

**THE ANALYSIS OF ENGLISH NEEDS  
OF MECHANICAL ENGINEERING DEPARTMENT STUDENTS  
RELATED TO EST MATERIALS  
AT THE FACULTY OF TECHNOLOGY AND VOCATIONAL EDUCATION**

**A Descriptive Research of the implementation of English for Specific Purposes  
at the Faculty of Technology and Vocational Education,  
Indonesia University of Education**

**A Research Paper**

**Submitted as partial fulfillment of requirement for Sarjana Pendidikan Degree**

**By:**

**Leni Helende**

**011348**



**ENGLISH EDUCATION DEPARTMENT  
FACULTY OF LANGUAGE AND ART EDUCATION  
INDONESIA UNIVERSITY OF EDUCATION**

**2006**

APPROVAL

THE ANALYSIS OF ENGLISH NEEDS  
OF MECHANICAL ENGINEERING DEPARTMENT STUDENTS  
RELATED TO EST MATERIALS  
AT THE FACULTY OF TECHNOLOGY AND VOCATIONAL EDUCATION

A Descriptive Research of the implementation of English for Specific Purposes  
at the Faculty of Technology and Vocational Education,  
Indonesia University of Education

By

Leni Helende

011348

First supervisor



Drs. Deddy Suryana, M.A  
NIP : 131911643

Second Supervisor



Rojab Siti Rodliyah, S.Pd., M.Ed.  
NIP : 132300409

The Head of English Department

Faculty of Language and Art Education

Indonesia University of Education



Dr. Iwa Lukmana, M.A  
NIP : 132052372



"So, verily, with every difficulty, there is relief: Therefore, when thou art free (from thine immediate task), still labour hard, And to thy Lord turn (all) thy attention."

Proudly dedicated to:

My beloved Parents,

Brothers and Sisters

"Thanks for your sacrifice!"



## STATEMENT

I hereby certify that this paper is completely my own work. I'm fully aware that I've quoted and paraphrased some statements and ideas from other sources, and they are properly acknowledged in the texts.

Bandung, 27 February 2006

The writer



Leni Helende



## ABSTRACT

The philosophy that guides the development of the paper is the conviction that ESP teaching practice should be focused on the learners. The purpose of this paper is to facilitate EST practitioners to design significant and valuable materials for their students. Therefore, the students can get material that relevant to their needs.

The study is carried out by using descriptive method. The population of the study is the Mechanical Engineering Department Students, and the sample is the first semester students of mechanical engineering department in the Faculty of Technology and Vocational Education, Indonesia University of education. The data are collected through library research, questionnaire, interview and observation. The kind of data is qualitative and quantitative, so the organization and analysis of the data are divided into two ways.

The research findings show that Mechanical Engineering Department Students need ESP both as EAP (English for Academic Purposes) and EOP (English for Occupational Purposes). Specifically, they need speaking skill especially communicative competence for work, and they need reading skill in order to understand technical textbooks for study. In addition, after identifying the existing English materials, the writer concludes that in terms of goal, theme and materials, the existing materials is not quite relevant to the needs of Mechanical Engineering Department's Students. The materials are too general and not closely related to Mechanical Engineering field.

Keywords : English Needs Analysis  
EST Material





## PREFACE

Praise be to Allah the Merciful who permits me to finish this paper and given me the strength and endurance during my research and the completion of this paper.

This paper is entitled 'The Analysis of English Needs of Technical Engineering Department' Students Related to EST Materials at Faculty of Technology and Vocational Education. It is submitted as partial fulfilment of the requirement for Sarjana Pendidikan Degree in English Education Department of Indonesia University of Education. It represents the issues of EST, the analysis of English Needs, the existing EST materials applied and the relevance of the materials with students' English needs.

It was developed from the conviction that ESP teaching practice should be focused on the learners. Therefore, it is expected that, this study can give description of English needs of Technical Engineering Department students to the EST practitioner. That will be useful information in designing and selecting material, which suit students' needs both for academic and occupational purposes.

The writer realizes that the paper is far from perfect, nevertheless there is always a room for improvement. I do apologize for the imperfection and every supportive advice will be highly appreciated. The last, hopefully, this paper can give a significant contribution to all the readers.

Bandung, 26<sup>th</sup> February 2006

Leni Helende



## ACKNOWLEDGEMENT

First of all I would like to be thankful to Allah, the Almighty. Then, the writer would like to express deep gratitude to the following individuals; this paper reflects their input to a great extent.

1. Drs. Deddy Suryana, M.A as my first supervisor for invaluable revision and refinement of the content of this paper.
2. Rojab Siti Rodliyah, S.Pd., M.Ed. as my second supervisor for absolutely invaluable assistance in revision and refinement of this paper.
3. Drs. Iwa Lukmana. M.A as the head of English Education Department
4. The administration staffs of English Education Department who have given massive assistance in the administrations matters.
5. The English Lecture of Mechanical Engineering Department and Head of Mechanical Engineering Department who welcome me patiently and kindly in collecting data of my paper.
6. Mechanical Engineering Department's students who warmly responded my questionnaire. Their comments and opinions provide a valuable source of data.
7. My beloved parents for their endless and invaluable support.

Finally, I would like to express my gratitude to all of people who have given their support and invaluable contribution that I could not mention, wish you all the best.



## Table of Contents

Abstract	i
Preface	ii
Acknowledgement	iii
Table of Contents	iv
List of Tables	vii
List of Figures	viii
CHAPTER I INTRODUCTION	
1.1 Theoretical Background	1
1.2 Statement of the Problem	5
1.3 Aims of the Study	5
1.4 The Significances of the Study	5
1.5 The Limitation of Study	6
1.6 Methodology	6
1.7 Data Analysis	8
1.8 Clarification of Term	9
1.9 Organization of the Paper	9
CHAPTER II THEORETICAL FOUNDATION	
2.1 Definition of Needs	11
2.2 English for Specific Purposes	12
2.3 Needs Analysis	22
2.4 Hutchinson & Waters Needs Analysis	26

2.5 English for Science and Technology	33
2.6 EST Material	36
2.7 Related Study	42
CHAPTER III METHODOLOGY	
3.1 Research Method	45
3.2 Subject of the Study	45
3.3 Data Collection	45
3.4 Data Analysis	51
CHAPTER IV FINDING AND DISCUSSION	
4.1 A Glance of Mechanical Engineering Department	54
4.2 Students' Learning Background	54
4.3 Identifying Students' Needs	56
4.4 The Existing EST Material used in Mechanical Engineering Department	82
4.5 The relevance of EST material with English Needs of Mechanical Engineering Department's Students	88
CHAPTER V CONCLUSION AND SUGGESTION	
5.1 Conclusion	91
5.2 Suggestion	93
Bibliography	
Appendices	
1. Form of students' Questionnaire	
2. Form of Interview	

3. The Existing Materials used in Mechanical Engineering Department
4. The English Syllabus of Mechanical Engineering Department
5. Letter of Recommendation
6. Curriculum Vitae



## List of Tables

Table 4.1 The Extent to which the Students Have Learnt English	55
Table 4.2 The Students Learning Background	55
Table 4.3 Students Opinion toward English In Their Field	57
Table 4.4 Students Motivation of Learning	58
Table 4.5 Job/Plan which Will Be Achieved After Graduate From Mechanical Engineering Department	59
Table 4.6 Students' Purpose of Learning English	60
Table 4.7 The English Skill Mostly Required In Their Field of Study	63
Table 4.8 The English Theme Mostly Required In Students Field of Study	64
Table 4.9 The Material Mostly Required in Students' Field	65
Table 4.10 The Amount of Mechanical Engineering Textbook which Written in English	67
Table 4.11 Setting on When and Where English Will Be Used	68
Table 4.12 Interaction Which Students Will Use the Language With	99
Table 4.13 Students' Perception of Their Lack	70
Table 4.14 The Problem Usually Faced in Understanding English Text	71
Table 4.15 If They Ask the other to Read/Translate English Text For Them	71
Table 4.16 If The English Taught Relevant with Their Field	85
Table 4.17 If the English Material Taught Specific to Their Field	86

## List of Figures

Figure 4.1	Students Background	55
Figure 4.2	Needs Analysis Image	57
Figure 4.3	Students Opinion toward English in Their Field	57
Figure 4.4	Students Motivation of Learning	58
Figure 4.5	Job/Plan which Will Be Achieved After Graduate from Mechanical Engineering Department	59
Figure 4.6	Students' Purpose of Learning English	60
Figure 4.7	The English Skill Mostly Required in Their Field of Study	63
Figure 4.8	The English Theme Mostly Require in Students Field of Study	64
Figure 4.9	The Material Mostly Required in Students Field	65
Figure 4.10	The Amount of Mechanical Engineering Textbook which Written in English	67
Figure 4.11	Setting on When and Where English Will Be Used	68
Figure 4.12	Interaction which Students Will Use the Language with	69
Figure 4.13	Students' Perception of Their Lack	70
Figure 4.14	The Problem Usually Faced in Understanding English Text	71
Figure 4.15	If They Ask the Other to Read/Translate English Text for Them	71
Figure 4.16	Framework of English Needs of Mechanical Engineering Department's students	80
Figure 4.17	The Comparison of the Existing Material and Students English Needs	89



## BIBLIOGRAPHY

- An. (1999). English Science and Technology Need. [Online]. Available: ([www.monografias.com-est](http://www.monografias.com-est) need). [July 2005]
- An. (2000). Reading Comprehension for EST Students. [Online]. Available: (<http://www.learn4good.com/languages/spec-english.htm>). [June 2004]
- Aziz, E.A., et al. (2004). *Culture-Based English for College Students*. Jakarta: Grasindo
- Berner, Hans. (2005). Teaching English at Vocational School. [Online]. Available: ([Http://www.goggleadvanced.com](http://www.goggleadvanced.com)) [May 2, 2005]
- Brown, H.D. (1994). *Teaching By Principles: An Interactive Approach to Language Pedagogy*. New Jersey: Prentice Hall Reagants.
- Brown, H.D. (1994). *Teaching by Principles, An Interactive Approach to Language Pedagogy*. New Jersey ; Prentice Hall Regents.
- Brown.J.D. (1995). *Introduction to Research Method*. French Lorest. Longman.
- Brumfit, C.J and J.T Roberts. (1983). *An Introduction to Language Teaching*. London : Betsford Academy and Educational Ltd.
- Burns, R.B. (2000). *The Elements of Language Curriculum: A Systematic Approach to Program Develoment*. Massachussets. Heinle&Heinle Publishers.
- Carver, D. (1983). Some prepositions about ESP: The ESP Journal. [Online]. Available: (<http://www.learn4good.com/languages/spec-english.htm>) [December 2005]
- Case,Alex. (2004). Teaching Business English and ESP. [Online]. Available: ([Http://www.businessenglishonline.net.com/Macmillan Business English](http://www.businessenglishonline.net.com/Macmillan_Business_English)) [February 23, 2005].
- Depdiknas. (2003). *Mata Pelajaran Bahasa Inggris Kurrikulum 2004: Pedoman Khusus Pengembangan Silabus dan Penilaian*. Jakarta: Depdiknas
- Depdiknas. (2003). *Standar Kompetensi, Mata Pelajaran Bahasa Inggris SMA dan Madrsasah Aliyah*. Jakarta: Depdiknas.

- Dudley-Evans, T., & St John, M. (1998). *Developments in ESP: A multi-disciplinary approach*. Cambridge: Cambridge University Press.
- Duffy, Marry (1987). Research method. [Online]. Available:[http://www.delmar.edu/soscsco/Faculty/Masten brook/2301stgdch1resfall05.htm](http://www.delmar.edu/soscsco/Faculty/Masten%20brook/2301stgdch1resfall05.htm) [Desember 27, 2005]
- Farida, L. (2003). *Profiles of the Curriculum of English for Vocational School (Technology)*. Bandung: Unpublished Research Paper, English Department UPI.
- Furlong., et al. (2000). *Research Method: An Integrated Approach*. Orlando: Harcourt College Publisher
- Gatehouse. (2001). Key Issues in ESP Curriculum Development. [Online]. Available: [http://www. Khae – service.com](http://www.Khae-service.com). [Juni 2005]
- Gay,L.R. (1987). *Education Research Competencies for analysis and Application*. Ohio : Merill Publishing company
- Hortas, J.D. (1995). English for Specific Purposes. [Online]. Available: <http://www.studyusa.com/articels/esp.htm>. [June 2005]
- Huckin,T.N & Oslan, Leslie A. (1983). *English for Science and Technology: A handbook for Nonnative Speaker*. United States: Mc.Graw-hill Company
- Hutchinson, T., & Waters, A. (1987). *English for Specific Purposes: A learning-centered approach*. Cambridge: Cambridge University Press.
- Idawati, K. (1990). *The Analysis of Non-English Departments' Students' Needs in Relevance with the ESP Syllabus at IKIP Bandung*. Bandung: Unpublished Research Paper, English Department UPI.
- Kennedy, Chris and Bolitho, R. (1980). *English Specific Purposes*. London and Basingstoke :Macmillan Published Limited
- Konig , Ljerka Sedlan & Kraljević, L. (2004). Defining preferences – a Needs Analysis Project in ESP. [Online]. Available:[www.Google.com](http://www.Google.com). [February 2, 2005]
- Lai, Tingling. (2001). Needs assessment of Sci-tech Reference Resource. [Online]. Available:<http://www.googleadvanced.com>.
- Machado, J.M. (1980). *Early Childhood Experiences in Language Arts*. New York : Delmar Inc. Corporate
- Mackay, R., & Mountford, A. (1978). *English for Specific Purposes: A case study approach*. London: Longman.

- Mackay, R., & Palmer, J. (1981). *Languages for Specific Purposes: Program design and evaluation*. London: Newbury House
- Maxweell, J.A. (1996). *Qualitative Research Design: An Interactive approach*. California : SAGE Production, Inc
- Mc.Donough, J. (1984). *ESP in perspective: A practical guide*. London: Collins ELT.
- Meilanie, I. (2004). *The Practice of Teaching EST at Tertiary Education in Indonesia*. Bandung: Unpublished Research Paper, English Department UPI.
- Nunan, D. (1980). *Syllabus design*. Oxford : Oxford University Press
- Purnawati, F. (2003). *The Analysis of EBE Material Development in Relation with Communicative Competence Teaching*. Bandung: Unpublished Research Paper, English Department UPI.
- Robinson, Pauline. (1980). *ESP (English Specific Purposes)*. Oxford: Pergamon Institute of English
- Rossette, A. (1995). Needs assessment. In Tingling Lai, Needs assessment of Sci-tech Reference Resource. [Online] (2<sup>nd</sup> vol., pp9-10). Available:<http://www.googleadvanced.com>.
- Santoso, S. (2002). *SPSS versi 10*. Jakarta : Elex Media Komputindo
- Suharto, G. (1988). *Metodologi Penelitian dalam Pendidikan Bahasa*. Jakarta : Departemen Pendidikan dan Kebudayaan
- Vanderlaan, J.M. (1985). *Communication for Engineers*. Jakarta : PT. Rosda Jayaputra
- Viel, J-C. (2001). Foreign language communication needs. [Online]. Available: <http://jcviel.multimania.com/vocab.htm>. Retrieved : [September 15, 2005]
- Wardani, Puspita. (2004). *The Practice of Teaching English for Science and Technology*. Bandung: Unpublished Research Paper, English Department UPI.
- Wehmeir, S. (2000). *Oxford Advanced Dictionary*. Oxford University Press: New York.