14th International Conference on Humanities and Social Sciences, 14th ICHiSS 2022
19th May 2022-20 May 2022
Theme:Teaching and Education

The Development of Critical Thinking Module: A Needs Analysis

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Abstract
In the military, officers do not only use critical thinking (CT) in their military mission but they are also required to have CT in completing their tasks at work and in professional military education. Improving the learning process of CT for military intelligence personnel directly benefits both the military and the people that they protect, allowing them to be more effective in their duties and decision-making. However, graduates of Army education institutions often lack in CT and problem-solving. Thus, the aim of this study is to evaluate the needs of critical thinking skills among military cadet officers. Specifically, the objective is to identify the perceptions of military officers on the need of critical thinking skills among military cadet officers. A semi-structured interview was conducted with nine in-service military officers of the Malaysian Armed Forces (MAF). The results showed the importance of CT skills to be implemented from the beginning (cadet level). The results suggest that there is a need to develop a critical thinking module for military cadet officers that is practical for them.

Keywords: critical thinking, military cadet officers, needs analysis

1. Introduction

Critical thinking is not a skill that everyone has since childhood. It has to be learned and not something that is gained naturally. Critical thinking should be taught to students by knowledgeable and trained experts and not by parents or peers. For that reason, critical thinking is included in the curriculum in higher education institutions. Nonetheless, many teachers and lecturers are having difficulties integrating CT in their lessons, which leads to students having difficulties applying CT in their learning process [1].

In the military, officers do not only use critical thinking (CT) in their military mission [2] but they are also required to have CT in completing their tasks at work [3] as well as in professional military education [4]-[6]. Improving the learning process of CT for military intelligence personnel directly benefits both the military and the people that they protect, allowing them to be more effective in their duties and decision-making [7].

In military education, instructional strategies [7],[8] and course designing [9] should be taken into consideration when it comes to CT learning and teaching process. In many studies done internationally, CT has been identified as one of the crucial skills among the military officers' education [2], [4],[5], along with leadership, integrity, open-mindedness, social intelligence, and others [10]. However, not much has been discussed on the needs and importance of CT in the Malaysian setting.

Therefore it is important to carry out this study in order to gauge the perspective of military officers on the importance and needs of CT to be exposed to military cadet officers. The main objective of this study is to find out the military officer's perceptions on the need to develop a CT module for military cadet officers.

2. Literature Review

2.1. Critical Thinking in Higher Education

Malaysian Ministry of Education has included higher-order thinking skills (HOTS) in primary and secondary syllabi. According to the National Education Blueprint 2013-2025, by 2016, at least 40% of Ujian Penilaian Sekolah Rendah (UPSR) examination questions, and 50% of Sijil Pelajaran Malaysia (SPM) are HOTS questions [11]. This shows that in Malaysia, critical thinking skill is not only emphasised at the tertiary level. It has been implemented as early as the primary level of education. With the implementation of HOTS at school levels, there is evidence on the issues of implementing HOTS in the classroom. Factors related to students, pedagogical, and institutional are among those that hinder the implementation of HOTS at the school level. Other than that, the focus of HOTS is more on science and mathematics subjects, compared to others like language subjects [12]. Thus, students probably can apply their critical thinking skills (CTS) in certain situations. This eventually leads to the inability for students to continue using CTS when they are in tertiary education.

In tertiary education, critical thinking skill is also highlighted as one of the learning outcome domains as stated by the Malaysia Qualifications Framework (MQF) under the Ministry of Higher Education. Under MQF, the learning outcome is defined as "a statement on what students should know, understand and can do upon the completion of a period of study" [13]. In the domain, CTS is represented in domain 6, which is "problem-solving and scientific skills" [13]. In the learning outcomes of the 2nd Edition of MQF [13], critical thinking can be seen stated in cluster ii) cognitive skills:

> "This relates to thinking or intellectual capabilities and the ability to apply knowledge and skills. The capacity to develop levels of intellectual skills progressively begins from understanding, critical/creative thinking, assessment, applying, analysing, problem-solving as well as synthesizing to create new ideas, solutions, strategies or new practices. Such intellectual skills enable the learner to search and comprehend new information from different fields of knowledge and practices."

2.2. Critical Thinking and Military

In a military setting, apart from effective leadership skills, an officer needs to be critical in their thinking process. Studies have shown that critical thinking is important because of the following reasons:

- It is highly promoted and emphasised in Professional Military Education [4],[5], and identified as the most important outcome of officer education [3]
- It is part of important "character strengths…leadership, integrity, persistence, bravery, open-mindedness, fairness, citizenship, self-regulation, love of learning, social intelligence, perspective and creativity" [10]
- An important element in the military decision-making process [5],[7]
- It is required for the betterment of the reflective military practitioner (Paparone, 2014)
- It is utilized in military missions [2],[8]

3. Methodology

3.1. Research Design

This preliminary study was conducted qualitatively. This form of qualitative descriptive study is frequently employed to investigate social phenomena, events, or conditions [14].

3.2. Participants

A total of nine (9) participant were involved in a semi-structured interview session. All participants are in-service military officers from the Malaysian Armed Forces (MAF), consisted of four from the Royal Malaysian Army (RMA), three from the Royal Malaysian Navy (RMN) and two from the Royal Malaysian airforce (RMAF). The demographic information of the participants are as below:

TABLE I: Participants Demographics (n = 9)

Participants	Age group	Gender	Years of Service
A1		Male	
A2		Male	
A3		Female	
A4		Male	
N1	35 – 45 years	Male	13 – 20 years
N2	old	Male	
N3		Male	
Af1		Male	
Af2		Male	

3.3. Data Collection And Analysis

A semi-structured interview was conducted online due to the current situation of Covid-19. The interview guidelines consisted of seven (7) open-ended questions to find out the participant's perceptions on critical thinking skills and the need to develop the module of Critical Thinking for military cadet officers. Data obtained during the interview were then transcribed and analysed using thematic analysis.

4. Results and Discussion

Based on the interview, on the need for the development of a critical thinking module for the military cadet officers, most of the participants agreed that there should be a module of critical thinking introduced to the military cadet officers. One participant stated that;

N2:" I think yes right from the start because they have to inculcate that skill...when they embark into the situation where they could not handle themselves they have the capacity to point out critical data... ".

The module has to be practical for military cadets officers to apply because the applications of the skills are much more important than the exposure of the theoretical parts of the skills. By exposing them to the skills, it is hoped that they are able to apply them. As stated by one of the participants;

N3: " ...don't make it too academic...if you want to teach it to cadet, basically make it simple for them and you apply that to them and you make them apply within their life... ".

However, from all responses given by the participant, one participant stated that it is not suitable to expose the cadets with CT yet. The exposure and application should be done once they are actively in-service officers. The participant mentioned that;

A3: " I don't we need critical thinking for cadets. Cadets...we gave them instructions, they have to follow. They don't need critical thinking...because we want to produce individuals who can follow instructions. they have to follow instructions. If we expose them with critical thinking, they will a lot to argue with us... ".

Perhaps from this, it can be said that though there is a needs to develop a module on CT for the cadets, there are certain elements related to instructional strategies [7], [8] and course designing [9] that need to be taken into consideration for the situation mentioned above (as stated by A3) will not happen.

5. Conclusion

Though it is not a guarantee that after a few years of learning CTS in military academies would make sure the use and the outcomes expected [3], [5], it does not mean that there is no necessity to integrate CT in academics and military training among the cadet officers. It could help them to be familiar with the application of CTS be prepared to apply the skills in a professional setting. The evidence of lacking of CT skills and less attention given to it proves the importance to look at the pedagogy of CT.

This research plays a role as a reference for future research to develop the critical thinking module that is practical for military cadet officers. The developed module is expected to pay attention to suitable and practical ways to expose and teach military cadet officers Critical Thinking skills.

Acknowledgements

The researcher would like to thank both the main supervisor and co-supervisor who have contributed so much in this study.

References

[1] Dwee, C. Y., Anthony, E. M., Salleh, B. M., Kamarulzaman, R., & Kadir, Z. A. (2016). Creating Thinking Classrooms: Perceptions and Teaching Practices of ESP Practitioners. Procedia-Social and Behavioral Sciences, 232, 631-639.

[2] Folker Jr, R. D. (2017). Operationalizing air force critical thinking. Air & Space Power Journal, 31(4), 62-68.

[3] Ayers, R. B. (2016). Optimizing workforce performance: perceived differences of Army officer critical thinking talent across level of education. The University of Southern Mississippi.

[4] Emilio, G. A. (2000). Promoting critical thinking in professional military education. Air Command And Staff Coll Maxwell AFB AL.

[5] Parenteau, D. (2021). Teaching Professional Use of Critical Thinking to Officer-Cadets. military learning, 47.

[6] Schumm, W. R., Webb, F. J., Turek, D. E., Jones, K. D., & Ballard, G. E. (2006). A comparison of methods for teaching critical thinking skills for US Army officers. *American Journal of Distance Education*, *20*(1), 39-50.

[7] Smoot Jr, J. A. (2016). Military instruction: A mixed-methods study of strategies for teaching critical thinking to enlisted military personnel (Doctoral dissertation, Capella University).

[8] Dice, D. T. (2017). *Military Instructor Critical Thinking Preparation* (Doctoral dissertation, University of Southern California).

[9] Amalanathan, E., & Balraj, B. M. (2018). Pedagogical Innovation: Collaborating 4cs Framework Model And Case Study-Based Learning For Enhancing Language Competence In Military Context. In Proceeding: 2nd International Conference On Social Sciences, Humanities And Technology (ICSHT 2018) (p. 109).

[10] Boe, O., Bang, H., & Nilsen, F. A. (2015). Experienced military officer's perception of important character strengths. *Procedia-Social and Behavioral Sciences*, *190*, 339-345.

[11] The Star Online (May, 2016) Coming to Grips with HOTS. *The Star Online.* https://www.thestar.com.my/news/education/2016/05/01/coming-to-grips-with-hots/

[12] Abdul Aziz @Ahmad, A., Ismail, F., Ibrahim, N. M., & Samat, N. A. (2017). Investigating the Implementation of Higher Order Thinking Skills in Malaysian Classrooms: Insights from L2 Teaching Practices. Sains Humanika, 9(4–2), 65–73. https://doi.org/10.11113/sh.v9n4-2.1361

[13] Malaysian Qualifications Framework (MQF) 2 nd Edition. (2016). https://www.mqa.gov.my/pv4/document/mqf/2019/Oct/updated%20MQF%20Ed%202%2024102019.pdf

[14] Creswell, J. W., Clark, V. P., & Garrett, A. L. (2003). Advanced mixed methods research. Handbook of mixed methods in social and behavioural research. Thousand Oaks, CA: Sage, 209-240.