Do Thai Medical Students Understand What Does 'AEC' Mean? A Cross-sectional Survey

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Abstract

Background: Thai medical students are inevitably involved in the regional collaborative movement of 10 countries toward the ASEAN Economic Community (AEC), this study explored how well they understand the term. **Methods:** Twelve students proposed an abbreviation list, which was then rated for their difficulty level by another 55 students using a 5-point Likert scale. Three easy, three medium and three difficult abbreviations were randomly chosen and randomly listed in the final questionnaire, along with 'AEC'. Another randomly selected 60 students were asked to write the full term of the 10 abbreviations. **Results:** Of 34 abbreviations in the initial list, the selected terms were: CMCTSD, SRL, LSC, SOS, AM, LOL, WHO, USA, UK. They were correctly answered in 0, 0, 0, 6.67, 13.33, 46.67, 81.67, 96.67, and 98.33 percent, respectively. AEC was deemed moderately difficult, as 30% correctly expanded the abbreviation. **Conclusion:** Majority of medical students lacked an understanding of the current AEC movement.

Key words: Medical Students; Linguistics; Thailand; ASEAN; Economy (Source: MeSH-NLM).

Introduction

The ASEAN Economic Community (AEC) is a collaborative group of ten countries - Brunei Darussalam, Cambodia, Indonesia, People's Democratic Republic of Lao, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam - that aims to promote economic strength in the region. According to the Mutual Recognition Arrangement (MRA), the physician is one of the seven professions who will be formally allowed to move across ASEAN countries to areas in which greater influx of patients is anticipated.

Countries have prepared themselves to ensure maximum competitive advantages.[1, 2] Despite a number of strengths of medical education in Thailand, the English language has been of great concern. The total Test of English as Foreign Language (TOEFL) Internet-based Test (iBT) score between January 2014 to December 2014, revealed that people from Singapore, the Philippines, Malaysia and Indonesia have significantly better English ability than the Thai population.[3]

As future physicians, Thai medical students will inevitably be involved in this regional movement and their awareness should, therefore, be assessed and promoted. This study was conducted by a group of Thai medical students aiming to explore how well their colleagues understand the term AEC. The basic premise is that the extent to which a non-English speaking medical student understands this regional movement could be indirectly assessed by asking them to spell out the term. This approach was designed to minimize the tendency to answer questions untruthfully (response bias), which may happen if medical students were asked about the AEC movement directly.

Methods

We applied sequential exploratory mixed method design.[4] Firstly, 12 third-year medical students were randomly selected based on student identification number. Each of them was given the American Heritage Abbreviations Dictionary and asked to come up with an initial list of 3 abbreviations with varying degree of "difficulty", defined based on the extent to which their colleagues understand its meaning. Any incidental duplicated word was removed.

Secondly, the "Difficulty Assessment" (DA) questionnaire was developed based on the abbreviations identified from the step above (**Figure 1**). During the one-week study period, DA questionnaire was distributed to a convenient sample of students whom the investigators met during 8 AM – 9 AM in front of the library of Faculty of Medicine, Chulalongkorn University. A participant with a valid medical student identification card issued by the Faculty of Medicine, Chulalongkorn University was considered eligible. They were asked to respond to the question "I agree that each of the following words is difficult," using a 5-point Likert scale (1, Strongly Disagree; 2, Disagree; 3, Neither Agree or Disagree; 4, Agree; 5, Strongly Agree). The respondents were asked to complete the DA questionnaire to make sure that there were no missing responses. Mean difficulty score for each abbreviation was calculated and sorted into 3 levels, ranging from 1 (easiest) to 3 (hardest), respectively. Thirdly, three words from each difficulty level were randomly selected. These nine words were randomly mixed with the term AEC to make the final list of 10 abbreviations to be used in the "Comprehension Assessment" (CA) questionnaire (**Figure 2**).

During the one-week study period, CA questionnaire was distributed to a convenient sample of third-year medical students (representative of preclinical student group) and sixth-year medical students (representative of clinical student group) who the investigators met during 8am-9am in front of the library of Faculty of Medicine, Chulalongkorn University. A participant with a valid medical student identification card issued by the Faculty of Medicine, Chulalongkorn

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Figure 1: Difficulty Assessment (DA) Questionnaire

University was considered eligible. It was unlikely that medical students who were aware and unaware of the AEC movement would be differentially present at when and where the study was conducted. Each of them was asked to write the full form of these abbreviations. The responses were assessed based on comprehension rather than exact spelling. A perfectly correct answer despite misspelling received one point whereas incorrect or no answer received zero points. The respondents were asked to complete the CA questionnaire to make sure that there were no missing responses. Descriptive statistics included mean, standard deviation and frequency. Spearman's correlation rank test was used to assess whether the rankings of the nine words were different from expectation.[5] Statistical significance was defined as p-value <0.05. Stata/MP 15 (StataCorp LLC, College Station, TX) software was used for the analysis. As this study collected only the subjects' opinion but not identifiable data, it was exempted by the Institutional Review Board Faculty of Medicine, Chulalongkorn University.

Results

A total of 36 abbreviations were identified by the first group of 12 medical students. After removal of two duplicates, 34 terms were included in the DA questionnaire. Alphabetically, they were ABC, AM, ASEAN, ASAP, ATM, BMTA, CIA, CIMCTSD, CU, DOTA, DVT, FBI, HTS, ICU, LOL, LSC, NDA, N/A, OMG, O/E, PE, RIP, SDL, SOS, SRL, STD, TGIF, TIA, UK, UN, UFO, USA, WHO and WWW.

The DA questionnaire was given to 55 students (26 preclinical medical, 17 clinical medical, five nursing, four pharmacy and three rehabilitation science students). The average age was 20.8 years and 58.2% were female. The nine randomly selected words for CA questionnaire and the mean difficulty scores were CMCTSD (mean 4.53), SRL (4.15), LSC (4.13), SOS (2.49), AM (2.49), LOL (2.42), WHO (1.49), USA (1.44), UK (1.42) (Table 1).

Figure 2: Comprehension Assessment (CA) Questionnaire

Table 1: Mean Difficulty Scores of the 9 Abbreviations

Abbreviation	Meaning	Mean Difficulty Scores
CMCTSD	Cape May County Technical School District	4.53
LSC	Lost sexual contact	4.13
SRL	Space Radar Laboratory	4.15
SOS	Save our soul	2.49
AM	After midnight	2.49
LOL	Laughing Out Loud	2.42
WHO	World Health Organization	1.49
USA	United States of America	1.44
UK	United Kingdom	1.42

The CA questionnaire was given to 60 medical students (40 were 3rd year and 20 were 6th year), with a response rate of 100%. The average age was 21.20±1.22 years and 35 (58.33%) were female. The rankings of difficulty levels of the nine abbreviations were not different from expectation (Spearman's rho 0.98; p<0.01). The selected terms (CMCTSD, SRL, LSC, SOS, AM, LOL, WHO, USA, UK) were correctly answered 0, 0, 0, 6.67, 13.33, 46.67, 81.67, 96.67, and 98.33 percent, respectively. No individual was able to write down the full term of the three hardest abbreviations. Only 30% correctly stated that AEC was abbreviated for ASEAN Economic Community and therefore considered moderately difficult.

Discussion

While the government of Thailand has been actively promoting and publicizing abundant information about AEC, many people still do not understand even the meaning of it.[6] Findings from the applied innovative and systematic approach used in this study suggest that Thai medical students have limited knowledge about AEC, which was deemed a moderately difficult term. It would not be possible to ask for contributions from a group of stakeholders who mostly does not even understand what the term stands for. Therefore, the current generation of medical students who are directly involved in the movement toward AEC should be better prepared.

Attempts to improve English language skills of Thai students have been successful in grammar and reading ability, whereas speaking and listening skills have remained questionable.[7, 8] Although clinical care requires good interpersonal relationship, which depends partly on understandable communicative language, no clear national strategy to strengthen linguistic skills of medical students have been implemented. The Thai National Licensing Examination has changed the multiple-choice questions of its Step 1 (basic science knowledge) and 2 (clinical knowledge) from Thai to the English language; however, the last step that was aimed to assess clinical practice skills has remained in Thai.[9]

The key limitation of this study is the assumption that language skill can be a proxy for student's comprehension. This study's methodology is similar to the common reading comprehension test that is created to examine language proficiency and test understanding. However, the reading comprehension test is directly influenced by background knowledge of examinees.[7] That is to say, that those being assessed might answer questions correctly without understanding. In our context, it is hard to assume that someone who cannot correctly spell full term abbreviation does not understand the meaning of those abbreviations and vice versa. For example, one might understand what 'NASA' does but could not tell that it stands for National Aeronautics and Space Administration. Also, an abbreviation can represent more than one meaning. Therefore, using language skill to test student's comprehension may not be the best method. [10] As our initial list of abbreviations might be too broad, further study should be conducted to assess the consistency of the findings.

Conclusion

Generalizability of the findings from this study might be limited by background knowledge; however, the objective of this study was to get a better understanding of how medical students of an institution in Thailand understand the term.[11] Hence, further study with larger sample size and in various contexts would be needed.

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Author Contributions

Conception and design the work/idea: JK, RJ, WJ, NJ, AB, KP. Collect data/obtaining results: JK, RJ, WJ, NJ. Analysis and interpretation of data: JK, RJ, WJ, NJ, KP. Write the manuscript: JK, RJ, WJ, NJ, KP. Statistical advice: KP. Administrative or technical advice: KP. Critical revision of the manuscript, Approval of the final version: JK, RJ, WJ, NJ, AB, KP.

Cite as:

Kittrakulrat J, Jurjai R, Jongjatuporn W, Jarupanich N, Bhamani A, Pongpirul K. Do Thai Medical Students Understand What Does 'AEC' Mean? A Cross-sectional Survey. Int J Med Students. 2018 Jan-Apr;6(1):21-24.