

INFORMAL REASONING FALLACY AND CRITICAL THINKING
DISPOSITION AMONG MALAYSIAN UNDERGRADUATES

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ASIA e UNIVERSITY
2014

Asia e University Knowledge Centre

INFORMAL REASONING FALLACY AND CRITICAL THINKING DISPOSITION
AMONG MALAYSIAN UNDERGRADUATES

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A Thesis Submitted to Asia e University in
Fulfillment of the Requirements for the
Degree of Doctor of Philosophy

JUNE 2014

ABSTRACT

In this information age, the amount of complex information available due to technological advancement would require undergraduates to be extremely competent in processing information systematically. Critical thinking ability of undergraduates has been the focal point among educators, employers and the public at large. Poor critical thinking ability would hinder undergraduates in coping with everyday life situations which may lead them to become gullible citizens. Encouraging critical thinking among undergraduates requires scrutiny in its theory. A dearth of relevant literature on the current issues of critical thinking has been delved into. One of the dimensions of critical thinking is informal fallacy. Informal fallacies are erroneous thinking. Informal fallacy has the ability to distract us in thinking critically. Fallacies are termed as inferences because they tend to appear reasonable and their unreliability is not apparent on the surface. They have psychological dimensions which are in the form of illusions and deceptions that humans are prone to and have great persuasive power, hence the widespread use in everyday discourse. Informal reasoning fallacy is the crux of this research due to the role of evidence and argumentation in making a conclusion, decision or solving problems. Empirical research affirms that critical thinking involves cognitive skills and the willingness to think critically. Critical thinking dispositions and informal reasoning fallacy are integral essence in facilitating students to have high ability in thinking critically.

The purpose of the study was to examine the performance of informal reasoning fallacy ability and critical thinking disposition among Malaysian undergraduates. The second purpose is to add on to the deficit literature review by ascertaining the relationship

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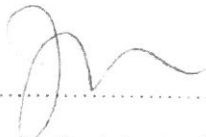
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between informal reasoning fallacy and critical thinking disposition among Malaysian undergraduates. The final purpose is to determine the influence of undergraduates' background variables to critical thinking, such as gender, discipline of study, programme of study, year of study, age, academic achievements, weekly reading hours and parents' socio economic status, would be of great concern to the educators and policy-makers. Data collection was gathered from 630 undergraduates, testing them on informal reasoning fallacy and critical thinking disposition.

Findings reported that a moderate performance was shown by the undergraduates in informal reasoning fallacy and critical thinking disposition. A significant relationship between informal reasoning fallacy and critical thinking disposition was revealed, indicating that fallacy detection and critical thinking disposition work conjointly. Demographic variables were not significant contributors to critical thinking, hence Malaysian undergraduates are not disadvantaged by their background in their ability to detect fallacies and to be disposed to think critically. This discovery may shed light on educators to embark on critical thinking cultivation without the fear of how students' background may impact the process of critical thinking in classrooms.

APPROVAL PAGE

I certify that I have supervised/read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate in quality and scope, as a thesis for the fulfillment of the requirements for the degree of Doctor of Philosophy.



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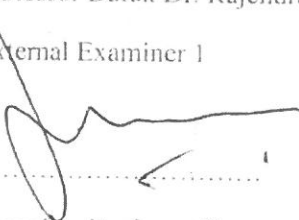
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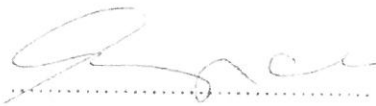
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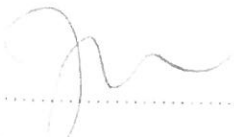
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DECLARATION

I hereby declare that the thesis is submitted in fulfillment of the PhD degree is my own work and that all contributions from any other persons or sources are properly and duly cited. I further declare that the material has not been submitted either in whole or in part, for a degree at this or any other universities. In making this declaration, I understand and acknowledge any breaches in this declaration constitute academic misconduct, which may result in my expulsion from the programme and/or exclusion from the award of the degree.

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A handwritten signature in black ink, appearing to read 'Shamala', written over a horizontal line.

Date: 5 June 2014

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ACKNOWLEDGEMENTS

It cannot be argued that the most influential person in my Doctoral studies has been my esteemed supervisor, Professor Dr. John Arul Phillips who has groomed me cognitively in the process of carrying out my research. From narrowing down my topic to the completion of my thesis, Professor Dr. John has offered his unreserved help and guidance. He has sculptured a broad thinking approach with a spirit of adventure regarding issues on research and education at large. Without his supervision, constructive feedback, enthusiasm, and immense knowledge, completion of this thesis would not have been possible.

I would like render my appreciation to the Dean of School of Graduate Studies, Professor Dr. Siow Heng Loke for organizing and conducting research colloquiums and workshops which further enlightened my knowledge in research. My sincere gratitude to all the academic staff in Asia e University for imparting their invaluable research knowledge and experiences.

Sincere appreciation is dedicated to my committee members, Professor Datuk Dr. Rajendran Nagappan, Professor Dr. Leonard Yong and Associate Professor Dr. Raja Mohamed Fauzi bin Raja Musa for providing constructive insights in improvising my research for the contribution of knowledge.

The pursuance of my Doctoral journey would not have been possible if not for my Dad, Mr. Ramasamy and my Mummy, Madam Kathanayagi for their incessant strict discipline from young in grooming me to be a conscientious person to strive for excellence in education. No doubt that I was fearful of my late father who kept a strict surveillance on my academic excellence, this had culminated me in completing my Doctoral studies. Now when I recollect, I cherish at those memories. Thank you so much Daddy and Mummy.

A special thanks to friends who have assisted me in many ways throughout my studies, especially Cletes Francis for showering unfailing support, continuous encouragements and who lent an ear to my progresses and updates. I am also indebted to the countless contributors of the electronic sources for providing the numerous tools and systems that I have used to produce my thesis.

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CHAPTER I

INTRODUCTION

1.1 Introduction

This chapter highlights the rationale of the study and gives an overview of the critical thinking concept. It encompasses elaborate explanations on the theories of informal reasoning fallacy and critical thinking disposition, which leads to conceptualizing a framework, thereupon generation of research questions.

1.2 Background of Study

Diversification of education is a familiar phenomenon globally. College students are stepping into a world of ever-accelerating cognitive change where information avalanche occurs every day with some information becoming obsolete as quickly as it emerges. Scenario such as this is identical with the work setting, whereby some jobs are becoming obsolete whereas new jobs are emerging, people are moving into new roles with limited directions, technology is always transforming rapidly, policies are being revised etc. Therefore, there is a need for quick, good and independent decision making. A good decision maker needs to be a good critical thinker. In the fast paced ever-transforming world, students should be able to brave through competitive challenges, discriminate information, challenge others' ideas, escape from self deceiving matters and the like. Deficiency in critical thinking ability may result in a horrendous struggle to win the race and ill-prepares one for the employment market.

One of the main desirable outcomes of education is to groom higher education students to think rationally. Rationality cultivates good human nature. Therefore,

developing the ability to discover and defend reliable ideas about ourselves and our world is a valued outcome as a lifelong skill (Browne & Keeley, 1981; Damer, 2012; Halpern, 2001; O'Keefe, 1986, 1995). How do we develop critical thinking?

The nature-nurture controversy of intelligence clouds over critical thinking as well. It is not the argument of the researcher to verify such controversy, but to highlight that there are empirical evidences that critical thinking can be nurtured in classrooms (Facione, 1990; Gelder, 2005; Halpern, 2006; Smith, 2002).

Some students who naturally have the skills to think critically do not always use those skills. Taylor, (1997) and Stanovich (2009) termed these people as "cognitive misers" (p. 144) which refers to quick and easy mental processing. In other words, they are opposed in engaging careful thoughts and likely to take shortcuts to opt for easy and false answers. Succinctly speaking, critical thinking requires effort. Students will only exercise the effort when they are sufficiently motivated to do so. Those who intend to enhance critical thinking skills of their students, must also nurture their critical spirit (Dunn, Halonen & Smith, 2008). Students should be concerned about how they reason and organize their beliefs, make judgments and take actions. Therefore, educators have underlying tasks in not only developing the reasoning ability, but also to foster complex attitudes, habits of mind, dispositions or character traits.

A general consensus was reached among psychologists and educators, that besides cognitive ability, dispositional factors too influence critical thinking ability (Ennis, 1987; Facione, Sanchez, Facione, & Gainen, 1995; Perkins & Tishman, 1993). Critical thinking disposition refers to the intrinsic motivation to accumulate relevant and

reliable knowledge, both in one's own relative sphere as well as in the world at large (Facione et al., 1995).

Equally important, a number of well-known cognitive and emotional biases do influence the ability to evaluate claims (Kahneman, Slovic, & Tversky, 1982). Students who can demonstrate solid critical thinking skills fail to use them in evaluating certain kinds of beliefs. Biasness often interferes with critical thinking ability, for instance students engaging in discussion about social issues may quickly revert to defensiveness or ad hominem attacks. These fallacious patterns of thinking contaminate and tarnish human reasoning (White, 2009). Therefore, the skills of detecting and avoiding fallacies should also be cultivated in classrooms (Smith, 2002).

Generic critical thinking skills have often been urged to be implemented to meet the goal of education yet there is a need in revisiting fallacious thinking which is an integral part of critical thinking discipline.

1.3 Statement of Problem

Globalisation is a multifaceted phenomenon which encompasses variety of trends in economic, political, social and cultural contexts. Although globalization is akin to universities and higher education policies, nevertheless this umbrella concept stimulates interrelated transformations to operate in. The restructuring of the world's economic system results in new opportunities for the workforce. The erosion of nation-state leads to unbound global capitalism and it also creates new international forms of crime. Therefore, the general public must adapt themselves to cope confidently with the changes and to make sensible judgments about the role that they play.

In regards to globalisation, the rise of the 'network' society drives people to become more curious about information which entails information distillation, plausibility, judgment, prudence, discrimination and the like. The massification of urgent demand craves for skills to be uplifted in order to survive the avalanche of transformations taking place due to information explosion. Society is required to master multidimensional skills needed in the 21st century, such as creativity and innovation skills, critical thinking and problem solving, communication and collaboration skills. Among the skills which are to be cultivated at a young age are life and career skills, learning and innovation skills, information, media and technology skills. A subset of learning and innovation skills traced is critical thinking and problem solving ability which results in successful intelligence in the real-world.

College level is considered to be the transitional period or a period when the students have to deal with more challenging reading materials and complex concepts in order to be a critical thinker. Are Malaysian undergraduates equipped with these skills to face the challenges of globalization?

On another note, Malaysia is gearing towards a notably active democratic society, especially since the 2008 and 2013 general elections. Currently, there is a large growing democratic interest among the younger generations which necessitates important decision making skills. However their decision making depends abundantly on mass media. Media power is generally persuasive to some extent. It has fundamental control to the minds of readers or viewers. Mainstream and alternative media are main contributors in providing rich source of fallacies as a propaganda technique that exploit emotional triggers. Decision making may be contaminated by media fallacies projecting flawed information

resulting in misconception of ideas. In contrast, psychologists and sociologists have documented evidences that some media users are generally able to resist such persuasion by tapping their critical thinking ability. How are Malaysian youths muddling through all these interventions in order to stand for their rights?

The spark of globalization is the formation of computers and access to the internet which creates avenues to vast amounts of information that leads to information overload amongst the population. There is a deficiency in synchronization between the avalanche of information and the processing of the human mind. On the other hand, the human mind acts as a bottleneck in churning the information. Are colleges preparing themselves to train scholars in recognizing assumptions, recognizing biasness, evaluating credibility of sources, detecting fallacious information, distinguishing facts from opinions, seeking alternative viewpoints or weighing the data properly before reaching to a conclusion or making a wise decision?

Critical deficiency was found among college students when knowledge is to be applied in the real-world problem solving situations. The deficiency stems from rote memorization through didactic pedagogy which has been practised throughout their primary and high school days. By end of the college days, students are trained but not educated and there is a slim opportunity for the shift to happen outside of school (Paul, 1991). Chickering, Gamson, and Poulsen (1987) too quote that learning is not a spectator sport and should not be delivered passively, students need to make what they learn as part of themselves. Active learning must be seen as part of university learning if one intends to be at a competitive advantage. Active learning cultivates critical thinking which requires questioning, comparing and contrasting information, critical reading, making