ARECLS, 2013, Vol.10, 177-195.

Thinking Skills Frameworks to Evaluate Philosophical Modules in Higher Education

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Abstract

Philosophy, originated from the Ancient Greek φιλοσοφία (*philosophia*), which literally means 'love of wisdom', can be a challenging theme to postgraduate students in any higher education context. The challenge might double for international students whose philosophical ground acquired in their home country is incompatible with the philosophical knowledge taught in their new learning environment. Despite the unavoidable discrepancies, philosophical modules offered in higher education may converge if the learning goals are established as to develop a more universal set of thinking skills. This article is an attempt to select the most suitable thinking skill framework to make a contrastive evaluation between a philosophical module in an Asian university and the one in a Western university. Thereafter, several suggestions regarding the module contents and the methods of delivery will be made in light of thinking skills enhancement so that the thinking skills development can be fostered via philosophical modules in higher education.

Key words: *thinking skills, philosophies, nature of explanation and enquiry, multi-dimensional thinking, Integrated Framework for understanding thinking and learning*

The most suitable thinking skill frameworks for the evaluation

All the thinking skill frameworks to be presented in this article were selected from a thorough evaluation of 35 thinking skills frameworks for post-16 learners conducted by prominent researchers of School of Education Communication and Language Sciences, University of Newcastle upon Tyne and School of Education and Lifelong Learning, University of Sunderland. The summary poses a panoramic view of not only cognitive domain but also affective and conative domains as well (Moseley *et al.*, 2004, p. 13), which is classified into four mains families named *the all-embracing*, covering personality, thought and learning; *the designer*, dealing with instructional design; *the higher-order*, handling critical and productive thinking; and *the intellect*, discussing cognitive structure and/or cognitive development. (Moseley *et al.*, 2004)

As the two philosophical modules to be evaluated were delivered at tertiary level, a suitable thinking framework to ground the comparison was initially set as 'critical thinking', the most prevailing skill in the higher-order thinking cluster. Defined by Ennis (1985, p. 45) as "reflective and reasonable thinking that is focused on deciding what to believe or do," critical thinking certainly has a close connection with philosophy. Critical thinking is also considered an indispensable quality of a graduate of a Western university. No wonder why a dense body of literature has been devoted to this theme (O'Hanlon, 1987; Mary M, 2003; Burbach, 2004; Marin and Halpern, 2011). In essence, critical thinking has been infused into the educational goals of the United States for the year 2000, "The proportion of college graduates who demonstrate an advanced ability to think critically, communicate effectively, and solve problems will increase substantially" (National Education Goals Panel, 1991, p. 62) (as cited in (Halpern, 1999)).

Nevertheless, as pinpointed by Manson (2008) opinion amongst theorists is divided about whether critical thinking or ways of reasoning are universal or culture-and context-specific. In Asia in general with the deep-rooted tradition of obedience and respect, critical thinking does not seem to be encouraged in

education until recently under the influence of globalization. This leads to a sad fact that Asian students themselves are sometimes judged by Western lecturers as lacking certain 'critical' skills (The Higher Education Academy, nd.). A number of Asian researchers namely Ha (2001), Yoshino (2004) have expressed their concerns about the validity of the critical thinking framework in assessing whether a person is a good thinker or not, or in other words, whether the quality of a good thinker is confined in merely the quality of their critical thinking skills.

The scope of the thinking framework, therefore, is expanded to encompass other higher-order thinking skills as well. The origin of this terminology could be traced back to Bloom's cognitive taxonomy (1956), which categorizes cognitive domains hierarchically based on the assumption of the complexity variances. When revised by Anderson & Krathwohl (2001), Bloom's nominal terminologies analysis, evaluation and creativity were replaced by the verbal forms and ranked at the same level, normally referred to as higher-order thinking skills.

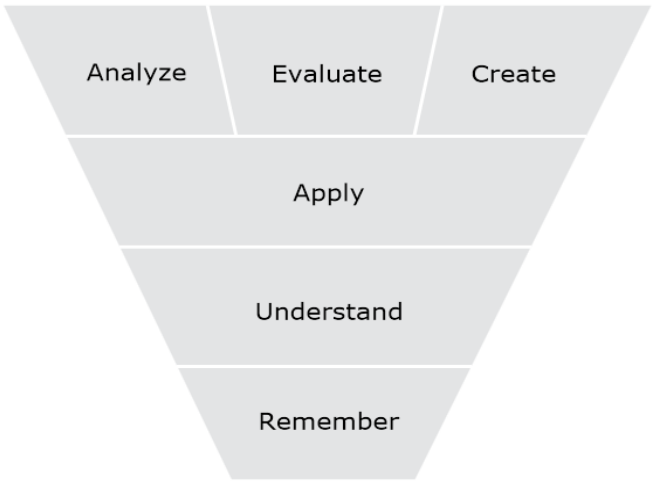


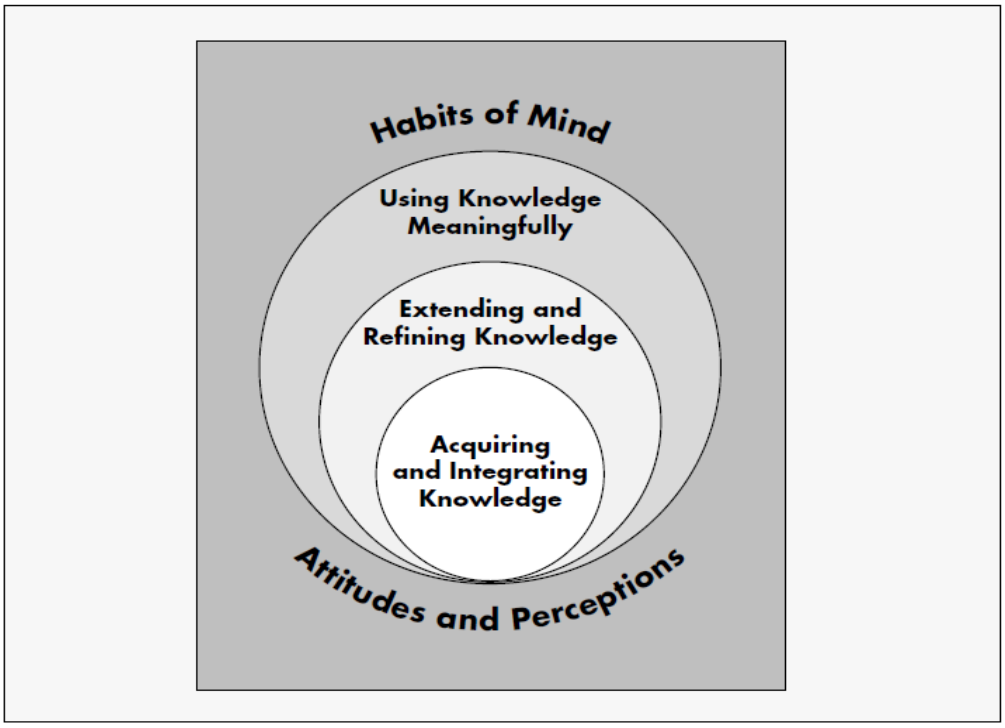
Diagram 1: Categories in the cognitive domain of Bloom's Taxonomy

(Anderson and Krathwohl, 2001)

From another perspective, Marzano's view of higher order thinking skills seems to have evolved with time. In *the Theoretical Framework for an Instructional Model of Higher Order Thinking Skills* (1984*)*,

he presents a model based primarily on research and theory about the processing of information in linguistic form; covering ten categories: recognition of concepts, relationships and patterns; information reconstruction, evaluation and extrapolation; problem solving; and knowledge of basic input-output processes, content-specific tasks, and self as learner. The evolution of his model of higher order thinking skills was first introduced in 1992 in *Implementing Dimensions of Learning* and then recited in (2006). In this diagram of dimensions of learning, the interrelationship among categories has been clarified and the interaction among them has also been depicted.

Diagram 2: How the dimensions of learning interact?



(Marzano and Pickering, 2006, p. 7)

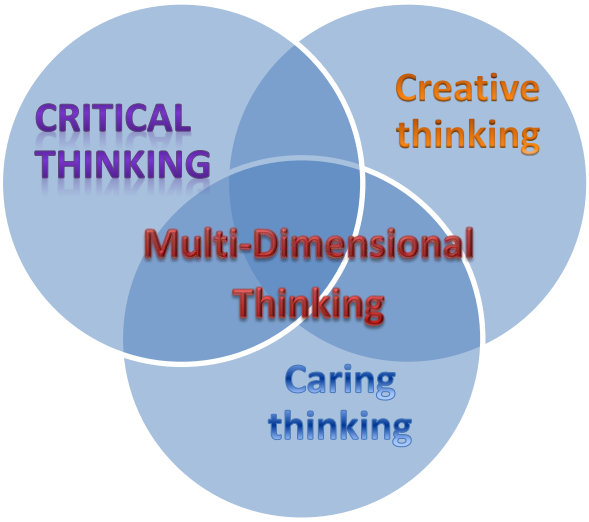
In this diagram, higher order thinking is used to refer to dimension four: using knowledge meaningfully and encompasses the development of complex reasoning processes namely *decision making, investigation, problem solving, experimental inquiry, invention and system analysis* (Marzano and Pickering, 2006, p. 5). *Critical thinking, creative thinking* and *self-regulated thinking,* however, are

arguably placed at the backdrop of the learning process as productive habits of mind (dimension five), which makes the distinction between skills and habits blurred.

And yet a prominent researcher in the field of thinking skills, Lipman (1995) proposes a much more expansive view of higher-order thinking as involving not only *critical* and *creative* thinking, but *caring* as well. His presentation of a tripartite account of higher-order thinking could be traced back to the ancient Greek regulative ideals of the *true* (critical thinking), the *beautiful* (creative thinking) and the *good* (caring thinking), which is very close to the triangular holistic purpose of the Vietnamese education system encompassing the humane, the physical strength, and the beauty.

Lipman's addition of caring has initiated an idea of thinking not only as a cognitive process but a striving towards well-being and democracy as well, which represents a significant shift to a more humane approach towards thinking skills. This is mentioned in his second edition of *Thinking in education* (Lipman, 2003), in which he consolidates and elaborates his tripartite model and highlights the education of critical, creative and caring thinking in building an enquiry-driven society that is characterized by *reasonableness* and *democracy*. This model has received positive comments from other researchers of the filed including the one stated in (Moseley *et al.*, 2004), "The three dimensions or modes of thinking, with their corresponding emphases on technique, invention and commitment are said to be present in varying degrees in all higher-order thinking."

Diagram 3: Multi-dimensional thinking (Lipman, 2003)



From the analysis of the three models of higher-order thinking skills of Anderson and Krathwohl (2001), Marzano and Pickering (2006) and Lipman (2003), it could be concluded that higher-order thinking is essentially a learning process which leads to a deeper understanding of the nature, justification, implication, and value of what is known.

However, it would be inadequate to just focus on higher-order thinking skills and neglect their relationship with the group of more fundamental thinking skills, without which higher-order thinking skills would lose the ground. An extension of the Integrated Framework for understanding thinking and learning appears to address thinking skills the most inclusively. The competitive advantage of this integrated framework over other mentioned models is that it brings out how strategic and reflective thinking can interact with and enhance the quality of information gathering, building understanding and productive thinking (Moseley *et al.*, 2004, p. 11).

An extension of the Integrated Framework for understanding thinking and learning (Moseley et al, 2004, in Turner and Robson, 2008)		
Strategic and Reflective Thinking		
Engagement with and management of thinking and learning, supported by value-grounded thinking (including critically reflective thinking and interpersonal and intercultural sensitivity)		
↕		
Cognitive skills		
Information gathering Experiencing, recognising, and recalling Comprehending messages and recorded information	Building language and understanding Developing meaning (e.g. by elaborating, representing, organizing or sharing ideas) Understanding disciplinary discourses Working with patterns or rules Concept formation Developing intercultural skills and understanding through participation in knowledge cultures, or communities of learning	Productive thinking Reasoning Understanding causal relationships Systematic enquiry Problem solving Creative thinking Intercultural awareness

An evaluation of the two philosophical modules based on the Integrated Framework for understanding thinking and learning

Criteria	Philosophy	Nature of Explanation & Enquiry
Strategic thinking	Not highlighted	Not highlighted
Reflective thinking	Well-developed	Well-developed
Intercultural awareness & sensitivity	Showing respect to other cultures	More understanding of other cultures needed
Productive thinking		
Creative thinking	Limited	Limited
Problem solving	Explaining world	Approaches to different

	phenomena	fields of study
Systematic enquiry	Chronological order	Not clear
Understanding causal relationships	Clear	Not highlighted
Critical thinking	Not highlighted	Well-developed
Reasoning	Not highlighted	Well-developed
Language and understanding building		
Developing intercultural skills and understanding	Mono-cultural environment	Multi-cultural environment
Understanding disciplinary discourses	Oriental philosophies Western philosophies	Western philosophies of multi-disciplinary
Working with patterns or rules	Not applicable	Not applicable
Concept formation	Abstract concepts	Many new concepts
Developing meaning	Related to real life	Lack of background
Information gathering		
Comprehending messages and recorded information	First language	English
Experiencing, recognizing and recalling	Main course book	Blackboard, database

The two modules to be evaluated are titled 'Philosophy' (in the Asian University) and Nature of Explanation and Enquiry (in the Western University). First and foremost, it should be made clear that the two modules, albeit their similarities are quite different in their scopes and objectives. While the Philosophy module dealt with philosophy in general, the Nature of Explanation and Enquiry focused more on philosophies in the field of social sciences. Therefore, the following comparison and contrast should be seen as relative only, though far transfers are still deemed to be made. Secondly, the development of thinking skills was not stated either implicitly or explicitly as the learning outcomes of both courses. Thus, the thinking skills to be commented below are only the side-effects of the two modules. The evaluation to be made involves both the content and the manner of delivery of the two philosophical modules.

To begin with information gathering, with the support of Blackboard and the high-quality library system, students in the Western university are surrounded with far more opportunities to experience diversified sources of information than those of the Asian university as most of the modules in the latter are based primarily on just one course book. However, the language barrier also poses certain obstacles for international students of the Western university in trying to comprehend complex concepts of philosophy. The Philosophy module in the Asian university, on the other hand, is delivered in the first language, which makes it more comprehensible to the learners.

As regards to building language and understanding, the Philosophy module dealt mostly with Oriental culture, which is deeply rooted in our daily life such as Confucianism, Buddhism, and Ho Chi Minh's ideologies. Thus, the students could find it easier to figure out the meaning of the concepts by relating them to their background understanding. Moreover, the lessons were arranged in chronological order starting from the myths about the formation of the world to the development of science to explain natural phenomena and several prominent theories of the modern society like Marxism and Leninism. Consequently, the module depicted a big picture of the development of philosophical theories about the self, the reality, the truth, and the society in their progression through different time periods. The Nature of Explanation and Enquiry, by contrast, presented the concepts in a more scientific approach centering on several key figures in the contemporary field of Western philosophies like Karl Popper, Thomas S. Kuhn, Peter Winch, Pierre Bourdieu, together with schools of thoughts such as Marxism, hermeneutics, positivism, post-structuralism, post-modernism, historiography, and feminism. The upside of this approach is that the learners could taste a rich variety of different approaches that might be relevant to the diversified disciplines that they took; therefore, they can form a broader view encompassing different fields of social sciences. On the downside, however, sometimes, the international students found themselves in the middle of a theory that they had no background knowledge of. The sessions of post-structuralism and post-modernism may highlight the point as structuralism and modernism were unfamiliar concepts to them. When the knowledge is beyond the zone of proximal development, many

international students found themselves in a struggle to comprehend the meaning. The development of meaning and the formation of new concepts are also hindered by the way the lecturers conducted the lessons in a sense that they made an effort to embrace a large amount of knowledge in a so constraint timeframe of just an hour, which resulted in their running through the slides before the students could have time to work out the meaning for themselves. Unfortunately, this lecturing method was quite a commonplace in both courses of the two universities.

Culturally speaking, the Philosophy module equipped the attendees with knowledge of the past and the contemporary as well as major philosophical schools of the world like Chinese, Indian (Oriental) and Greek, German (Western), whereas the Nature of Explanation and Enquiry concentrated more on American and European philosophers with no recognition of other cultures regardless of the fact that the majority of the students in the Western university came from Asia, Middle East, and Africa. Nevertheless, it is the discussion in this culturally diversified environment in the Western university with representatives from different parts of the world with their own "baggage" of knowledge that facilitated the participants' intercultural skills and understanding. This advantage cannot be found in homogeneous culture environment like the Asian university, where the number of international students is very limited.

Regarding higher-order thinking skills or referred in the Integrated Framework for understanding thinking and learning as productive skills, the Nature of Explanation and Enquiry appeared to prevail at developing reasoning skills and critical thinking skills. After one hour of listening to the lecturer presenting the nuts and bolts of a certain theory or principle, the students would gather in group to further discuss their opinions as well as the relevancy and applicability of the theory to their fields of study. During this second half of the session, such reasoning skills as retrieval, extrapolation and logical evaluation are fully exploited to achieve better understanding of the topic discussed. Such heated group discussion created an optimal learning environment for critical thinking to be enhanced, particularly with the support of an experienced facilitator in each group. Moreover, most of the concepts are abstract and there is no

absolutely right or wrong answer to most of the questions raised, they seem to be highly stimulating to all the deep thinkers in the class. For instance, such questions regarding ontology and epistemology are inherently bias and required the learners' insightful thinking to make appropriate and well-justified judgements for their own research. The more fundamental the questions are like questions about the truth, science, knowledge, the more difficult it is to recognise unstated assumptions and values and to draw warranted conclusions and generalisations. Therefore, the learners had to delve into complex cognitive processes to reconstruct their patterns of beliefs on the basis of wider experience, and subsequently arrived at their own well-grounded propositions. Unlike the Nature of Explanation and Enquiry, the Philosophy course was delivered in the form of a series of lectures with hardly any room for discussion. The students were allowed to make questions, but not many of them took the opportunities. Even though they could reflect on the philosophical ideologies individually, they were deprived of the chance to exchange their thoughts with their peers and the lecturer. As a matter of fact, reasoning skills and critical thinking skills were confined to each individual self-development via their interaction with the knowledge in the course book rather than face-to-face communication with others. That the class was largely void of discussion appeared to discourage the development of reasoning and critical thinking.

However, as mentioned above, the philosophical lessons of the Asian university were arranged in chronological order that facilitated the understanding of causal relationship and systematic enquiry. Through the module, the learners could, to a certain extent, comprehend the evolution of philosophical theories in their historical contexts. Meanwhile, it was very challenging to figure out the connection among the sessions of the Nature of Explanation and Enquiry module as they were a mixture of prominent philosophers and prominent philosophies with blur indication of a logical sequence.

Problem solving was also enhanced in both modules but with different foci. The Philosophy module was more inclined to explaining the general and fundamental issues related to existence, knowledge, the development of the society throughout the history whereas the Nature of Explanation and Enquiry

equipped the students with various approaches to handle with philosophical issues in conducting a research in the field of social sciences. However, normally, no specific problem was raised nor detailed process to handle with research questions was formally put forward. The students merely attempted to link their own research interest with the philosophies delivered during the lecture during the group discussion with the assistance of their peers, the facilitators, and sometimes the lecturers.

At the top of the integrated framework, however, creative thinking and strategic thinking did not seem to be fostered during the both modules. Perhaps, that would be attributed to the fact that they focused more on receptive skills like listening and understanding rather than productive skills like transferring and forming new knowledge.

It is noteworthy that in a mono-culture environment the Asian students were familiarized with a wide range of influential philosophies of the world from Chinese, Indian, and Greek to modern Western ones. Subsequently, they became more open-minded in welcoming and respecting other cultures. On the contrary, the Western university, which prides itself in a diversified learning environment, appeared to be quite restrictive in introducing foreign philosophies into its training programs. Despite the difficulty of selecting which one to introduce among the vast pool of the world philosophies, this task does not seem unattainable.

In terms of reflective thinking, both of the courses provided ample opportunities for the students to cogitate about the existence around them and the nature of the research that they were conducting. This kind of deep pondering about wisdom and how it is actualized in daily life and in research could be seen as a concrete example of higher order thinking skill development. More often than not, via considerable amount of comparison and contrast and criticality, this reflective thinking process helps to lay or alter the fundamental views of the entire world.

In a nut shell, both the Philosophy and the Nature of Explanation and Enquiry courses did inexplicitly touched upon a number of thinking skills mentioned in the Integrated Framework for understanding thinking and learning (Moseley *et al.*, 2004). Generally, the group of well-developed skills encompasses information gathering, language and understanding building, problem solving and reflective thinking. The Nature of Explanation and Enquiry tended to excel at reasoning and critical thinking skills while the Philosophy module appeared to foster more understanding of causal relationship, systematic understanding, and intercultural awareness and sensitivity. A list of under-developed skills comprises working with patterns or rules, creative thinking and strategic thinking.

Suggestions to enhance thinking skills via philosophical modules

The context of internationalization in higher education calls for a better understanding of how a certain module is delivered in different universities. Several pedagogical implications are to be presented in this part to exploit the highly intellectual characteristics of philosophical modules to enhance thinking skills as highlighted in the Integrated Framework for understanding thinking and learning (Moseley *et al.*, 2004). As for the matter of convenience, the following suggestions should be seen as applicable to both courses deemed appropriate.

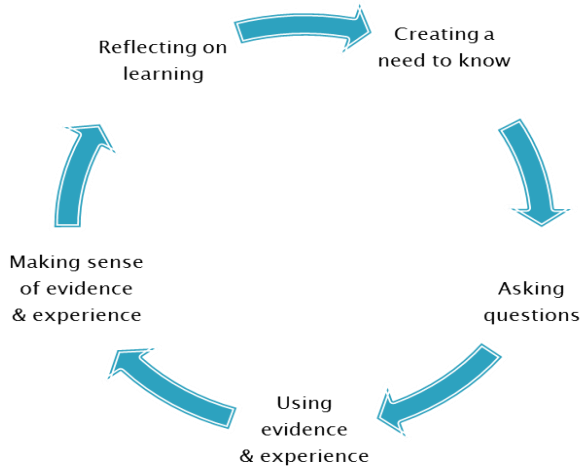
First of all, thinking skills should be integrated more purposefully into the module as one of the qualities of a researcher is to be an independent thinker. If thinking skills are not stated as one of the goals of the learning outcomes, the students may find themselves in difficulty striving to acquire those complex but essential skills just as a side-effect of other modules. It is highly recommended that the Integrated Framework for understanding thinking and learning by Moseley et al. (2004) be taken into consideration in establishing the course objectives. As stated by Rousseau, 1762 in (Blagg *et al.*, 1996)

> "It is not your business to teach him the various sciences but to give him a taste for them and *methods of learning* them when this taste is more mature. This is assuredly a fundamental principle of all good education."

In terms of organization, there can be two issues that need to be addressed. Firstly, the sequence of the entire module should be tailored in such a way that the preceding session would lay the foundation for the subsequent one, or at least there should be a logical connection between the two adjacent sessions. Secondly, the contents of each session should be arranged more systematically so that it covers the context, the definitions of key concepts, the categorization, and the critical review. It is essential that each session begin with the context of the inception of each theory so that international students would have a glimpse of the background before they would actually acquire a full understanding of any new concept. This suggestion is based on Vygotsky's principle of zone of proximal development implying that students should be more prepared for their proximal learning zone before they could develop the meaning of a notion right above it.

In an effort to further improve information gathering skills, a good suggestion for the module the Nature of Explanation and Enquiry should be to require the students to actively search for related articles and upload them to their learning portfolio before the session starts besides reading the ready prepared articles on blackboard. This activity may arouse the students' curiosity for new knowledge as well as stimulate their learning autonomy, which is an initial significant step in the enquiry cycle, creating a need to know.

Diagram 4: Enquiry circle



While diversity is hailed in international educational institutions, efforts also need to be made in order to facilitate further intercultural understanding. It is advisable that great Oriental philosophies should also be included besides the prevalent Western ones so that the students could have a taste of the world cultures and the distinction between the West and the East would then be minimized. It is not a surprise if one finds that some of the ideas recently stated by Western philosophers stemmed from Buddhism philosophy stated thousands of years ago. Therefore, mutual respect is deemed the best way for philosophy in particular and culture in general to thrive.

The lecturers involved in the module also need to be introduced to a set of desirable learning dispositions known as the '5Rs' proposed in (Rodd, 2001): readiness, resourcefulness, resilience, remembering, and reflectiveness. With this understanding, the lecturers may tailor their lecturing pace and the amount of new knowledge to better suit the pace of acquisition of international students as well as native students and they may also allow more time for the students to digest information before being introduced with new one.

The methods of delivering the lessons should be inclined towards discussion. However, interaction between the lecturer and the students should be further motivated via eliciting, scaffolding and question and answer sessions as suggested by Vygotsky (1986, p. 218) "As thought concretizes itself, among other ways, in speech and gesture, it develops and changes" (thought is not merely expressed in words; it comes into existence through them.) Criticality should also be further highlighted via well-structured discussions and debates so that students would be able to challenge their viewpoints and be more open-minded to contradictory ideas. This can be achieved by raising more comparative and evaluative questions and encouraging the students to take side and defend their propositions.

It is noteworthy that not every thinking skill can be integrated into a philosophical module. However, with integrated effort from the module designers and the lecturers, the students will not only attain a more insightful understanding of the philosophical issues but also sharpen their thinking skills to become a much efficient researcher.

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