)

2.5 Reasoning Fallacies

The term 'fallacy' is derives from Latin words, Fallax and Fallere, which means deceptive and to deceive respectively (Paul and Elder, 2006).

Gibb (2010) describes that fallacy is an error in logical reasoning, resulting from an invalid argument.

Walton (1995) explains that fallacies are arguments that seem to be correct but are not. In other words, a fallacy is a bad or incorrect argument where the conclusion is not drawn from premise or supported by unjustifiable premise.

2.5.1 Sorts of fallacy

Fallacy can be classified into two main sorts of fallacy: formal and informal fallacy

2.5.1.1 Formal fallacy refers to patterns or structures of an argument that is invalid. It can be said that in the structure or form of formal reasoning that constricts, the conclusion of an argument is fallacious.

In other words, the mistake of an argument arises when its pattern has been made by the form of error such as the following:

"If representative is someone who speaks or does something for other people and is voted by people, the person, then, who speaks or does something for other people and is voted by people, is representative". (Gibb, 2010: 640).

The mistake of reason arises from the argument following standard structure. The formal fallacy always appears in a form or pattern that renders arguments into a mistake of reasoning and occurs when reasoned within a formal rule in logic (Wienstock et al., 2006 ; Johnson-Laird, 2010).

In short, formal reasoning can be fallacious due to a logical form–justification structure– regardless of the reality. However, this study will not be focusing on this kind.

2.5.1.2 Informal fallacy are arguments in which premise fail to support the conclusion but seem well-reasoned (Rico, 2007), appearing in everyday - used language, and have no certain structure. In this case informal fallacies have no limit to difference of structure and depend on the context of communication (Copi and Cohen, 1998). Copy & Burgess-Jackson (1996) has termed informal reasoning fallacy the arguments that are psychologically persuasive but logically incorrect. In addition, informal fallacies are arguments considered to be emotionally or rhetorically appealing with a flawed reasoning (Ikuenobe, 2004 ; Walton, 1995). Therefore, informal fallacies are premise that fail to support the conclusion but seem well-reasoned and are arguments that function as a fact to persuade. The interest of persuasiveness of informal reasoning fallacies brings into the research questions that are:

1) What is the UBU students' ability to identify fallacies in political arguments?

2) How are they aware of relation between premise and conclusion?

3) Do grade levels predict the performance of fallacies identification?

According to Dediac' (2006), speech or passage found in the realm of politics appears to underscore persuasiveness or sway our opinion. Arguments found in political speeches or messages used in convincing or persuading listeners or readers are often not relevant to the original or actual content of the issue. Due to an endeavour to have the other(s) believe or acknowledge what principle or policy is proposed, political oratory or message senders would give reason not relevant to the topic or incorrect to support their intents.

To investigate UBU students' identification and evaluation of reasoning fallacies, the research provides six types of informal reasoning fallacies.

(1) Straw man fallacy. According to Johnson and Blair (1983), they have defined the term of the straw man fallacy as the following:

> The fallacy of straw man arises when one misrepresents or twists real opponent's position in order to defeat it easily.

To further recount, the straw man fallacy is an argument misinterpreted by a counterpart, regardless of the original content and then it is assumed as an actual viewpoint or it appears when one misrepresents or exaggerates one's counterpart position, by doing so, the counterpart make his or her opponent's point of view fragile in order to attack that point. The conversation below is an example:

> Joe: I think Thailand need to be reformed so as to demolish social divisions, improve old-ineffective public services and institutions and to establish new Thai state
>
> Jack: Joe, you have a big project to dethrone and abolish Thai monarchs regarded as a high institution of Thailand, and then propose that the head of the Thai government should be the president of new state. (Walton, 1996)

Taisse and Aikin (2010) have a defined form of the straw man in two forms: form of representation and form of selection. The representational form–standard form of straw man–is that when one discussant provides an argument to support his or her position, his opponent's view does not represent an actual point of view of an opponent. That is, he distorts his opponent's original view so as to make it vulnerable to attack. This form of straw man is generally known in literature.
For the selection form of straw man, the discussant selects the weakest form of his opponent's view that consists of more than one argument. Simply put, the selection form of straw man appears when one arguer selects the weakest argument in order to make it easier to launch a counterattack against his or her opponent's arguments and to presume that the selected argument stands for all his opponent's views.

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In addition, Aikin and Casey (2011) have termed the selection form of straw man fallacy as the weak man. This case occurs not only in serial arguments from a single person for one standpoint but also in arguments from different persons which argue for the same person. The discussant who provides an argument considered by the opponent as weaker, can be regarded as a weak man. This is due to discussant's incompetence in arguing: inexperience, misunderstanding of the real position of his opponent/opponents, or simply due to his deliberate spinning of his opponents' standpoint. Another reason might be that the discussant is too naive to make an argument. In conclusion, the pattern of the weak man occurs when the weakest argument in a series or variety of arguments provided by various people for one position is specially targeted for attack in such a way, that the argument is purportedly successful in attacking that one position. The straw man fallacy comes with two main forms made to advance the arguer's position. However, the representation form will be the focus of the present study.

(2) Argument from authority or appeal to inappropriate authority. An argument from authority has to do with an argument that is accepted or believed because of that argument refers to someone with some kind of authority (Gregory, nd). More particularly, fallacy from authority arises when an argument claimed from one considered as an authority is set to respond to other's argument.

Walton (1997) has differentiated appeal to authority in two types: the administrative and cognitive authority. The administrative authority involves people holding high rank or power to order or command others whereas the cognitive authority refers to the person who is an expert in particular field and his or her excellence influences other supposition. Expert opinion is fallacious when the irrelevant authority of the expert is handed to the party in reasoning or disagreement (Copi & Cohen, 1998). To be clearer, a case of parents who want their child to take classical music in order to enhance their brain to learn very effectively because of Dr. A, expertise in the field of botany suggests that it is an exemplar that reasoning is based on illegitimate authority of expert. Or suggested buying baby face cleanser due to Albert, who is 55 years old to look younger and the most popular singer in Thailand has proved it is good. However, Walton has described that argument from expert opinion in some context is not fallacious. To compare guidance of grammar error

between linguistic lecturer and taxi driver, who should be certainly count on? If not one is considered to be an expert in the related field.

(3) Circularity, begging the question or circular reasoning. This kind of informal reasoning is that the conclusion of an argument is repeated or restated from its premise. An attempt to support the conclusion by simply restating or repeating premise can be fallacious because it gives nothing more than a restatement of the premise that pretends to be the conclusion of argument. To say "To consider his competence of official term, Gen Prem is the most successful Prime Minister Thailand has ever had because he can complete double official term of service" is like saying "Regarding his term of service fulfilment, Gen Prem is the best prime minister in Thailand because he had has served two terms administrating the country" and of course, this is a kind of circular argument. The classical instance of circular reasoning is the claim God exists because the Bible says so and the Bible is true because God exists.

Brem (2008), in addition, states that circular argument can be nothing if there is no question for more information from a discussant or no acceptance of the discussant at the first move of an argument. That is, begging the question will not be complete when the discussant does not ask for more information involving the statement first made or discussant objects to the statement at first move.

Rips (2002), however, has mentioned that the presence of circularity sometime is not fallacious. It depends on the context of conversation. Using assertion again to wrap up our conclusion is not fallacious when the discussant begs the question about different ideas. For example:

A: Provincial administration organization should provide a rule to protect old buildings along River Moon from being torn down.

B: What is the reason for protecting them?

A: They are valuable architecturally and appreciatively

B: Why they are valuable?

A: Because they give the city of UbonRatchatanee uniqueness

B: *a*. How do the buildings make UbonRatchatanee unique?

b. Why do you personally like these old buildings?

A: They are architecturally valuable and appreciated by the native people. (Rip, 2002: 768-769)

In this context, if B asks the question *a*. and A replies the answer with repetition of the reason for the first question of B, it can be said that A makes the circular reasoning. However, if B asks the question *b*. then A replies with a repeat of the premise, it can be said that the repeat of A's statement is reasonable. Rips also describes that the repeat of reason is not fallacious when a discussant wants to clarify or emphasis his or her reason.

(4) Appeal to emotion. An argument from emotion appears when the conclusion of an argument is associated with the feelings of humans, including appeal to pity, hatred, love, fear and so forth (Copi & Cohen, 1998). Rather than ground on the evidence and rational statement, this kind of fallacy ties up with statements arousing peoples emotion to accept a claim.

To illustrate, a campaign to promote domestic goods buying Thai goods gives future prosperity or is against foreign trades, goods from other country sucks– always lay on this fallacy. It is easy to be accused of being unpatriotic because of purchase of goods made or assembled in other country. In this vein the accusation is quite fallacious because buying, if carefully thought through, goods purchased and made aboard is more effective and cheaper than those made in Thailand. In some context, however, this kind of appeal in some context can be reasonable. Manolescu (2006), states that appeal to emotion is sometime legitimate. Since emotion function as a sealant of an argument in order to provide firm position and make it not to be easily broke and it becomes like a shield to prevent a standpoint from being denounced if the condition of the propositional content supporting the conclusion makes the whole argument sound.

(5) The argument against the person or the ad hominem argument. Personal attack arguments are arguments when its conclusion refers to bad character or circumstance of those making that argument.

Neuman et al. (2006) has suggested that ad hominem fallacy is the argument that an arguer makes which cannot be accepted because of his or her character. It is clear that it is fallacious argument because the conclusion is drawn from the character of an arguer, not from the propositional content of the premise.

Walton (1987) classifies the ad hominem argument into two main types: the abusive (direct) and the circumstance. The abusive ad hominem argument is directly engaged in the arguer's character, pointing to the bad quality of the arguer. For the circumstantial ad hominem argument, it is an argument used to attack an arguer when he or she does not do as what he says. In Walton's words, "you never practice what you preach".

The main function of the ad hominem argument is to attack one's quality so as to criticize his or her argument (Walton, 2000). Strictly speaking, the discussant strikes his counterpart character so that he can deny the argument. The use of this argument as Walton has explained is to point out the bad character and to discredit the arguer. The argument against the person, however, is legitimate to critical discussion when it is used for questioning of an arguer's credibility. As Walton defined, the reasonable way of ad hominem is that the argument is focused on an arguer's character in which his negative behaviour should be revealed and that it is used to question how much weight of his argument supports its conclusion. In line with Garssen (2009), he mentions that ad hominem fallacy can be reasonable that when the bad character of an arguer is emphasised to expose and used to strike argument of authority of the arguer claiming himself as an expert.

In political discourse it is proven that ad hominem argument is effective and usually used by politician in politics (Walton, 2000). So it is included in this research.

(6) Ad populum argument, argument from popularity or appeal to popularity. An argument from popularity arises when the conclusion of an argument concerns an accepted belief or majority of people. Weinstock et al. (2004) have defined arguments from popularityas an argument, by common consent which supports a standpoint. Walton (1980) defines the ad populum as following:

Argumentum ad populum is standardly characterized as the fallacy committed by directing an emotional appeal to the feelings or enthusiasms of "the gallery" or "the people" to win assent to an argument not adequately supported by proper evidence.

In his account, ad populum is made up of four elements. The first one is that the conclusion of the argument is drawn from a set of beliefs. The second is that even though it is a correct argument, it is not a complete one. The third one is that it is the kind of *ignoratioelenchi* fallacy, that is, its conclusion is not directly derived from the premise. And the fourth is that it involves emotional appeal.

The fallaciousness of ad populum argument occurs because its conclusion is directed to particular group regardless of it being true and or relevant to the premise.

2.6 Related literature

The ability to identify fallacies has been subject of multiple studies (Oaksford & Hahn, 2004 ; Neuman, 2003 ; Neuman, Glasner & Weinstock, 2004 ; Neuman & Weizman, 2003 ; Nueman, Weinstock & Glasner, 2006 ; Rico, 2003 ; Rico, 2007 ; Weistock, Neuman & Tabak, 2004 ; Weinstock, Neuman & Glasner, 2006). And several studies were conducted to investigate the factor affecting ability to identify reasoning fallacies in argument quality–informal reasoning can be identified with argumentation (Baron, 1991 ; Kuhn, 1991 ; Mean &Voss, 1996 ; Perkin, 1989).

A study of Weinstock, Nueman and Tabak (2004), pointed out that the ability of students at identifying fallacious argument can be predicted by their awareness of argumentative norms. Students acquainted with argumentative criteria appear to be better in identifying the fallacy. The familiarity of argumentative criteria of students is that they can justify fallacious argument in argument norms task. In the experiment, a random sample of 281 Israeli students from different educational levels at high school was to complete two tasks which were the fallacies identification task and the argumentation norms task. For the argumentation norms task, participants were asked for an instance whether it is legitimate to argue that the claim is right

because of the majority of people. If the subjects denied such claim it means that they were not supporting the claim that the majority of people believe in the appeal to popularity in the fallacy identification task. This provided that participants (students in this study) who were aware of argumentation norms were better at informal fallacies task than those who were not.

However, not only recognizing the fallacies criteria can predict the ability to identify and evaluate fallacies but also the difficulty of the text shown in argumentative structure.

Neuman and Weizman (2003) examined whether text representation impacts the ability of students in identifying fallacies. The text representation refers to how propositions are given to the conclusion in an argument so that its structure and their relations are clearly represented. Fallacies that appear improper have difficult text that leads students to fail identifying fallacy although they recognize it. Clear text representation is one way students can analyse the relationship between given premises and the conclusion and convert text in code form. This can predict students' performance at identifying fallacious argument. To illustrate this point, ad hominem fallacy can be exemplified in a quarrel over whether UFOs exist. A believes UFOs exist but B does not, A and B try to convince each other but fail to do so. In order to reach his goal A argues "B, you do not believe UFOs exist because you have no imagination". This scenario can be represented as a propositional representation:

P1 UFOs exist

P2 BELIEVES (A, P1)

P3 DOES NOT BELIEVE (B, P1)

P4 TRIES TO DEFEAT (A, B P1)

P5 BECAUSE YOU HAVE NO IMAGINATION (A,→ B P3)

The argumentative structure can be shown as followings:

MOVE_1

AGENT: A

TYPE OF MOVE: CLAIM 1: EXISTS (UFOS)

MOVE_2

AGENT: B

TYPE OF MOVE: RESPOND → REBUTTING DEFEATER_1: NOT (CLAIM 1)

MOVE_3:
AGENT: A
SUB-RESPONSE → REBUTTING DEFEATER_2
BECAUSE YOU ARE A PERSON WITH NO IMAGINATION

As known, the argument against the person fallacy brings us the argument that one who makes it cannot be reliable because of one's character or circumstance involved. If students can analyse the relevance of the evidence (MOVE 3) to the claim (MOVE 1) and define the text as a specific fallacy they may be better in identifying the type of fallacy. The study concluded that students who could represent "deep structure of the text (fallacy)" or decode argument were more skilful at identifying fallacies than those who could not.

In this investigation, it examines the ability of students to identify three types of informal fallacies: the ad hominem fallacy (argument against the person), the ad populum fallacy (appeal to popularity) and the argumentum ignorantium (appeal to ignorance). There are, however, differences among the violated norm of these three fallacies, between them the appeal to person and the appeal to popularity are based on human beings to confirm or refute an argument. The violation of the norm in attacking a person is required to constrain one's opinion for merely focusing on persons' character or situation involved. The violated norm of popularity is using the argument based on the majority's belief. Whereas ad ignorantium fallacy is a confirmation in an argument grounded in what is not known to be true. Given that there are differences in the conceptual structure of the three fallacies people often respond to them differently. Based on their study, it was discovered that a large percentage of students can detect problems in arguments and distinguish types of fallacy. It is clear that the majority of students tend to be able to define the types of problem in argument such as fallacious or non-fallacious arguments.

To compare ability to identify fallacies between adults and teenagers, Rip (2001) found that adults can classify between formal deductive fallacy and informal fallacy in evaluating argument. Whereas Neuman (2003) found that 83% of adolescence can explain the fallacy of ad populum and 76% of ignorantium.

It should be noticed that the argumentum ad populum is easiest to detect for participants. From their suggestions this brings in the first hypothesis:

H1: appeal to popularity argument will be easiest to be identified by UBU students

Another factor affecting participants' performance in distinguishing reasoning fallacies in argument is epistemological understanding. Epistemology is a study of how people gain knowledge, how it appears, what is achieved, and how people bring acquired knowledge to use in their lives (Kuhn, Cheney, Weinstock, 2000). Based on their descriptions, epistemological knowledge is categorized into four levels: Realist, Absolutist, Multiplist, and Evaluativist.

The development of human epistemological belief begins at early childhood. Children at pre-school age regard what they have seen from outside as reality. Those who are at the initial development are called Realist. Knowledge for them seems obtained from external source, the known rather than the knower. They see knowledge as certainty. Critical thinking is not necessary for them because everyone perceives the same reality. As well as Realist, Absolutist sees knowledge as an objective entity and from an external world. However, people at this stage develop and they become aware of the known that is produced by the knower and duplication from external reality seems unnecessary. Absolutists grant products of knowing are fixed to the known object. This can bring them false belief in the case of incorrect or insufficient information, when a claim needs to be judged absolutists tend to think it either right or wrong. Critical thinking is used to compare personal belief to reality and determine truth and falsehood. Further progress in personal epistemology is Multiplist. This level seems contrast to the first-two processes in epistemological development. Instead, Multiplist moves the source of knowledge from the known object to the knowing subject. Knowledge is constructed by the human mind and consists of opinions, not of objective facts. On account of this view all opinions can be equally right because they are subjective. Critical thinking is irrelevant. Multiplist or relativist judge arguments and may say all have some rightness because it is determined by the individual. With respect to subjective and objective dimensions of knowing, the endpoint of epistemological thinking is that both can be integrated. People who are of the Evaluativist level acknowledge the uncertainty of knowledge

but still obtain awareness of the objective fact. Critical thinking is used to enhance understanding and to promote soundness of argument. Evaluativists have the tendency to judge the arguments at different degrees of correctness thinking they may be right, but one of them could be more right. (Hofer & Pintrich, 1997 ; Kuhn & Park, 2005; Mason, Boldrin, & Zurlo, 2006)

A research involving this factor is of Weinstock,Nueman, and Glasner (2006). This study aimed at investigating whether there are differences in students' epistemological levels functioning as a factor in identifying fallacies and whether the differences are associated with other factors such as grade levels and cognitive ability. The experiment in which 197 Israeli students from grade 7, 9 and 11 participated were to assess the cognitive ability, epistemological level, and ability to identify informal reasoning fallacies.

The study found that students who are at the 11^{th} grade level were more successful in defining informal reasoning fallacies and had the highest subjects in highest level of epistemological knowledge when they were evaluated by epistemological assessment, however, it appears not to be a predictor in identifying all three fallacies. Epistemological level on its own predicts identification of the ignorantiam fallacy, if students are at high epistemological level they tend to be more successful than those who are at the lower level in the identification of appeal to popularity fallacy. The grade levels can be a predictor in identifying the ad populum fallacy and the ad hominem. Although grade level contributes imperfect prediction about participant ability to identify all fallacies, the current study still expects grade levels to be a good predictor in fallacies identification of UBU student. This leads to the following hypothesis:

H2: With respect to grade levels, UBU graduate students will be better at identifying and evaluating reasoning fallacies than the sophomores and the juniors

In a follow-up study of Weinstock, the investigation was carried out to examine the relationship between epistemological knowledge and skill of argument construction in juror reasoning task. Weinstock and Cronin (2003) had 91 males and 73 females participants from various educational levels served in jury duty in Brooklyn, New York at the Kings Country Supreme Court or Civil Court. Measure to rank subjects' epistemological understanding was to have participants assessed the

account of discrepant historical wars. In a juror reasoning task participants were interviewed for use of evidence, the ability to construct counterarguments against verdict choice, the ability to distinguish alternative verdict choices, the ability to provide explanation of other's alternative choices and the degree of certainty about the verdict choice.

The study found that epistemological level influenced argument skills in nearly all juror-reasoning dimensions. The findings of two epistemological understanding researches suggested that the epistemological level underlies the ability to identify informal reasoning fallacies and to generate argument, though it seems to be a fairly weak predictor.

The investigation to examine the ability to define reasoning fallacies goes to Neuman et al. study.

Neuman, Glasner and Weinstock (2004) studied whether the truth-value of a reason supporting the claim affect participants' fallacies judgment. Based on their hypothesis that there is a tendency people will concentrate on a premise functioning as a reason to support the claim rather than focusing entirely on the link between premise and the claim. Neuman and his colleague's study offered the explanation that such possibility arose because of the cognitive processing – that is cognitive load. This load may constrain people's mental ability to make less effort to judge an argument as a whole. In general principle the truth value must provide true or false conditions. The true condition of a reason in the experiment referred to a fallacious argument used for supporting the claim. In scenario the argument against the person, for instance, was a debate between two persons who agree and disagree whether the use of mobile phone can cause cancer. The proponent presuming mobile phone causes cancer argued that the opponent who does not believe cell phone causes cancer is because he or she was a person who was not ready to accept others peoples opinion. Three pieces of information given to the participants after reading the scenario were true, false, and inclusive reason added in this study. The true condition in the dialogue stated that you should know the proponent is right and opponent is a person who not ready to accept other's opinion. False condition statement is that you should know proponent is wrong and opponent is a person who is ready to accept other people's opinion. In the inclusive condition the sentence is you should know that it is not clear whether

proponent is right or wrong and that we do not know whether the opponent is a person who is not ready to accept other people's opinion. The scenario was set on reasoned dialogue in which the task of each participant was to try to convince the other partly by giving reasons. Participants randomly received either piece of information and were asked to rate true, false, or inclusive reason as to the extent to which reasons was raised by the one supporting the claim. As the earlier example, participants were to rate how much truth- value reasons support the claim given by opponent that the opponent is a person who does not accept other peoples opinion.

The study found that participants rated true reason more supportive of the claim than inclusive and false respectively. Students, even though, showed that they were aware of the violation of argumentative norms rated fallacious reason as more of a supportive reason of the claim. The findings confirmed the hypothesis that the truth-value of a reason influences the judgment of fallacious argument.

This falls into the third hypothesis:

H3: truth-value of reason used to support the claim will play a critical role in identifying and evaluating fallacies of UBU students.

Prior belief, opinion, or information also affects students' ability to identify fallacy. Prior belief, opinion, or knowledge is what we know after we experienced. It has been measured whether they have an influence to students' ability to construct and evaluate informal argument.

A study by Stanovich and West (1997) was conducted to examine the relationship between college students' prior belief on a series of target propositions and their argument evaluation. Participants were 349 undergraduate students taking part in the study.

To test prior belief, participants were asked to complete AET (Argument Evaluation Test) in which they were to rate their agreement on 23 target propositions with 4-point scales. For example, one item of target propositions was presented: "The national debt should be reduced by cutting Congressional salaries". By indicating the strength of their agreement, students were then to evaluate arguments from fictitious person, Dale who provides justification to the target proposition and rebuttal to critic's counter argument. The measure also included a thinking disposition questionnaire and the General Ability Measure. The result reported that when evaluating the target

argument, students differentiated their prior belief and argument quality. College students who constructed high quality of argument were more likely to be opinion-minded, to evaluate argument both two sides, and counted less on their own prior belief than those who were grouped as low quality of argument.

In Neumans' study (2003), the investigation was conducted to examine students' ability to evaluate fallacies in informal argument. A total of 184 Israeli students from high school participated in this study. The opinions' item sheets were brought to test students' opinion associated with the issue that appear in scenario. Participants were assessed by rating their agreement with a seven point Likert-type scale. Each statement in the sheet was presented by protagonist's conclusion about the issue in debate. For example, subjects were asked to rate their agreement with statement "UFO exists". However, the findings demonstrated that prior opinion only had correlation with students' ability to identify fallacy on the topic of God exists. That is, subjects who were more likely to incline to believe that God exists were less likely to identify the appeal to ignorance concerned with God. This led to impotent ability to detect fallacy.

Students' ability to identify fallacies may be impacted by several factors. A factor involving informal reasoning fallacies is an argumentative context. Neuman et al. (2006) investigated how the contextual factors influence students' judgment about a fallacious or persuasive argument. The argumentative context has been defined by using the dimensions proposed by Walton (1989). He suggests that an argumentative context/dialogue is varied in types by three dimensions. These are the initial situation that motivates dialogue, the method of exchange position, and the goal of dialogue. For instance, a debate is one context of a dialogue in which one party tries to impress the referees or the audience by using language to win over the other. The goal of the dialogue is not to seek rational argument for resolving differences of opinion but to win the audience or hit the jury's heart. In this context, bringing fallacy in order to suppress counterpart is legitimate. In contrast, the context of persuasion (so called critical discussion) the goal of this context is to persuade each other by offering sets of reason to prove or refute one's standpoint. It is therefore not legitimate to reason fallacy.

In their study, two experiments were brought to evaluate 71 Israeli students from grade 7 and 52 from grade 12 of regional secular high school. The contexts in the experiment used to test participants were reasoned and non-reasoned dialogue. For the reasoned dialogue in which the goal of conversation is participants having to convince others to accept their position, the acceptance of the claim depends on whether reasons the participants give are relevant or can justify the claim. The aim of participants in the non-reasoned conversation is to demolish their adversary's' argument. In the informal reasoning fallacies identification tasks participants were asked to read two scenarios–reasoned and non-reasoned dialogue– in which two people were discussing the existence of UFOs and 6 lines of scenario description that were included.
The following scenario exhibits reasoned dialogue.

(1) Yossi and Avi disagree with regard to the question of whether UFOs exist.

(2) Yossi argues that UFOs exist.

(3) Avi argues that UFOs does not exist

(4) The aim of each participant is to convince the other to accept his claim.

(5) In order to achieve this aim each one of them should bring reasons that justify his claim.

(6) During the dialogue Yossi argues "Avi, you argue that UFOs do not exist because you are a person with no imagination.

In the non-reasoned dialogue, line 4, 5 were replaced by "the aim of each participant is to strike out at each other and in order to achieve this aim they personally attacked each other" respectively. For line 6, it differentiated between 3 types of fallacy, the ad hominem, the ad populum and the ad ignorantium fallacy.

Participants were then divided into three groups and asked to answer the following the question aimed at evaluating their ability to define fallacy in the first experiment whereby three sub-experiment tasks were used to assess grade7. One of question provided to ask subjects in one task was:

Do you think that there is a problem with argument raised by X (Yossi in dialogue)

For this question, the participant responded by circling the Yes/No answer.

In another sub experiment, the students replied two questions and were asked to rate their judgment. The two questions asked participants to what extent did the argument by Yossi help achieve his aim and what were the reasons used by Yossi support his claim. The third sub experiment, the open-ended question was asked to subjects to see their opinion that if they were Yossi's counterpart, what would you have said in order to rebut his argument.

For argumentation norms task students were asked to answer whether it is legitimate in three questions on both reasoned and non-reasoned dialogue.

The three questions are:

(1) To argue that a certain claim is right just because most people think

(2) To attack the adversary' s opinion by attacking his character

(3) To argue that a claim that cannot be proven is correct by default

The study of the first experiment reported that the majority of students could identify problems with arguments but did not accept the relevance of fallacies and exposed fallacies in argument.

The first experiment concluded that students were sensitive to argumentative contexts in the sense that they reject reasoning fallacy– they could define fallacy in arguments–in the task and argued that there was relevance of fallacy in the reasoning fallacies identification task. This meant that when presented with explicitness, argumentative context help participants who were successful in distinguishing fallacious argument in reasoned dialogue. The second experiment was to test the effect of taking roles perspective in the reasoned dialogue. Twelfth grade students responded the open-ended question in which participants were asked to explain when they took a role of proponent (Yossi) or opponent (Avi), in the role of proponent of UFOs exist, participants were to explain why the argument raised by Yossi supported the claim and the role of the opponent was to explain why the argument raised by Yossi does not support the claim. The participants were then asked to rate how Yossi's argument support his claim on the 5-point Likert scale. The findings in second experiment indicated that role perspective taking play a crucial role in students' ability to evaluate the relevance of argument. When asked to serve as the proponent's perspective, participants did not focus on problem with reason. Students rated arguments in high quality. From these points, the current study provides clear

argumentative context and structure in order to encourage students at identifying and evaluating reasoning fallacies.

Previous studies of this genre were carried out to measure subjects' ability from other country, although Pornpitakpan & Francis (2000) had carried their experiment on the effect of cultural difference, source expertise and argument strengths among Thai and Canadian participants which shed some light to study of argumentation, there is no empirical study on ability to evaluate and identify reasoning fallacies in Thailand and this calls to question the ability of Thai students, UBU students at evaluating and identifying fallacies.

CHAPTER 3
METHODOLOGY

This chapter describes the research methodology used in this research. It explains the subjects, instruments, procedures, data collection and data analysis.

In this study, it was hypothesized that are the graduate students better than the sophomores and the juniors at identifying fallacies, the easiest fallacy to be identified by UBU students is argument from authority, and the truth value of premise will play a critical role to subjects' fallacy identification. In order to test the hypothesis, different levels of undergraduate, graduate and doctorate UBU students are employed to participate in the study. The validity of the political discourses selected from media, research, and text books is best examined from three experts whose fields are relevant to the domain of the study. The political arguments provide fallaciousness crucial to identify the argument. The measurement of students' ability in identifying informal arguments is the participants' ability to evaluate the relation between premise and conclusion in the arguments and they have to answer questions following arguments with their explanation. The study expects that the graduate students will be better at identifying fallacious arguments than the under graduate and really hope that UBU students succeed in defining fallacious argument.

3.1 Participants

The participants for this study were one hundred and eight (108) university students in second semester of academic year 2012. A total of subject consists of 50 undergraduate students of year 3 from faculty of Law and Political science, 40 undergraduate of year 2 from Faculty of Science and Political science and 18 graduate students. All of them were Thai speakers with English as their foreign language.

3.2 Materials

This study uses six political discourses in which one of six fallacies functions: argument against the person, the appeal to inappropriate authority, the appeal to popularity, the appeal to emotion, the appeal to circularity and the straw man fallacy. The informal fallacy questionnaire presents a conversation between the first man, Somsak and the second man, Tada about six different topics: institution reform, rice pledging scheme, the existence of Karma, sympathy for Prime minister, financial budget for weapon purchase of Ministry of Defence and casino legalization in Thailand. All scenarios were same structure. Each situation presents Somsak's statement in the first line. The second line presents the argument made for arguing toward Somsak assertion. And the end in each scenario is followed by one question: Do you agree with the reason given by Tada, who plays a role of antagonist in each issue, if yes/no, why? Participants were to give reasons. The structure of the questionnaire was adapted using Neuman and Weizman (2003). A schematic structure is demonstrated in Appendix A and the questionnaire is presented in Appendix B

This research was not to test English competency of subjects; passages in the scenarios in questionnaire were translated to Thai so that participants had a clear understand.

3.3 Procedure

The experiment was conducted during a classroom session. The questionnaires were distributed to the participants and who were then asked to read six political arguments. After reading each one, they had to answer questions and explain why.

The session took approximately 30 minutes.

3.4 Data analysis

The questionnaires in the current study were collected from participants during the class. Scoring criteria was adapted from Rico (2007), which measure two sources of participant justification: fallacy identification and explanation. In the current study, however, the participants' explanation for the fallacy will be reckoned and the score would be given to this part. Participants received the full score of 1 point for identifying the fallacy of the argument if participants can give correct explanation for the fallacy; the score of zero was given for others justification. For details of the scoring explanation the account for each fallacy is presented in Appendix C.

CHAPTER 4
RESULTS

This chapter will present the result of the study along with a summary and description of the statistical analysis.

4.1 Results

In order to investigate UBU students' ability to identify fallacies in political arguments, the six different informal fallacies (Straw man fallacy, argument against the person, circular argument, appeal to emotion, argument from authority and argument from popularity) were used. The six types of fallacious reasoning involved institution reform, rice pledging scheme, the existence of Karma, sympathy for the Prime Minister, financial budget for weapon purchase of the Ministry of Defence and the casino legalisation in Thailand. Each of these contains two choices, one is fallacious and the other is not. The participants were to indicate whether they agree or disagree with the argument and to provide an explanation for their answer.

Analysed result are shown in Table 1

Table 1 Numbers of students who could not identify the fallacy

Participants / Fallacy	2nd year Science students (20)	2nd year Political Science students (20)	3rd year Political Science students (25)	3rd year Law students (25)	Graduate students (18)	Total (108)
Straw man	16	11	20	20	13	70
Circularity	14	15	15	15	10	69
Popularity	9	10	9	11	8	47
Authority	8	7	10	8	6	39
Ad hominem	5	9	6	8	10	38
Emotion	6	11	9	5	6	37

As shown in Table 1, the straw man scenario received maximum of participants' agreement. 70 students agreed with the argument that Thailand cannot exist without principle institution. Emotional situation received the minimum of agreements in with 37 students accepting the argument that we should feel sympathy for female prime minister as she is a woman and is attacked by her rival in nearly all matters.

However, agreements with the arguments were not checked to see whether they gave the correct explanation for the fallacies; they were all rejected. Results reflect the students' lack of ability to identify the fallacies and their inability to explaining the fallacies as the arguments were fallacious. The subjects' disagreements were examined to establish whether they provided the correct explanation for the fallacies. Participants' disagreements were collated and shown in Table 2

Table 2 Number of students who disagreed with the arguments

Participants / Fallacy	2nd year Science students (20)	2nd year Political Science students (20)	3rd year Political Science students (25)	3rd year Law students (25)	Graduate students (18)	Total (108)
Emotion	14	9	16	20	12	71
Ad hominem	15	11	19	17	8	70
Authority	12	13	15	17	12	69
Popularity	11	10	16	14	10	61
Circularity	6	5	10	10	8	42
Straw man	4	9	5	5	5	28

The data in Table 2, shows that the appeal to emotion's scenario whereby the first person criticized prime minister and his counterpart argued that we should sympathy her, 71 participants disagreed with the argument in this scenario. The Straw man fallacy, however, received the minimum of disagreements. In the scenario, the first person proposed that institution needs reformation in order to fit into the present world. The argument said that would not be possible in Thailand as it would not survive without revered institution. The proposal did not suggest that institutions should be abolished or Thailand should live without such institution. Only 28 students disagreed with the argument.

Disagreements against the arguments were not considered but legitimate explanation for the fallacy, were. To examine whether the participants explanations were correct, the study adapted the criteria from the Rico's study (2007) for subjects' reasoning. A score was given for a detailed explanation for each fallacy. Participants were to reveal arguments as bad reasoning and explain why. They then receive a score every correct explanation of the fallacy. A zero score was given for unreasonable justifications.

To receive a score in the scenario of the existence of Karma, students explained whether the argument said nothing and provided no further information, or was circular. The institution reform scenario, students argued the proposal which said that reform institution should occur, not meaning that institution should be abolished or demolish principle in Thailand nor that the argument distort the real content of the proposal. In the rice pledging scheme, participants had to explain the argument emphasizing personal character irrelevant to the topic of discussion. The firearms purchase scenario, asked students to argue one's authority and whether it be acceptable or claim what His majesty had mentioned was not reasonable. The female Prime Minister situation, argued whether this involved emotion rather than information about the topic. The gambling legalisation situation, argued that the reason other countries had legalised gambling was not sufficient or reasonable.

Results were collated and presented the following:

Table 3 Number of fallacies was provided for complete explanation

Fallacy / Participants	Straw man	Ad hominem	Circularity	Emotion	Authority	Popularity
2nd year Science students	1	0	0	0	1	0
2nd year Political Science students	0	0	0	0	2	0
3rd year Law students	0	0	0	0	2	0
3rd year political Science students	1	0	0	1	0	1
Graduate students	1	0	0	2	1	1
Total and percentage	**2 (1.85%)**	**0 (0.00%)**	**0 (0.00%)**	**2 (1.85%)**	**6 (5.55%)**	**2 (1.85%)**

From the data shown, it is indicated four kinds of fallacy participants were able to explain. The straw man, appeal to emotion, appeal to authority and appeal to popularity. In two fallacies students were unable to describe were argument against the person and circular argument. The fallacy that the majority of participants were able to detect, was the appeal to authority. This contradicts the first hypothesis; the appeal to popularity would be easiest to be identified.

According to Neuman's study (2003), it was suggested that subjects found it easy to explain the argument form popularity. And the following experiment with his colleague (Wienstock, Neuman and Tabak, 2004), it also found that students were more familiar with ad populum (argument from popularity) than ad hominem (argument against the person and argumentum ignorantiam (appeal to ignorance). The argument from popularity involves the conclusion of an argument associated with accepted belief or majority of people. It is not acceptable that many people believe is always right. The previous studies demonstrated, that is was easily detected.

In the current study, the finding show, six students were able to provide complete explanation for the argument from authority. In appeal to authority situation proposed the Ministry of Defence should not make an expenditure on weapon and transfer the budget to other Ministries so that they would better activate economy in the country. The argument claimed that Ministry of Defence was able to make a

weapons purchase because his majesty gave a speech that Ministry of Defence can do so.

It is noticeable that appeal to authority was detected by nearly all grade levels (x2 Year 2 Political Science, x2 Year 3 Law, x1 Year 2 Science and Graduate students) except Year 3 Political science students. In short, argument from authority were easily identified and explained by UBU students.

Considering each argument, participants responded to the fallacious argument. Some correct explanation for the fallacies provided by the participants are demonstrated as follows.

(1)Straw man fallacy

Explanation:

Change for the better does not mean there will be no high institutions.

(เปลี่ยนแปลงให้ดีขึ้นไม่ได้ความว่าปราศจากสถาบันสูงสุด)

The reform of Somsak's meaning does not mean to reject or to take out

(การปฏิรูปของสมศักดิ์ไม่ได้หมายความว่าโละทิ้งหรือเอาออก)

Tada seems to think differently, seems like he thinks the reform of government means there will be no high institution

(ดูเหมือนว่าธาดาคิดไปอีกแบบ เหมือนคิดว่าการปฏิรูปการปกครองแล้วจะไม่มีสถาบันสูงสุด)

(2)Appeal to emotion

Explanation:

Tada made a decision based on pits rather than reason and truthful evidence.

(ธาดาตัดสินจากความรู้สึกสงสารมากกว่าเหตุผลและข้อมูลที่น่าเชื่อถือได้)

He should not use the term "pity" and "female Prime Minister" to a country administration succeeds.

(จะใช้คำว่า สงสาร กับ นายกผู้หญิง พิจารณาความสำเร็จในการบริหารประเทศไม่ได้)

I disagree with that if we feel pity because of feminism we should not choose her as a Prime Minister.

(ไม่เห็นด้วยเพราะจะมาสงสารว่าเป็นผู้หญิงก็ไม่ควรเอาผู้หญิงมาบริหาร)

(3)Argument from authority

Explanation:

Although His Majesty mentioned; we should focus on accurate point, solve the real problem.

(แม้ว่าในหลวงท่านตรัสไว้ แต่เราควรจะมองตรงจุดคือแก้ปัญหาให้ตรงจุด)

His Majesty should not be cited in firearms purchase, this should give an exact reasoning.

(ไม่ควรเอาในหลวงมาอ้างในการซื้ออาวุธ ควรให้เหตุผลที่แท้จริงมากกว่า)

In the expenditure on arms, it needs to be considered whether it is suitable and not allow a single person to make the decision.

(ในการซื้ออาวุธจะต้องดูที่เหมาะสมว่าสมควรหรือไม่สมควร จะใช้บุคคลคนเดียวตัดสินใจไม่ได้)

I disagree with the part in the assertion His Majesty mentioned "we are able to buy it" because expenditure on arms require more reasons to justify why.

(ไม่เห็นด้วยในส่วนที่ว่าในหลวงว่าซื้อได้เพราะการซื้ออาวุธต้องมีเหตุผลมากกว่านี้)

I disagree with that because His Majesty said we are able to buy arms.

(ไม่เห็นด้วยเพราะว่าในหลวงตรัสว่าซื้อได้)

(4)Argument from popularity

Explanation:

That what our neighbouring countries do is not always good.

(การที่ประเทศเพื่อนบ้านทำใช่ว่าดีเสมอไป)

There should be given a reason justifying rather than do as other countries do.

(ควรมีเหตุผลที่สนับสนุนมากกว่าการทำเหมือนประเทศอื่น)

After the correct explanations were given the scores, total and percentage of raw score and mean score were collated and shown in Tables 3 and 4.

Table 4 Scores and percentage of students who can correctly identify the fallacies

Participants	Subject	No of test items	Total score	Raw score	Mean score
2nd year Science students	20	6	120	2(1.66%)	0.1
2nd year Political Science students	20	6	120	2(1.66%)	0.1
3rd year Law students	25	6	150	2(1.33%)	0.1
3rd year Political Science students	25	6	150	3(2.00%)	0.08
Graduate students	18	6	108	5(2.70%)	0.27
Total and percentage	**108**	**6**	**648**	**14(2.16%)**	**0.13**

From data shown in Table 4, it was found to compare with total score, students received very low score. That is, their raw scores were nearly zero. For Year 2 Political Science students, they received raw score of 2 out of 120. Likewise, Year 2 Science students and Year 3 Law students received a raw score of 2 out of 120 and 150 respectively. For Year 3 Political Science students, they received a raw score of 3 out of 150 whereas the Graduate students received a raw score of 5 out of 108.

Table 5 Percentage and mean score of students correctly identifying based on Grade Level

Grade Levels	Number Of Subject	Raw score	Percentage	Mean score
The Sophomores	40	4	1.66%	0.1
The Juniors	50	5	1.66%	0.1
The Graduates	18	5	27.77%	0.27

From the data in the table 5, statistics show that graduate students received the highest mean score of identifying fallacy in political arguments more than junior and sophomore students. The results were consistent with the second hypothesis that the higher the grade levels the more the success rate of identifying fallacy.

As a result, statistics show that graduate students were better at identifying fallacy in political arguments than junior and sophomore students, however, the progress of the participants' ability to identify fallacy appears not to be significant. As indicated by Table 4 and 5, Year 2 received a mean score of 0.1 the same as Year 3. For graduate students, the average score for explanation of fallacy were 0.27. From Year 2 and Year 3 students there were no increases of the mean score. This means from the second to third year there were no changes in their identifying ability in regard to the score they received for the fallacy explanation.

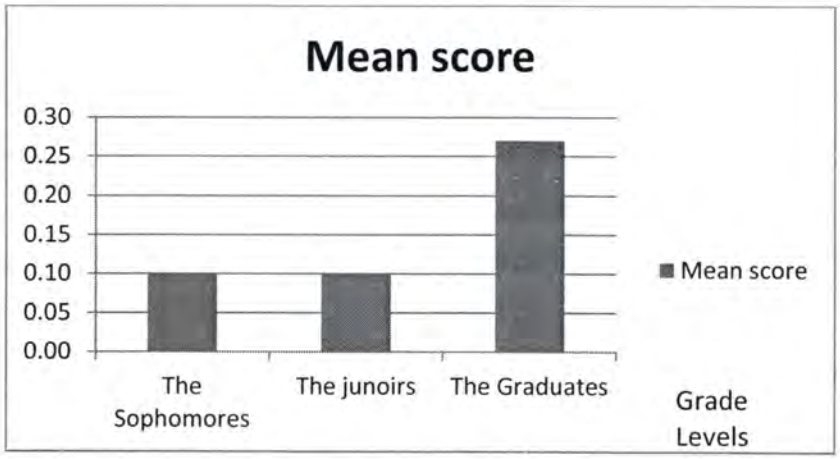

Figure 1 Mean score of subjects fallacies correctly identifying

From Figure 1, the mean scores between undergraduate and graduate student were apparent. The mean score of Graduate students were almost 3 times that of the undergraduates. This demonstrated that the score of UBU students at identifying fallacies in political arguments was extremely low.

Considering incorrect explanation for the fallacies, the participants' disagreements were categorized into 5 groups as follows:

(1) Agreements with the proposals (AP).

The agreements with the proposals were explanations which were influenced by the argument proposed by the first person in each scenario.

For example, in the scene of circularity, a student disagreed with the argument because they found that in Thai society, the big names violating the laws were exempt from jail sentences.

(2) Disagreements responding to the arguments (DA).

The disagreements that respond to the arguments were explanation arguing against the argument.

For example, in the scene of ad hominem, a participant argued that yellow or red shirts are not relevant. It is a matter of politics.

(3) Discussions about the topic of scenarios (DT).

The discussions about the topic of scenarios were the explanations that focus on the issue of situation in each fallacy.

For example, in the scene of argument from popularity, a student stated that they disagreed because gambling is immoral.

(4) Other explanations (OE).

The reasons that provided information not close to the topics of scenarios, proposals or arguments.

For instance, in the institution reform scenario, a subject explained that we should focus on decentralization.

(5) Partial correct explanations (PE).

These were statements that were very close to the correct explanation.

For example, in the scene of argument against the person, a student reasoned that the issue of rice policy was not discussed and missed the point of discussion.

Table 6 Distribution of participant's incorrect and correct explanations for the fallacies and percentage of incorrect explanations given to other justifications.

Fallacy	Subjects' explanation	AP	DA	DT	OE	CE	PE
straw man	28	4 (14.28%)	4 (14.28%)	15 (65.21%)	2 (7.14%)	3 (10.71%)	0 (0.0%)
ad hominem	22	8 (11.42%)	38 (54.28%)	26 (37.14)	1 (1.42%)	0 (0.0%)	5 (7.14%)
Circularity	42	7 (16.66%)	7 (16.66%)	27 (64.28%)	1 (1.42%)	0 (0.0%)	0 (0.0%)
Emotion	71	7 (16.66%)	57 (80.28%)	4 (5.63%)	0 (0.0%)	3 (4.22%)	0 (0.0%)
Authority	63	18 (28.57%)	5 (7.93%)	33 (58.38%)	1 (1.58%)	6 (9.53%)	0 (0.0%)
Popularity	61	9 (14.75%)	4 (6.55%)	45 (73.77%)	2 (3.27%)	2 (3.27%)	0 (0.0%)

Note: CE = complete explanations for the fallacies

Table 5 has answered the third hypothesis that truth value of premise and conclusion will play a crucial role in UBU students thinking process. According to Neuman et al (2004), they suggested that there was a tendency students will focus on premises functioning as reason to support the claim rather than on the link between premise and the claim (conclusion). As a result, the majority of participants who disagreed with the argument made argument towards some premises of the argument, discussed on the topic of scenarios, and were influenced by some premises of proposals. They were also not aware of the relationship between arguments as a whole. In the Straw man scenario, 65.21% of participants who made statements against the argument explained for the institution reform in Thailand. For instance, a subject explained that institution should be reformed due to the changing world. Other explanations far from the topic of discussion were stated that institution should not influence politic or should be neutral in politics.

In the discussion of the rice pledging scheme (Ad hominem), 54.28% of subjects disagreed with the argument because he said that Yellow shirt or Red shirt is not concerned or other said that the argument indicated that it is not neutral in political aspect. Other justification of this scenario was that we should concentrate on decentralization.

From the existence of Karma scenario, 64.28% the participants discussed whether the rule of good deed is real rather than indicated the argument gave nothing or the reason was circular. To illustrate, a participant said that it is unbelievable that rule of good deed is real because there is no evidence to prove that.

In the emotional scenario, 80.28% students who disagreed with the argument discussed on some premises in the argument. To exhibit, participants stated that male or female are equal, being Prime Minister could be a hard job, but the one who desires it must be ready for the role regardless of gender. It was clear that participants kept on focusing on the argument. Other justifications on appeal to emotion were that government should not be in hurry in constitution amendment and should do like they promised during the election campaign.

Despite appeal to authority being easiest for UBU students to explain, there was 52.28% of participants discussing on the topic of scenario and 28.57% agreed with proposal said that the government should pay attention to public living more importantly than weapons. Other justification was said that we learn to live by ourselves. In argument from popularity scenario, 73.77% of subjects focused on the topic of situation that casinos should be legalized whereas 14.75% agreed with the proposal that legalizing casinos will lead to lots of problem both socially and economically.

In summary, the finding of the study demonstrates that score of UBU students' identification and evaluation of reasoning fallacies was extremely low. They received a total score of 14 out of 648. This means they lack ability to evaluate and identify the fallacies in political arguments. This also indicates they are not aware of the relation between the premises and the conclusion of any arguments as a whole. The result confirmed the hypothesis that truth value of reason supporting the claim will play an important role in the subjects' ability to identify informal fallacies. Furthermore, the topic of the scenario also impacts their ability to explain the fallacy. Students' ability to identify informal fallacies was correlated to the grade level although the progress is nonlinear. However, the hypothesis appeal to popularity will be the easiest fallacy for participants' identification is contrast to the result. The majority of participants directly responded to the arguments in the scene of appeal to emotion and argument against the person. They also constructed the arguments toward

topic of scenarios of Straw man fallacy, Circular argument and Argument from popularity and provided reasons impacted by the proposals instead of explaining the fallacy

CHAPTER 5
DISCUSSION AND CONCLUSION

This chapter will discuss the result from previous chapter, the limitations and recommendations for further study.

5.1 Discussion

Result from this study indicates that nearly all participants have very low score of performance on identifying and evaluating informal reasoning fallacy. Although holding disagreement with the arguments, they were not able to define the argument in each scenario if it was irrelevant, problematic, or not reasonable or even to point out that such argument was a kind of fallacy if any. The students were influenced by the premises as a reason to support the claim, some proposition in any argument, or even the issues of the scenarios, resulting in correlation with Neuman et al. (2004).

Neuman, Glasner, and Weinstock (2004) demonstrated that the truth value of reasoning that supports the claim that it affects students' ability to identify informal reasoning fallacies. In their study, participants rated the fallacious reason labelled a true reason as more of a supportive reason of the claim. They concentrated on a premise functioning as a reason to support the claim rather than focusing entirely on the link between premise and the claim.

This illustrated that in each scenario the majority of students focused on the premises of proposals and the arguments rather than on a linkage of premises. Furthermore, this study provides evidence that the issue of scenario also impacts students' ability to identify informal reasoning fallacy. In the institution reform scenario (straw man fallacy), the existence of Karma (circularity), expenditure on arms (appeal to authority) and gambling legalisation in Thailand (appeal to popularity), the majority of participants' disagreements were explained for the topic of scenario. From the discussions about rice pledging scheme (argument against the person) and

the female Prime Minister (appeal to emotion) students' arguments directly responded to the some premises of the argument.

A possible explanation for these phenomena is that students are weak at making their own arguments and evaluating the others. In particular, if a student cannot distinguish between a claim supported by valid reason from one supported by irrelevant reason, he or she is not able to critically analyze argument nor to construct them skillfully. Also, ability to evaluate the structure of an argument is crucial to understand the argument they or other people produce (Larson Britt and Kurby, 2009). More specifically, to know the relationship between the premise as a reason and the conclusion the claim is an important skill in order for students to be able to make good argument.

A Britt and Larson study (2004), reported only 33% of undergraduate students from Inductory of Psychology class at Illinois University were able to accurately identify the claim and support reasons in a short argument; however, many reasons they identified did not support the claim.

Furthermore, Larson Britt and Kurby (2009) found that college and high school students had difficulty evaluating arguments unless they were tutored in argumentation. In the present study, it was discovered that only 12 participants out of 108 (18%) were able to identify and evaluate arguments, which is very low and the majority of them were not even aware of the link between reasons made and the claims.

As Speculated by Neuman et al. (2004), the account for the phenomenon is due to cognitive load. Cognitive load refers to limitation of human working memory that is influenced by information it can contain and number of operations it is able to perform on that information (Van Gerven et al., 2003). From this perspective, in the current study, students' explanations for the fallacies may be directed by this load. That is, students' justifications were limited to how much information they had and how they processed their information at that time, which led to judgements on the truth value of reason at identifying fallacies.

Familiarity with the argument criteria is another possible explanation to why students have low ability to identify and evaluate fallacy. This explanation is associated with the works of Weinstock et al. (2004). In their study, it was discovered

that how good students' abilities were at identifying fallacy arose from familiarity of the argument norms. The acquaintance with argument norms involves students 'disagreement on fallacious arguments; they were able to define that such arguments are unacceptable. For example, when asked whether it is legitimate to argue that the claim is right because of the majority of people believe in the argument from popularity. If students denied such claim, it means they were not to support in the claim that the majority of people believe in appeal to popularity in fallacy identification task. In the current study, seventy students agreed with straw man arguments in the scene of institution reform. And there were sixty-nine subject judging that the circularity argument was right. Although in the scenarios of argument from popularity, authority, and argument against the person, majority of subject disagreed with the argument, fewer participants were capable of having this ability to provide full-correct explanation for the fallacies but nearly all were so naive to do that. They do not know how to produce an argument to respond to the arguments or defend their position where it is grounded on soundness and relevance; they do not know how to deal with their own arguments and the argument of others.

In addition, motivated scepticism can answer for these circumstances. Motivated scepticism appears when students put less effort to examine the claim consisting of their preferable information than one that does not, simply, students are more sceptical to the claim they do not like than they like.

Based on Ditto and Lopez (1992), they found that the information is consistent with a favourite conclusion of participants is less scrutinized than information that is not consistent. More specifically, students judged an argument based on the notion does it align or does it not align with their belief. This would indicate that UBU students pay less attention to an argument in which information is compatible with their prior information. Prior belief, knowledge, or information is what we know after we experienced. It has been measured whether they have an influence to students' ability to construct and evaluate informal argument.

In Neuman s' study (2003), it was reported that prior opinion impact students' judgment on fallacious argument. For example, subjects were asked to rate their agreement with statement on the topic of God exists. If students rated the agreement in high quality, they were more likely to incline to believe that God exists

and were less likely to identify the appeal to ignorance concerned with God. This led to impotent ability to detect fallacy. For the present study, this phenomenon occurred in the circular argument scenario. That is, sixty-nine participants agreed with and believed in existence of Karma. In Thailand, we are taught from generation to generation that the main principle institutions are the nation, religious, and the monarch. For Buddhism we assumed that Tripitaka is the sacred texts and the word of the historical Buddha. Clearly, in the present experiment, religious belief influenced subjects' reasoning. Thus, a tendency to identify and evaluate the fallacious argument in this scenario is less scrutinized than the others. They directly judged the argument due to Tripitaka, Buddhist scripture and their belief.

In short, the present study was hypothesised that the truth value of a premises used to support the claim will play a crucial role in identifying and evaluating fallacy. Participants responded to the fallacy evaluation and identified with arguments that were far away from the exact point of view by focusing on reason in some arguments and in which they were impacted by the proposals, the arguments and the topic of the conversation.

Considering the hypothesis that appeal to popularity will be easiest to be detected by UBU students is contrary to the finding. According to Neuman's investigation (2003), it states that 83% of participants were able to explain the argument from popularity. This contradicted the current study. In the study, it found that UBU students were able to detect and explain argument from authority. Six students were capable of providing full correct explanations.

Appeal to authority refers to an argument produced by one with power, in command and an expert in any field. Fallaciousness in this kind of argument occurs when such argument is acceptable without consideration of the argumentative content. Due to Walton (1997) accounts for this fallacy, the study used a person regarded as administrative and cognitive authority in the questionnaire. The word "king" in Thai society is regarded as a symbol of the country, cherished and revered. Every year on the 4th December, Thai people have been waiting for his speech and sharing with the others on what he has spoken. The finding was beyond expectation; it was such a surprise that they detected this sort of fallacy. Instead, such an appeal should influence students' thoughts.

Considering the explanation for the other fallacies, there was a Graduate student who was able to correctly explain the argument from popularity and argument from emotion and there were three students who were able to explain the argument from the straw man. In contrary, there was no correct explanation for personal attack argument and circular argument; there was no one able to describe anything for these.

Argument against the persons involves argument that emphasis on character or quality of the one who makes an argument rather than the real point of discussion and its use of personal attacks in critical discussion between two sides (Walton, 1987; 2000). This argument is fallacious when it blocks or bothers the path toward the goal of discussion.

For this study, although there are four participants providing partial correct explanation for this kind of fallacy, the argument is irrelevant to the point that there is no one giving a complete explanation that this is a sort of personal attack not relevant to the point of discussion. A large percentage of participants' explanations were directed to some premises of the argument and topic of the scenario, rather than the overall argument.

One fallacy that students were not able to define is circular argument. Circular reasoning occurs when premise in any argument is repeated or restated. Circularity argument provides nothing but conclusion in the premises. This fallacy may puzzle people when the restatement of the premise is subtle. As the classical example, God exists because the Bible says so and the Bible is real because God has written the Bible seems perplexed.

The possible explanation why students were not able to identify circular reason is because of its deductive validity. According to Jacquette (1993), he explained begging the question can be characterized a deductively valid argument if the conclusion is already presumed in the premises when the premises are true and so is the conclusion. As in the scene, in the argument, the premises Karma scripted in Tripitaka and Tripitaka, a scripture involving rule of good deed were presumed in these premises to be true. In Buddhism, we assume Tripitaka is a scripture comprising the Lord Buddha's teachings. It is possible participants judged the argument relying on these premises.

The previous research demonstrated that higher graders were more successful than lower graders. The study of Weinstock and his colleague (2006) reported that students at higher grade level were better at identifying fallacy than the lower level. That is, the study found that students who were at the 11th grade level were more successful in defining informal reasoning fallacies than those who were at the 7th and 9th grade level. For the current study, it was questioned that do grade level predict individual performance on identifying and evaluating fallacy. The findings showed that graduate students received higher average score than junior and sophomore students. This means they were more successful at identifying and evaluating fallacious arguments than lower grades. It can be said for this study that students at high grade level were more skilful at identifying and evaluating fallacies, though their scores were very low (Average 0.13).

The result of the present study was congruent with that previous research. It should be noted that for this study grade level is a predictor of students' overall ability to identify and evaluate reasoning fallacy in political arguments.

However, grade level was not a predictor of participants' performance on detecting each fallacy. For specifically, students in the study differed on their ability to explain informal logical fallacy based on the informal fallacy type. For the straw man fallacy, one student from Year2 Science, Year 3 Political Science and a Graduate student were able to provide complete explanations whereas there were two students from Graduate and one from Year 3 Political Science giving correct explanations for appeal to emotion. In the circularity scenario no one able to explain that it is circular reason. Apart from the first four fallacies discussed, argument from authority was given complete explanation by two students from Year 3 Law, two from Year 2 Political science and one from Graduate student, for ad populum, a graduate student and a Year 3 Political Science gave a correct explanation. It should be noted that the Doctorate students were able to explain four types of six fallacies.

In summary, grade level was a strong predication of overall participants' performance on identifying and evaluating reasoning logical fallacy in political arguments, although the development is at a nonlinear pace. This is to say that UBU students at higher educational level have the ability to identify and evaluate reasoning

fallacies in Thai political discourse. However, grade level was not a predictor in identifying and evaluating each fallacy.

5.2 Conclusion

The result of this study has found that the scores of the UBU students' performance on identifying and evaluating of reasoning fallacies, was extremely low. Their scores were almost zero. They received a total score of 14 out of 648.

As indicated by the score, this means that they are not able to identify fallacies in each scenario, whether it was problematic, irrelevant, or not reasonable nor were they able to define whether such an argument was a fallacy of any kind. This also indicates they are not aware of the relation between the premises and the conclusion of an argument as a whole. The majority of students focused on the premises of the proposals and arguments or concentrated on the topics of the scenario. The result confirmed the hypothesis, that the true value of reason supporting the claim will play an important role in the subjects' ability to identify informal fallacies.

Furthermore, the topic of the scenario also impacted on their ability to explain the fallacy. Students' ability to identify informal fallacies was at grade level although the progress is nonlinear. However, the appeal to popularity was the easiest fallacy for participants' to identify in contrast to the hypothesis.

5.3 Research Limitations

This study was somewhat limited.

5.3.1 The size of the sample

The participants in this study are not to be regarded as a representative of all university students. Students consisted of 3 grade levels from the 2012 academic year. The students were primarily sophomore (37.04%), junior (46.30%), and graduate (16.66%) students.

5.3.2 The adaptation of assessment used in this study.

The study re informal fallacy identification was adapted from a variation of fallacies developed by Neuman and Weizman (2003) and used several studies (Neuman, Glasner & Weinstock, 2004 ; Neuman et al., 2006 ; Neuman, 2003 ;

Weinstock, Neuman & Glasner, 2006 ; Weinstock, Neuman & Tabak, 2004 ; Ricco, 2007).

The score of criteria was adapted from the Ricco's study. This was the first study which tried to assess UBU students' ability to identify and evaluate reasoning fallacy in political arguments. Some respects, standards or adapted version are not an accurate assessment to test participants' ability for Thai students or Thai contextual society.

5.3.3 Opened end answer in the questionnaire.

As indicated in the result, participants responded to parts of the argument in informal reasoning fallacy, which did not point to the fallacy in the questions. I.e. At times, the students provided their own view on the topic scenario. Moreover, participants reacted to some phrases of the argument (e.g. participants responding to the rule of Karma in real circular argument instead of focusing on the intent of the fallacy). This would indicate that the questionnaire was not clear or concise enough for participants. To have students chose from forced-choices in fallacy identification questionnaire would have assisted them in narrowing their thought. Opened end answer, however, lead to the unexpected explanations.

5.4 Recommendation for further study

This study is intended as an initial experiment to test students' ability to identify fallacious arguments. There are a number of follow up studies which could be carried out.

5.4.1 They assessed students' ability to identify fallacy along with the assessment which indicates that test factors may affect participants' ability to identify and evaluate

5.4.2 This study provided a test to ascertain the ability of participants identify and evaluate fallacy. A further study could be conducted to measure the factors affecting performance on detecting fallacy.

5.4.3 A study with a larger size of participants from more different year could be beneficial. The present study consisted of sophomores from Faculty of Political Science and Science, the junior from Faculty of Law and the graduates from

various faculties. Students were from the first and fourth year would be allowed to participate in the trial.

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APPENDICES

APPENDIX A
THE SCHEMATIC STRUCTURE OF THE ARGUMENT IN THE SCENARIO

(1) The first person, Somsak proposed a statement

(2) The second person, Tada disagrees with the statement by bringing fallacious reasoning

(3) Students are asked to agree or disagree with reason offered by Tada then to explain why

APPENDIX B
QUESTIONNAIRE

ส่วนที่ 1: ข้อมูลส่วนตัว

ระดับชั้นการศึกษา.....(ระบุชั้นปีที่กำลังศึกษา เช่น ม.4 ม. 6 ป. ตรี ปี 3, ป.โท ปี 1, ป. เอก)

สาขาวิชา.....คณะ.....

เกรดเฉลี่ย.....ศาสนา.....

พรรคการเมืองในประเทศไทยที่ชอบ (ถ้ามี).....

ส่วนที่ 2: คำชี้แจง

แบบแสดงความคิดเห็นมีทั้งหมด 6 ข้อ ให้นักศึกษาอ่านบทสนทนาในแต่ละข้อแล้วแสดงความคิดเห็นของนักศึกษาว่า **เห็นด้วย** หรือ **ไม่เห็นด้วย** กับ **ธาดา**

ข้อ 1

สมศักดิ์: สถาบันสูงสุดของเราควรจะได้รับการปฏิรูป เพราะมีหลายอย่างที่ไม่เหมาะกับสภาพของสังคมปัจจุบัน

ธาดา: ทำอย่างนั้นไม่ได้หรอก หากปราศจากสถาบันสูงสุด ประเทศเราจะอยู่กันอย่างไร

จากบทสนทนา นักศึกษาเห็นด้วยกับเหตุผลโต้แย้งของธาดาหรือไม่

ก. เห็นด้วยกับเหตุผลโต้แย้งของธาดา เพราะ

.....

.....

ข. ไม่เห็นด้วยกับเหตุผลโต้แย้งของธาดา เพราะ

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ข้อ 2

สมศักดิ์: ผมไม่เห็นด้วยกับการรับจำนำข้าวเพราะจะทำให้ประเทศชาติเสียหาย

ธาดา: ที่นายไม่เห็นด้วยกับรัฐบาลเพราะนายเป็นเสื้อเหลืองและชื่นชอบพรรคตรงข้ามกับรัฐบาล

จากบทสนทนา นักศึกษาเห็นด้วยกับเหตุผลโต้แย้งของธาดาหรือไม่

ก. เห็นด้วยกับเหตุผลโต้แย้งของธาดา เพราะ

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ข. ไม่เห็นด้วยกับเหตุผลโต้แย้งของธาดา เพราะ

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ข้อ 3

สมศักดิ์: ผมไม่เชื่อว่ากรรมมีจริง เพราะบรรดาคนใหญ่คนโตในบ้านเมืองที่ทำผิดยังเดินลอยหน้าลอยตาอยู่ในสังคมได้เป็นปกติ

ธาดา: คุณไม่เชื่อกรรมมีจริงได้อย่างไร มันมีการกล่าวไว้ในพระไตรปิฎกว่ากรรมมีจริงและพระไตรปิฎกก็เป็นคัมภีร์เกี่ยวกับกฎแห่งกรรม ดังนั้นกรรมจึงมีจริง

จากบทสนทนา นักศึกษาเห็นด้วยกับเหตุผลโต้แย้งของธาดาหรือไม่

ก. เห็นด้วยกับเหตุผลโต้แย้งของธาดา เพราะ

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ข. ไม่เห็นด้วยกับเหตุผลโต้แย้งของธาดา เพราะ

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ข้อ 4

สมศักดิ์: ผมว่านายกฯสอบตกเรื่องการบริหารงาน ท่านน่าจะเร่งหาทางแก้ปัญหาปากท้องประชาชน เพราะตอนนี้ราคาสินค้าพุ่งขึ้นสูงมากทำให้ประชาชนเดือดร้อน

ธาดา: เราต้องสงสารท่านเพราะท่านเป็นผู้หญิงแถมยังมีพรรคฝ่ายค้านที่คอยโจมตีท่านตลอดเวลา ดังนั้นผมว่าท่านยังไม่สอบตกเรื่องการบริหาร

จากบทสนทนา นักศึกษาเห็นด้วยกับเหตุผลโต้แย้งของธาดาหรือไม่

ก. เห็นด้วยกับเหตุผลโต้แย้งของธาดา เพราะ

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ข. ไม่เห็นด้วยกับเหตุผลโต้แย้งของธาดา เพราะ

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ข้อ 5

สมศักดิ์: กลาโหมไม่ควรเอางบซื้ออาวุธตอนนี้ ควรให้งบกระทรวงอื่นเพื่อบริหารเศรษฐกิจ ปากท้องประชาชนก่อนดีกว่า

ธาดา: แต่ในหลวงท่านตรัสว่า สามารถซื้อได้ ดังนั้นกลาโหมสามารถเอางบประมาณจัดซื้ออาวุธได้

จากบทสนทนา นักศึกษาเห็นด้วยกับเหตุผลโต้แย้งของธาดาหรือไม่

ก. เห็นด้วยกับเหตุผลโต้แย้งของธาดา เพราะ

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ข. ไม่เห็นด้วยกับเหตุผลโต้แย้งของธาดา เพราะ

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ข้อ 6

สมศักดิ์: ประเทศไทยไม่ควรอนุญาตให้มีการเปิดคาสิโนอย่างถูกกฎหมายเพราะอาจจะทำให้ก่อปัญหาอื่นตามมา

ธาดา: ผมคิดว่าประเทศเราควรอนุญาตให้มีคาสิโนถูกกฎหมายได้แล้วเพราะประเทศอื่นในโลก และเพื่อนบ้านอย่างเขมร มาเลเซีย ลาว ฮ่องกงและสิงคโปร์ ทำกันแล้ว

จากบทสนทนา นักศึกษาเห็นด้วยกับเหตุผลโต้แย้งของธาดาหรือไม่

ก. เห็นด้วยกับเหตุผลโต้แย้งของธาดา เพราะ

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ข. ไม่เห็นด้วยกับเหตุผลโต้แย้งของธาดา เพราะ

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APPENDIX C
SCORING CRITERIA FOR FALLACY EXPLANATIONS

Fallacy	Explanation
Straw man fallacy	Proposal was said that reform institution should occur, which did not mean institution should be abolished or principle institution should be demolished or the argument retorted the real content of proposal.
Argument against the person	The argument emphasis personal character that was irrelevant to the topic of discussion
Circularity	The argument said nothing, provided no further information , or even was circular
Appeal to emotion	The argument involved feelings(emotion) rather than give information about topic
Appeal to authority	The argument referring to one's authority should not be acceptable
Appeal to popularity	The reason that a mere fact that many or other countries did is insufficient or not reasonable