



**UNIVERSITI PUTRA MALAYSIA**

***REFLECTION OF THINKING SKILLS AND LEARNING OBJECTIVES IN  
ENGLISH FOR SPECIFIC PURPOSES SUBJECTS IN HUMANITIES AND  
SCIENCE FACULTIES IN A MALAYSIAN PRIVATE UNIVERSITY***

**JOANNA TAN TJIN AI**

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**By**

**JOANNA TAN TJIN AI**

**Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in  
Fulfilment of the Requirements for the Degree of Doctor of Philosophy**

**December 2015**

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Abstract of thesis presented to the Senate of Universiti Putra Malaysia  
in fulfilment of the requirement for the Degree of Doctor of Philosophy

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**JOANNA TAN TJIN AI**

**December 2015**

**Chairman : Nooreen Noordin, PhD**  
**Faculty : Educational Studies**

Having a good command of the English Language and being able to think critically are important aspects to prepare university students for their internship as well as the working world. Hence, it is essential that English for Specific Purposes (ESP) subjects have thinking skills integrated in their learning objectives. The categorisation of thinking skills are based on Bloom's Taxonomy and incorporated in the setting of final examination question and coursework components.

This study aimed to find out the types of thinking skills reflected in the final examination questions in both English for Specific Purposes (ESP) subjects offered in the Faculty of Science and Faculty of Humanities. It also looks at the reflection of learning objectives in the final examination questions and coursework components for the respective ESP subjects. The content data analysis method was employed to look into the documents used in the assessment for these subjects. Member checking and peer debriefing sessions were held with 3 faculty members to strengthen the validity of the data as interviews and observations were not able to be done. The sessions helped to confirm the accuracy of the open codes created for this study as well as answer questions pertaining to the rationale of setting the types of questions and coursework components. The rationale behind the methods of assessments used for coursework components was also done using both member checking and peer debriefing.

In terms of the reading comprehension questions, the thinking skills found in English for Communication (ENG 101) and English for Media (ENG 102) are mostly in the lower level (LOTS). When compared to English for Sciences (ENG 106), the questions are more on the moderate (MOTS) and high (HOTS) levels. The graphical interpretation section for ENG 102, ENG 201 and ENG 106 reflect the same types of thinking skills, which are the MOTS and HOTS. However, the only difference is the graphs found in ENG 106 have more relevance to the programs offered in that faculty whereas the others are more general, with the exception of some that are more related to the field of Psychology. On the other hand, for the coursework components, the thinking skills infused were mostly of the moderate to high level in comparison with the final examination questions for the ESP subjects in this study. Among the components, it was

found that the project and article review reflected the learning objectives and had the reflection of all the thinking skills. The nature of these coursework components allowed students to have a transition from the Low Order Thinking Skills to High Order Thinking Skills.

As a conclusion, coursework components play a bigger role in the reflection of thinking skills and learning objectives. The theory generated from the analysis of data showed that the transition from Low Order Thinking Skills to High Order Thinking Skills can only be reflected in a more obvious manner through coursework. Hence, the allocation should be made 60% instead of the present 40%. In order to enable students to be more effective thinkers and reflect on their learning process, coursework is a much better way compared to examinations. This makes sustainable learning a reality and students would also be more appreciative of the ESP subjects.



Abstrak tesis yang dikemukakan kepada Senat Universiti Putra Malaysia  
sebagai memenuhi keperluan untuk Ijazah Doktor Falsafah

**PENCERMINAN KEMAHIRAN BERFIKIR DALAM BAHASA INGGERIS  
UNTUK TUJUAN KHUSUS (ESP) ANTARA FAKULTI KEMANUSIAAN DAN  
SAINS DI SEBUAH UNIVERSITI SWASTA MALAYSIA**

Oleh

**JOANNA TAN TJIN AI**

**Disember 2015**

**Pengerusi : Nooreen Noordin, PhD**  
**Fakulti : Pengajian Pendidikan**

Penguasaan Bahasa Inggeris yang baik serta pemikiran kritikal merupakan aspek penting untuk dalam persediaan pelajar universiti untuk latihan praktikal serta dunia pekerjaan. Oleh itu, Bahasa Inggeris untuk Tujuan Khusus (ESP) telah mengintegrasikan kemahiran berfikir dalam objektif pembelajaran subjek ini. Pengkategorian kemahiran berfikir adalah berdasarkan Taksonomi Bloom dan dimasukkan dalam penetapan soalan peperiksaan akhir dan kerja kursus.

Kajian ini bertujuan untuk mengetahui jenis kemahiran berfikir yang ditonjol dalam soalan peperiksaan akhir dalam subjek Bahasa Inggeris untuk Tujuan Khusus (ESP) yang ditawarkan di Fakulti Sains dan Fakulti Kemanusiaan. Selain dari itu, soalan peperiksaan akhir serta kerja khusus juga dianalisa untuk mengetahui jika objektif pembelajaran subjek dicerminkan dalam kedua aspek penilaian. Kaedah analisis kandungan telah digunakan untuk melihat ke dalam dokumen yang digunakan dalam penilaian bagi mata pelajaran tersebut. Pengukuhan kesahihan data dibuat melalui sesi semakan ahli dan maklumbalas rakan sebaya dengan 3 ahli fakulti atas sebab data tidak dapat diperolehi dari temubual dan pemerhatian. Sesi semakan ahli telah membantu dalam proses pengesahan ketepatan kod terbuka yang dicipta untuk kajian ini. Ahli fakulti juga menjawab soalan yang berkaitan dengan rasional penetapan jenis soalan dalam peperiksaan akhir serta komponen kerja kursus bagi subjek ESP. Rasional di sebalik kaedah penilaian yang digunakan bagi komponen kerja kursus dilakukan juga menggunakan kedua-dua semakan ahli dan maklumbalas rakan sebaya.

Dari segi soalan pemahaman, kemahiran berfikir yang terdapat dalam Bahasa Inggeris untuk Komunikasi (BM 101) dan Bahasa Inggeris untuk Media (BM 102) kebanyakannya di peringkat rendah (LOTS). Berbanding dengan Bahasa Inggeris untuk Sains (BM 106), soalan-soalan yang lebih pada tahap yang sederhana (MOTS) dan tinggi (HOTS). Bahagian tafsiran grafik untuk ENG 102, 201 dan ENG 106 pula mencerminkan kemahiran berfikir yang sama, iaitu yang merupakan MOTS dan HOTS. Walau bagaimanapun, satu-satunya perbezaan adalah graf di ENG 106 lebih relevan dengan program yang ditawarkan di fakulti tersebut, manakala graf yang lain menunjuk topik yang lebih umum. Terdapat pengecualian di mana topik berkaitan dengan bidang

Psikologi. Sebaliknya, bagi komponen kerja kursus, kemahiran pemikiran diselitkan kebanyakannya daripada sederhana ke tahap tinggi berbanding dengan soalan-soalan peperiksaan akhir bagi mata pelajaran ESP dalam kajian ini. Didapati bahawa projek dan ulasan kajian mencerminkan objektif pembelajaran dan merangkumi semua kemahiran berfikir. Aktiviti dalam kerja kursus membenarkan pelajar untuk beralih penggunaan kemahiran berfikir dari tahap rendah ke tahap tinggi.

Secara kesimpulannya, kerja kursus memainkan peranan yang lebih besar dalam mencerminkan kemahiran berfikir dan objektif pembelajaran. Teori yang dihasilkan daripada analisis data menunjuk bahawa peralihan daripada Kemahiran Berfikir Tahap Rendah ke Kemahiran Berfikir Tahap Tinggi dapat dilihat dengan lebih jelas melalui kerja kursus. Oleh itu, peruntukan perlu beralih ke 60% dari 40%. Ini adalah untuk membolehkan para pelajar mempraktik pemikiran yang lebih berkesan serta memberi tumpuan kepada proses pembelajaran Bahasa Inggeris.



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I certify that a Thesis Examination Committee has met on 30 December 2015 to conduct the final examination of Joanna Tan Tjin Ai on her thesis entitled "Reflection of Thinking Skills and Learning Objectives in English for Specific Purposes Subjects in Humanities and Science Faculties in a Malaysian Private University" in accordance with the Universities and University Colleges Act 1971 and the Constitution of the Universiti Putra Malaysia [P.U.(A) 106] 15 March 1998. The Committee recommends that the student be awarded the Doctor of Philosophy.

Members of the Thesis Examination Committee were as follows:

**Dato' Norhasni binti Zainal Abidin, PhD**

Associate Professor  
Faculty of Educational Studies  
Universiti Putra Malaysia  
(Chairman)

**Chan Swee Heng, PhD**


Professor  
Faculty of Modern Languages and Communication  
Universiti Putra Malaysia  
(Internal Examiner)

**Aminuddin bin Hassan, PhD**

Associate Professor  
Faculty of Educational Studies  
Universiti Putra Malaysia  
(Internal Examiner)

**Gary G. Bitter, PhD**

Professor  
Arizona State University  
United States  
(External Examiner)



---

**ZULKARNAIN ZAINAL, PhD**

Professor and Deputy Dean  
School of Graduate Studies  
Universiti Putra Malaysia

Date: 24 March 2016

This thesis was submitted to the Senate of Universiti Putra Malaysia and has been accepted as fulfilment of the requirement for the degree of Doctor of Philosophy. The members of the Supervisory Committee were as follows:

**Nooreen Noordin, PhD**

Senior Lecturer  
Faculty of Educational Studies  
Universiti Putra Malaysia  
(Chairman)

**Shamsuddin Ahmad, PhD**

Senior Lecturer  
Faculty of Educational Studies  
Universiti Putra Malaysia  
(Member)

**Roselan Baki, PhD**

Senior Lecturer  
Faculty of Educational Studies  
Universiti Putra Malaysia  
(Member)

---

**BUJANG BIN KIM HUAT, PhD**

Professor and Dean  
School of Graduate Studies  
Universiti Putra Malaysia

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Signature: \_\_\_\_\_  
Name of Chairman  
of Supervisory  
Committee: Nooreen Noordin, PhD

Signature: \_\_\_\_\_  
Name of Member  
of Supervisory  
Committee: Shamsuddin Ahmad, PhD

Signature: \_\_\_\_\_  
Name of Member  
of Supervisory  
Committee: Roselan Baki, PhD

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## LIST OF ABBREVIATIONS

LOTS Lower Order Thinking Skills

MOTS Moderate Order Thinking Skills

HOTS Higher Order Thinking Skills

ESP English for Specific Purposes

TCL Teacher Centred Learning

SCL Student Centred Learning



# CHAPTER 1

## INTRODUCTION

### 1.1 Introduction

Vision 2020 was unveiled in 28 February 1991 as part of the then Prime Minister Mahatma Mohd. In the strategic challenges have been overcome. He was confident that by 2020, Malaysia can be a united nation as society will be infused by strong moral and ethical values. Society will be democratic, liberal, tolerant, caring, economically just and equitable, progressive, prosperous as well as possess an economy that is competitively dynamic, robust and resilient (Vision 2020). Six out of the nine challenges are shown below to illustrate the vision of having a society that is united and advanced to meet the goals set in technological and economic aspects. Apart from this, the challenges also highlight the vision of being a contributor of technology instead of only being a consumer of it. The vision of being a contributor to technology can be achieved if the stress on critical thinking is emphasised in education, especially in secondary schools and institutions of tertiary education.

- x The first would be the challenges of establishing a united Malaysian nation with a sense of common and shared destiny. This must be a nation at peace with itself, territorially and ethnically integrated, living in harmony with full and fair partnership, made up of one 'Bangsa Malaysia' with political loyalty and dedication to the nation.
- x The second is the challenge of creating a psychologically liberated, secure, and developed Malaysian Society with faith and confidence in itself, justifiably proud of what it is, of what it has accomplished, and robust enough to face all manner of adversity. This Malaysian society must be distinguished by the pursuit of excellence, fully aware of all its potentials, psychologically subservient to none, and respected by the peoples of other nations.
- x The third challenge is that of fostering and developing a mature democratic society, practising a form of mature consensual, community-oriented Malaysian democracy that can be a model for many developing countries.
- x The fourth is the challenge of establishing a fully moral and ethical society, whose citizens are strong in religious and spiritual values and imbued with the highest of ethical standards.
- x The fifth challenge is to establish a mature, liberal and tolerant society in which Malaysians of all colours and creeds are free to practice and profess their customs, cultures and religious beliefs and yet feeling that they belong to one nation.
- x The sixth is the challenge of establishing a scientific and progressive society, a society that is innovative and forward-looking, and one that is not only a consumer of technology but also a contributor to the scientific and technological civilisation of the future.

- x The seventh challenge is the challenge of establishing a fully caring society and a caring culture, a social system in which society will come before self, in which the welfare of the people will revolve not around the state or the individual but around a strong and resilient family system.
- x The eighth is the challenge of ensuring an economically just society. This is a society in which there is a fair and equitable distribution of the wealth of the nation, in which there is full partnership in economic progress. Such a society cannot be in place so long as there is the identification of race with economic function, and the identification of economic backwardness with race.
- x The ninth challenge is the challenge of establishing a prosperous society, with an economy that is fully competitive, dynamic, robust and resilient.

## 1.2 Background of the Study

Before Vision 2020, the NPE (National Philosophy of Education) was redefined as a way to help the people develop their full potential. As such, in 1987, the NPE was drafted as follows:

3 (GXFDWLRQ LQ 0 DGDWLRQ DORFDWRU DORFDWRU) Developing the potential of individuals in a holistic and integrated manner, so as to produce individuals who are intellectually, spiritually, emotionally and physically balanced and harmonious, based on a firm belief in and devotion in God. Such an effort is designed to produce Malaysian citizens who are knowledgeable and competent, who possess high moral standards, and who are responsible and capable of achieving a high level of personal well-being as well as being able to contribute to the betterment of the society and the

(Educational Planning and Research Division, 1994, p.vii)

)XUWKHU IURP WKH GHILQLWLRQ RI WKH 13( WKDW VW individuals in a holistic and integrated manner, so as to produce individuals who are intellectually, spiritually, emotionally and physically balanced and harmonious, EDVHG RQ D ILUP EHOLHI LQ DQG GHYRWLRQ LQ \*RG¶ V the talents, skills and creativity of the people is also the ultimate goal in attaining the nine targets set for Vision 2020. This in turn, is reflected in the mission of the 0LQLVWU\ RI (GXFDWLRQ L H µ7R GHYHORS D ZRUOG F realize the full potential of the individual and fulfil the aspiration of the Malaysian QDWLRQ¶ (GXFDWLRQ 3ODQQQLQJ DQG 5HVHDUFK 'LYLV

In Malaysia, the education system has moved from 3R ± Reading, Writing and Arithmetic (cited in the Rahman Talib Report and Education Act, 1961) to place more emphasis on the other skills in the curriculum. These are critical thinking skills, scientific skills as well as technological skills (Nurliza, 2003). In order to help steer Malaysia towards achieving a knowledge-based economy and technological excellence, there has to be a shift towards a knowledge-driven economy. This will

put Malaysia in a stronger position to compete with the rest of the other developed nations and place its people on a higher rung of economic and technological advancement (Aliah, n.d.). However, society must first have the quest to be knowledgeable. A knowledgeable society values education and life-long learning, where life-long learning has to be operationalised and imbued at school level (Aliah, n.d.). As part of promoting life-long learning, teaching thinking skills has to be a purposeful and explicit part of a classroom activity. Kincheloe (2000, p.23) who mentioned that in order to develop the habits of scientific thinking in students, the habit of thinking has to be set as definite goals of instructions.

As most Malaysian schools do not teach thinking formally and as a subject, some academic subjects, like science, mathematics, language, history and geography, thinking skills are explicitly written in the syllabus. This enables teachers teaching those subjects to design lessons that integrate thinking skills in them. Some of the thinking attributes include problem solving, decision making, creative and critical thinking (Aliah, n.d.). In addition to this, Sternberg (1985, p. 194) also pointed out a lack of correspondence between what is required for critical thinking in adulthood and what is taught in school programs intended to develop critical thinking. The problems of thinking in the real world do not correspond well with the problems of the large majority of programs that teach critical thinking. Students are prepared to deal with problems that might be different in the working world. This implies that the lessons that teach critical thinking do not help to prepare students to face problems in the real world. It is possible that critical thinking is taught but it does not mean that students know how to apply those skills when they finish their education. According to Macedo (1994), as long as there as prespecified facts to be learned, standardized tests as a goal of instruction, little connection between school and life, critical thinking programs will confuse more than they will enlighten. Thus, it can be summarized that the current education system has conceived the curriculum in a technical way. Noll (1935) reiterated the point above by saying that schools have to change from imparting information to students and ensuring that they reproduce the facts in the examinations. This type of education does not meet the needs of the times, or rather the world where the students will venture into.

Gough (1991) also mentioned that perhaps most importantly that today, in the information age, thinking skills are viewed as crucial for educated persons to cope with a rapidly changing world. Many educators believe that specific knowledge will make sense of new information. These words show the current viewpoint in to Incorporate High-Order Thinking Skills into Teaching and Learning for Grades K-effective thinkers. In order to function in a highly technical society, students must be taught lifelong learning and thinking skills that are necessary to acquire and process information in a world that is ever-

At present in tertiary education, thinking skills in English for Specific Purposes (ESP) subjects and thinking skills is not given enough emphasis. These subjects give opportunities to students to help improve their proficiency as well as their communication skills. It is important that students know how to communicate and convey their ideas effectively to ensure their marketability. Apart from communicating their ideas, students also have to be able to think critically, especially in the idea generation and problem solving aspects. However, the ESP subjects are much too focused on the language aspect and apart from a selected pool of questions that require students to think on a more critical level, the rest are mostly language based. Although students take these subjects in Year 1 and the bulk of questions should focus on the LOTS (Lower Order Thinking Skills), there should also be an inclusion of MOTS (Moderate Order Thinking Skills) and HOTS (Higher Order Thinking Skills). The main objective of offering these subjects is to enable students to reach a level of proficiency in English as well as know the terms related to their field of study. The modes of assessment include final examination, where unfortunately has a higher weightage compared to coursework components. These components include projects, review of articles, debates and oral presentations. The learning objectives and outcomes do not highlight the thinking skills that are required of the students. Much of this information is inferred from the verbs used in forming the objectives and outcomes.

### 1.3 Statement of the Problem

Nurita, Ainon and Shaharudin (2007) said that Malaysia has a sufficient supply of labour and the number of graduates produced every year is high. However, the major complaint raised by the employers is not the lack of technical skills (also called hard skills) but soft skills in leadership, interpersonal relations, communication and the ability to adapt to different work environment and to work in teams. As noted by the Ministry of Education (2006), thinking and problem solving skills are the components in the soft skills module. It is important that before students can proceed to the other skills in the module; they must have learnt both these skills first. After learning those skills, students are then exposed to learning skills that are linked to team work, life-long learning and information management, entrepreneurial skills, ethics, morals and professionalism and ultimately the development of leadership and perhaps entrepreneurs. The responsibility of covering the communication aspect falls on the lecturers teaching the English for Specific Purposes (ESP) subjects to ensure that students are proficient enough to communicate using the English Language both in the humanities and science fields.

Students are required to take one English Language subject during their term of study and it is hoped that after taking the unit, they will have grasped a certain level of proficiency in the language. Since the English Language subjects taught in the universities focus mostly on the language aspect, the thinking skills are not reflected much in the setting of final examination questions. This is because emphasis is placed more on the skills of reading and writing. It is also unclear in the syllabi as there is no mention of thinking skills in the learning objectives and outcomes. It can



only be inferred from the verbs that are used to determine as to whether thinking skills are taught in the subjects. Thinking skills, however, are reflected in the assignments for students in the form of presentations, debates, forums. It is important to have thinking skills reflected more in the final examination questions as the weightage is heavier for the final examination, rather than on the coursework. Thus, it can be a problem as getting a good grade for the English Language subject reflects whether they have been able to engage in critical thinking.

The employability of graduates depends on their ability to communicate and since English is the main medium of communication, it is essential that students are proficient in that language. However, being able to communicate is not enough to survive in any industry as employers are also looking for graduates who are able to solve problems and practice critical thinking, both in the humanities and science - related industries. Hence, this is a perfect opportunity for the English Language subjects to have more emphasis on thinking skills, instead of only focusing on language proficiency.

To overcome the problem, this study attempted to look at the reflection of thinking skills and learning outcomes in the English for Specific Purposes (ESP) subjects offered in the Faculty of Humanities and Faculty of Science. The comparison is done to find out which of the ESP subject(s) has a better reflection of the thinking skills and learning objectives. It is also hoped that the data obtained from this study will help identify the types of thinking skills that are reflected in the ESP subjects pertaining to the final examination questions and coursework components. The theories in relation to thinking skills are also used to find out which theory is applied in both aspects. The reflection of learning objectives in the final examination questions and coursework components are looked into as they form the essential basis for setting the questions and coursework.

#### **1.4 Research Objective**

This study focused on looking at the reflection of thinking skills and learning objectives in the coursework components and final examination questions for the English for Specific Purposes (ESP) subjects taught in the Faculty of Humanities and Faculty of Science in a private university located in Malaysia. The comparison is done between the subjects offered for both faculties is to find out which ESP subject(s) has more emphasis placed on thinking skills and their learning objectives. This is because thinking skills are directly linked to learning objectives. Thus, it is important that the learning objectives have to be reflected in both final examination questions and coursework components in order to ensure that students have learnt the necessary skills in each subject as well as achieve the learning outcomes set in the syllabus.

## 1.5 Research Questions

The research questions in this study are:

1. How are the thinking skills and learning objectives reflected in the final examination questions for final examination questions for English for Specific Purposes (ESP) subjects offered in the Faculty of Humanities and Faculty of Sciences?
2. How are the thinking skills and learning objectives reflected in the coursework components for English for Specific Purposes (ESP) subjects offered in the Faculty of Humanities and Faculty of Sciences?

## 1.6 Significance of study

Thinking skills have a direct link with the learning objectives and learning outcomes. Thus, if the thinking skills are clearly outlined in the learning objectives, they can be reflected in the learning outcomes. This is to ensure that students have grasped both the proficiency level and thinking skills needed in the subjects. As final examination and coursework are essential parts assessed in the subjects, it is pertinent to look into the thinking skills that are covered in the ESP subjects as they reflect the learning objectives. Hence, this study will benefit the respective lecturers when they do a syllabus review for the ESP subjects.

Another significant part of this study is on outcome based learning and focuses on the policymakers. The results from this study can be used to gauge as to whether the final examination questions and coursework set reflect the relevant thinking skills and match the learning objectives. This also comes as an essential reference in during the syllabus review for the ESP subjects at faculty level. Perhaps, a higher weightage to coursework instead of the final examination can be given due consideration, given the time to complete the coursework and the nature of the coursework. The reflection of thinking skills and learning objectives can be seen more clearly as compared to the final examination, of which the duration is only 2 hours.

Formation of learning objectives without thinking skills would result in rote learning and students will not see the importance of ESP subjects. To have thinking skills integrated in the ESP subjects would help students see the usage of language to communicate clearly in work situations or to solve problems. These subjects are not only about language per se but also take into account the knowledge pertaining to their field of study and the application of the English Language to convey said knowledge, especially in the coursework components. Policymakers have to understand that a particular unit is only successful when the learning objectives are reflected in the final examination questions and coursework components. Hence, learning will be more meaningful and students more appreciative of ESP subjects.



## 1.7 Limitations of Study

The other qualitative methods (Interviews and Observations) were not used in this study as there was difficulty in getting permission for class observations. Lecturers who agreed to be observed and interviewed had less than 3 years of teaching experience and the lecturers with more seniority were not very cooperative in this matter. Lecturers who taught particular English Language subjects were also reluctant to allow observations to be conducted and they cited that no good data could be collected from their classes. Some gave the reason that they just took over the teaching of the subject, thus, they followed the syllabus as it was and did not make any changes. Even after the assurance of confidentiality was given, lecturers were not convinced and were afraid that this would be used against them during appraisal.

Besides that, there were also clashes in the timetables, resulting in the observations unable to be carried out consistently with the same lecturer. Interviews were also unsuccessful as the lecturers commented that it was pointless to mention the importance of thinking skills. Some even went to the extent of saying that the subjects did not give students the opportunity to think critically.

## 1.8 Operational Definitions

% O R R P ¶ V 7 D [ R Q R P \

Bloom's Taxonomy is a multi-tiered model of classifying thinking according to six cognitive levels of complexity. The lowest three levels are: knowledge, comprehension, and application. The highest three levels are: analysis, synthesis, and evaluation. "The taxonomy is hierarchical; [in that] each level is subsumed by the higher levels. In other words, a student functioning at the 'application' level has also mastered the material at the 'knowledge' and 'comprehension' levels." (UW Teaching Academy, 2003). In this study, this definition is used to categorise the final examination questions and coursework components. It is also used as a guide when the learning objectives and outcomes are looked into for the ESP subjects. The final examination questions are grouped under the different ESP subjects. From there, they are further divided into the different sections ± Reading Comprehension, Graphical Interpretation, and Guided Writing.

The questions and instructions for each of the sections as well as coursework components (Project and Article Review ) are then divided according to the words used to form them. % O R R P ¶ V 7 D [ R Q R P \ a reference in relation to descriptions of the different thinking skills found in the knowledge domain from knowledge to evaluation.

## **English for Specific Purposes (ESP)**

English for Specific Purposes (ESP) is also known as English for special or occupational purposes (Bahous, 2001). This particular subject is offered to all disciplines in any university from undergraduate (Fadhil, 2001) to postgraduate level (Melles, 2005). It serves to provide students with sufficient language and communicative skills to succeed in their chosen field (Melles, 2005). Bahous (2001), on the other hand, stated strongly that those students who registered for these courses must have a good command of the language and that the objective is not to acquire fluency. It is directed to the use of the language adequately in specific professional contexts. On the other hand, Fadhil (2001) emphasizes that in ESP courses, students should achieve effective communication using the English language for the following skills (reading, writing speaking and listening) in situations that are similar to their working environment. It is the use of appropriate language rather than the language itself. The language aspect is applied through exercises that enhance their problem-solving skills and using the appropriate language, the solutions are presented in class. An ESP course is meant to place emphasis on the usage (output) of English rather than the knowledge (input) of English. It also looks at the productive skills rather than receptive skills.

This study uses the above definition of English Specific Purposes as 3 of the units taught under the Faculty of Humanities and 1 under the Faculty of Science reflect the definition. It has been made known to the lecturers for these units that the teaching material has to also help students to apply the language skills to the other content based units in their courses as well as to help them improve in the mastery of the English Language.

### **Questioning Strategies**

Literal and convergent questions are low-level and enable learners to lift answers directly from the text (Cruickshank, Bainer & Metcalf, 1995; Muijs & Reynolds, 2001 as cited in Habsah, 2006). On the other hand, convergent questions deal not only with facts, but also with logic and complex data, abstract ideas, analogies and complex relationships (Ornstein, 1995; Moore, 1995 as cited in Habsah, 2006).

Miller (2005) also mentioned that researchers have identified several types of questioning strategies: convergent, divergent and evaluative. Divergent questioning is aimed at developing a broad range of student responses. This type of question would be very good for introducing a topic. Students should feel free to express themselves without being criticised. The goal of using these questions is to develop and encourage questions. Convergent questioning develops around one single objective. Generally short answer, yes or no, or lower-level questions are used in this strategy. In evaluative questioning, students are asked to measure what they say based on some criteria or their own beliefs and judgments.

In the context of this study, questioning strategies refer to the categorization of the questions asked in the final examination questions and the also the instructions in the coursework components. The questions are analyzed using the content analysis method and grouped under the different words used to form them. Apart from this, the answers for the questions are also included to reflect whether the questions are convergent, divergent or evaluative. For the coursework components, they are grouped under the different subjects and their instructions are also analysed as to whether they require students to be convergent, divergent or evaluative in their thinking.



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