CHAPTER I

INTRODUCTION

This chapter gives a broad picture why this study Entitled " Designing an Indian Qualification Pack- Based ESP syllabus for the bachelor degree students of Industrial Engineering program at Universitas Sultan Ageng Tirtayasa" is important. This chapter explains the background of the study, the researh questions, the purposes of the study, the scope of the study, and the significance of the study.

1.1 Backgorund of the study

As technology develops and easily connects people all around the world, many more business people nowadays get involved in bilingual and multilingual occupational settings (Swales, 2000 : 5) in Shen (2008:55) therefore, there is a significant rise in the use of English to put them at ease to communicate with a lot more diversified people speaking different languages. Dudley-Evans and St John (1998: p. 53) reported that most English-medium communications in business are non-native speaker to non-native speakers (NNS-NNS) and this more or less will influence the concept of English language teaching and learning, especially for adults, in the classroom which Paltridge (1991 : 32) referred as leaning to use English in international contexts.

Language teaching to adult learners, whose professional development might be affected by various ways if they lack the knowledge of that language

(particularly English), requires primarily linguistic instruction through content-oriented materials which fit the students' needs and interest Petkovska (2004:93). Thus, adults need more specific language learning program - rather than the general one - the materials of which focus on the language (grammar, lexis, and register), skills, discourse, and genres appropriate to specific jobs and responsibilities they are dealing with later on Dudley-Evans and St John (1998:4). And this specification should appear in the topics, leaning objectives, materials, activities, and assessments. In turn, this can boost the students' motivation in learning the target language since they believe they will use it someday in their professional stage.

Teaching English for Specific Purposes (ESP) has been for more than 30 years a separate branch of the common English Language Teaching (ELT) (Johnson & Johnson,1998:106). They further explain that ESP is an umbrella term embracing a number of sub-divisions and is often divided up into two ma in sub-branches: English for Academic Purposes (EAP), dealing with the use of English in study settings to enable the learners cope in the chosen academic specialism; and English for Occupational Purposes (EOP), where the language focuses on the workplace environment to enable the learners do the job responsibilities well.

Moreover, ESP is not only expected to help the students to enrich their previous knowledge of English, acquaint them with the most common and important features of a particular study, but also to make them aware of the complex relations between social and cognitive factors that are present in any segment of communication (Petkovska ,2004:94). By doing so, the students will

realize that learning the target language is not merely for the sake of the linguistics competence in that particular language, but that of the communicative competence as a whole that considers the purpose and context of communication.

As a result, an ESP program must have a syllabus that serves a specific purpose to cater what the customers or stakeholders need Kim (2013: 280). Berwick (1989: 52) states that needs are most often expressed as a gap or measurable discrepancy between a current state of affairs and a desired future state. To add, Kim (2013 : 280) argues that a needs analysis is beneficial not only to identify what learners are required to do with the foreign language in the target situation.but also how they might best master the target language during the period of learning or training.

The main purpose of the teaching of ESP in Industrial Engineering Department is not to learn about language but it is designed to meet specified needs of the learners. The Aim of the ESP is to provide students with the ability to communicate in english both written and spoken related to the Industrial Engineering. However, the teaching learning activity of the english course in industrial engineering has not been developed based on the students' needs and has not been well organized in terms of selecting materials. As a result, the students do not get the benefits related their job as the engineer after graduated from university. some problems related to the teaching of english at industrial engineering department are the English lecturer tends to create the material based on her own judgment or preference without considering students' needs, the

language instructions are dominated with a structural method which is based on learning grammatical structures.

Formulating the objectives for the course, identifying the appropriate materials and determining appropriate assessments conducted in the course are important factors that influence the effectiveness of the teaching learning results. Unfortunately, the results of the needs analysis show that the existing syllabus for industrial engineering students at UNTIRTA University Cilegon-Banten has not been spesific yet with the needs of industrial engineering students.

The existence of appropriate syllabus is very important because the language teaching learning is a complex activity that needs a careful planning in order to achieve the instructional objective. Teachers have to develop a systematic plan of what need to be learned, selected and sequenced the contents and the tasks that will lead to desired learning outcome (Hyland, 2003). Yalden (1987) states a syllabus describes what the learners are expected to know at the end of the course, what is to be taught or learned during the course, when it is to be taught, at what rate of the progress, how it is to be taught, and how it is to be evaluated. Syllabus can be used to map out the content of the course and to guide and serve the teaching learning of that subject matter. It acts as a guide for teacher and learners by providing goal to be attained. Therefore, the existence of appropriate syllabus will make the teaching learning activities managable and more effective based on students needs.

In response to the problems above, it is very crucial to develop an appropriate syllabus for the English course for Industrial student at UNTIRTA

University that can be used as guidelines and serves the English lecturer to conduct the teaching learning activities effectively. The appropriate means that The syllabus should be based on students' needs as the industral engineer.

Every university has the authority to select or develop a syllabus as they wish,yet, they also have to be able to ensure that the syllabus fits the needs. In fact, conducting a needs analysis to design an ESP syllabus will take so much effort, time, and, money. One of the short-cut solutions is by analyzing the documents related to the qualification framework or standards of the expected jobs to get the picture of the expected skills.

To design a syllabus,every study program should be able to interpret the standards documented nationally and/or internationally, adjust them to the internal needs, and create its own curriculum and syllabus. In Indonesia, the curriculum and competence standards of certain programs and the syllabus of certain courses are guided by Indonesian National Qualification Framework or KKNI (*Kerangka Kualifikasi Nasional Indonesia*) issued by the Ministry of Higher Education and Indonesian National Occupational Standard or SKKNI (*Standar Kompetensi Kerja Nasional Indonesia*) issued by the Ministry of Labour. KKNI and SKKNI are considered as the national standard of learning outcomes in Indonesia that relates the competence to develop or train in the class with the expected competence in real world occupational context. KKNI defines the general competence that certain level has to master, without any specification on the field of study, while SKKNI defines what people on particular job title have to be able

to do in their job, yet the information is too specific, not a field of study in general.

In this research, the researcher try to use IQP (Indian Qualification Pack) as the standard based syllabus. why do we needs IQP as the standards for iron & steel standards? Firstly, Industrial Engineering program at UNTIRTA University focused at iron and steel industry. So, the graduates standard competencies of UNTIRTA is produce profesional, and competitiveness both nationally and internationally based on steel industry.

Secondly, reported from source of website,www.bussiness.com India is the bigest producer country at steel and iron industry after china and Japan at 2016. Therefore India produce 110 million tons steel in a year, Japan produce 105 tons steel in a year, While indonesia only produces 7,2 million ton steel in a year. As reported by *Bisnis Indonesia* issued on november 12th 2016, and posted by some websites such as www.bisnis.com SKKNI for engineering adopts Indian Standard,especially for the following professions: Manufactured System, Warehouse Division, Maintenance Division,Quality Control,Purchasing And Marketing Division. It is a mutual agreement for engineer among five contries : Indonesia, India, China, Vietnam, and Philipphine. Thus, this present study usus the IQP Document for Industrial Engineer to highlight the necessary competence to include in the ESP syllabus for industrial engineer in steel and iron sector.

At the last, Indian Qualification Pack for Industrial Engineering in Steel Industry sector in portrayed in the steel and iron making developed by industry skills councils of Indian government (2015). This package is an integrated set of

nationally endorse competency standards and assessment guidelines in accordance with Indian Qualification Pack (IQP) for spesific industry, especially in steel and iron industry sector.

Finally,this study is to Design syllabus for Industrial Engineering at Sultan Ageng Tirtayasa University (UNTIRTA) located in Cilegon Banten for the Bachelor Degree of Industrial Engineering Program by using Indian Qualification Pack (IQP) at Iron and Steel industry.

1.2 Research Questions

This present study intends to answer the following main question:

How is the IQP-Based ESP Syllabus for Bachelor Degree of Industiral Engineering Program at Sultan Ageng Tirtayasa University ?

Prior to the above question, the following three sub-questions are crucial to be clarified.

1. How are basic competencies, materials, activities and assessments in the existing ESP syllabus for bachelor degree of Industrial Engineering study program at Universitas Sultan Ageng Tirtyasa ?

2. How are the occupational standards of Industrial Engineering in the Indian Qualification Pack (IQP) – ?

3. How are basic competencies, materials, activities and assessments in the existing ESP syllabus comply with those of IQP standards for Industria Engineering in steel and iron industry ?

1.3 Purposes of the Study

The aim of this study is designing an IQP Based ESP Syllabus for the bachelor degree students of Industrial Engineering Study Program at UNTIRTA. It is also meant to identify Basic Competencies, Materials, Activities and Assessments in the existing ESP syllabus for bachelor degree of Industrial Engineering Program at UNTIRTA and the IQP Standards for Industrial Engineering, and see how they complies each other.

1.4 Scope of the Study

The study is limited only on discussing the needs of the ESP for industrial engineering in accordance with the Basic Competencies, Materials, Activities and Assessments for Industrial Engineering related job available in the present ESP syllabus for bachelor degree of Industrial Engineering program at Sultan Ageng Tirtayasa University used in odd semester year 2017. The results are then used to see how complies they are with those of Indian Qualification Pack, as published in iron and steel-assistant developed by Indian iron and steel sector skill council at 2015. Finally,the results become the framework in desgning an IQP-Based ESP syllabus for the bachelor degree students of Industrial Engineering Program at Sultan Ageng Tirtayasa University.

1.5 Significance of the Study

The result of the study can hopefully give theoretical and practical benefits. Theoretically, the study gives useful information on the IQP –Based

needs of ESP for Industrial Engineering based on IQP,becomes the source of simple syllabus to teach ESP for Industrial Engineering in steel industry sector,in formal and informal education as well,and aids in evaluation of the presents syllabus of ESP for industrial engineering in steel industry sector.

CHAPTER II

LITERATURE REVIEW

Chapter two provides in more detail issues related to Indian Qualification Pack (IQP), Needs analysis, and ESP syllabus Design for Industrial Engineering Program at Steel Industry.there is a conceptual framework and The Previous of the study at the end of this chapter that will give a picture on what the study focuses on.

2.1. The Needs of Standardization for Industrial Engineering of Sultan Ageng Tirtayasa University

Industrial Engineering Sultan Ageng Tirtayasa University claims to adopt the KKNI standard for its curriculum in order to be able to ensure high quality graduates who can compete better in nowadays' real working environment. institution is also now widening the network with international education institutions. in which some of the graduate students of Industrial Engineering from Sultan Ageng Tirtayasa University are sent to work at certain industries abroad. It means Industrial Engineering UNTIRTA needs to develop reliable curriculum and syllabus that enable the graduates master not only the industrial engineer expertise but also English competence, and compete well not only in domestic or national level but also international work challenge.

2.2 The Importance of ESP for Industrial Engineering Program

English language teaching has been always evolving adjusting the methods and approaches with the latest social as well as technological development. Martínez (1992:135) reports that the idea of focusing on learners' needs originated in the 1970s resulting from the interest in the design of language courses that could satisfy individual and social needs. It was then well-known as the teaching of languages for specific purposes. Dehnad et al (2010: 1307), on the other hand, even state that esp has grown to become an important and distinct area in the field of english language teaching since 1960. It is all due to the significant economic growth of the oil rich countries, business development with countries speaking various languages, An institution can offer every language learner with the opportunities to find the language learning program that can best suit his/her personal needs in education and occupation with such specific fields as science, tecnology, medicine, economics, bussines, ior occupation with such specific fields as science, technology, medicine, economics, bussines, including industrial sector.

In order to master the Engineering knowledge and skills better, engineering students should own the English language competence. Most of the scientific papers or journals in the world are written in English. Most of the engineering graphs are also marked in English. Moreover, most engineering professors in various universities are also conducting their lectures in English. Hence, engineering students should at least master the basic English ability to deal with the countless English lectures, tutorials, labs, projects and papers. Finally, they have to submit their important theses still in English.

When Engineering students graduate from the college and become real engineers, they will find that English appears even more crucial than it used to be. Engineers usually work in groups since their task can seldom to be solved by an individual. The property of their work determines that being an engineer needs to cooperate and communicate with different people from different part of the world. For non-native English speakers, unfortunately, most of the engineers speak English as the first language or the working language. In order to understand and coordinate with their colleagues and accomplish their projects fluently, engineers have to speak good English. Finally, ESP is important for industrial engineering students. Bureau of labor statistics, U.S . Departement of laboor, 2014-2015 occupational outlook handbook, http://www.bls.gov/ooh. list down the job description of industrial engineer, for instance aerospace product and parts manufactoring. Architectural, engineering, and related services motor vehicle parts manufactoring, semi conduc to and other electronic component.

The common Business English program may not be enough to cater the specific needs of lndustrial engineering field because it may not directly involve the students with the specific language corpus and emphasis on particular kind of communication in lndustrial Engineering context. Thus, it is important to include ESP course in industrial engineering program to enable the program produce more eligible graduates who are ready to work in any situation, especially when dealing with English procedures, letters, business deals, and others, without starting from zero. This offers benefits not only to the students themselves (mastering what they

really need) but also to the lecturers (creating purposeful lessons), institutions (gaining accreditation and pride), and industries (increasing working efficiency)

2.3 An Overview of IQP for Industrial Engineering Program

Most countries issued their own qualification framework or occupational standards. United Kingdom releases *Standard Occupational Classification* which informs the qualifications and tasks of jobs in particular levels. Scotland even has its own *Scottish Qualification Authority* informing the expected performance, knowledge, ability, and others of particular positions. Europe in general issues *International Qualifications for Vocational Training* where *Common European Framework of Reference for Languages: Learning, Teaching, Assessment* is included. Canada releases *National Occupational Classification* that provides the standards of service that employees on certain positions should achieve. Singapore has *Singapore Standard Occupational Classification* informing the daily or main tasks accomplished by certain occupations. Australia also has Australian qualification framework for logistic .

In Indonesia, there is SKKNI or *Indonesian National work competency standards* is a standards reference in relation to work ability which includes skills aspect, knowledge and work attitude in accordance with the implementation of its duties according to the requirements of the work which already established where the standard or provisions of the prevailing laws and regulations. While KKNI is a reference in SKKNI packing or level of Qualification. KKNI itself is a qualitative framework or competence thats capable to match, equalize and itegrate the

education field,job training field and work experience, in recognition of work competence according to the work structure in various sectors.

With varied options of documents on Industrial Engineering qualification standards, careful consideration and selection must be made. Ideally, using SKKNI as the framework to needs analysis is a better decision. However, it is found that SKKNI has not published any issue on steel. It releases more specific issues such as no 2292/SJ-IND.6/12/2015 about Metal (*Industri pengolahan golongan pokok industri logam dasar bdang industri baja dasar)* and no 146/2013 about pipeline industry (industri pengolahan, golongan pokok industri logam dasar besi dan baja, kelompok usaha industri pipa dan sambungan pipa dari baja dan besi., area kerja pengawasan bawah air) Therefore, the writer decides to take Indian Qualification pack (IQP). For Industrial Engineering as the basis in identifying the needs since SKKNI for industrial engineering related fields claims to adopt Indian standard.

The IQP aims at bridging the demand-supply gap for skilled workforce in different industry sector at India. It strives to ensure various interoperable Quality **standards for progression and upward mobility through formal and informal education and training by mapping different levels of knowledge, skills and aptitude with requirements to successfully perform on the job. When implemented well, NSQF can go a long way in removing the stigma attached to vocational education and training by promoting a culture of credit**

transfers and other modes of recognizing and rewards accomplishments in vocational streams.

National Occupational Standards (NOS) or Occupational Standards (OS) defines one key function in a job role. NOS specify the standard of performance an individual must achieve when carrying out a function in the workplace. These Occupational Standards are combined to a set, which is called Qualification Pack (QP). OS are performance standards tht individuals must achieve when carrying out functions in the work place, together with spesifications of the underpinning knowledge and understanding(P.1). It consists of title of job, personal atributes, and job role(p.2). this qualifications describe the unit title, performance criteria, knowledge and understanding, skills, and time management and spesification of field of the study.

Furthermore, Indian Qualification Pack (IQP) - Occupational standards for industrial engineering provided the standards in many sector, such as apparel, made-ups and home furnishing, automotive, textile, agliculture and allied industry, and many others. Oklahoma state university standardized that industrial engineer should : good reading and writing skills, good oral communication (listening and speaking skills),decision making,good maker plan and organize their own work,work with team,good problem solving, good analytical thinking, good leadership skills, able to organize and motivate a team. Therefore, since industrial engineer handle spesific job responsibilities, manage particular industry such as steel industry sector, deal with special terms in steel industry which are

different from other indusrty, the students industrial engineering program should get ESP,so thats all the criteria has allready exist at Indian Qualification Pack. It means that Industrial Engineering students need ESP syllabus IQP-based.

This IQP consists of 5 Main Learning Outcomes (task) ,every unit title has each qualifications, there are : performance criteria (PC) which has total 64 qualifications. knowledge and understanding (KA) which has total 24 qualifications, and (KB) 49 qualifications, core skills (SA) which has total 56 qualifications, and profesional skills (SB) which has total 37 qualifications. The qualifications of unit title 1(receive tools and tackels from stores/departement) are : 6 PC,6 KA,7KB,11SA, and 11SB. The qualification of unit 2 (assist for smooth operation at site), are : 13 PC, 6 KA, 7 KB, 11 SA, and 4 SB. The qualifications of unit title 3 (clean the equipements and work site), are : 9 PC, 6 KA,7 KB, 11SA, and 4 SB, The qualifications of unit title 4 (use basic health and safety practices at the work place) are : 26 PC,1 KA, 25 KB, 6 SA, and 13 SB. The qualifications of unit title 5 (work effectively with others) are : 10 PC, 4 KA, 17 KB,6 SA, and 12 SB. And the last is criteria for assessment of trainees.

2.4. ESP Syllabus Design

Needs-based syllabus is expected to reflect skills at the macro and micro level, by selecting and grading authentic materials (Cowling, 2007, in

Chostelidou, 2010: 45) so that students can get exposed to the language use that represents what they are going to do later in their job. The following sub-chapters discuss issues concerning syllabus, its approaches, and design.

2.4.1. The Definition and Component of Syllabus

Syllabus is a notion, used for the smaller unit analysis than curriculum, that explains the documents and records occurred at the classroom level and gets through justification of the already existing curriculum to the personal needs of teachers and learners (Candlin, 1984, in Al-Hamlan, 2015: 120). Brown (1995) suggests that the syllabus is referred to a design for carrying out a particular language program including a primary concerns with specification of linguistic and subject-matter objectives, sequencing, and materialsto meet the needs a designed group of learners in a defined context. Nunan (1993: 8) defines syllabus as a notion devoted to teaching methodology, mainly aimed at selecting and grading content. Syllabus itself is derived from curriculum which informs about planning, learning purpose, implementation, experience, evaluation, and the roles and relationships of all parties (Candlin, 1984. and Nunan, 1993: 8, in Al-Hamlan, 2015).

Regarding the parts of the syllabus mentioned, it has several elements in the syllabus which has different content. According to Shelton (2008, in Wolf et al, 2014: 4), a good syllabus should fulfil the following components: Course Information (such as course name, term, semester/year, pre-requisites, co-requisites, class days, times, and location), Contact Information (such as faculty's

name, email and website address, office address, phones, and office hours), Course Description, Learning Outcomes (such as specific measureable results (knowledge, skills, attitudes), expected following learning experience, and instructional method), Course Materials (such as required textbook, recommended readings, library reserves, and course materials), Course Calendar (class meeting dates and due dates). Schedule Grid, Course Content, Unit Objectives, Grading Scale, Grading Method (such as grading rubrics and percentage of each task), Learning Center Resources, and finally Essential Policy Information (such as attendance, lateness, late assignments, missed tests, plagiarism, counselling center, and copyright). Graves (2000:15) explains that designing a language course has several components.The main components of syllabus comprise setting objectives, determining content, materials and method and evaluation. The course objectives are the expected skills and knowledge the students need to gain and achieve, the course orninstructional content is the basic content of the course the students will learn and teacher will teach. The evaluation states how the students will be evaluated. In general, the components of syllabus consists of objectives or competencies, instructional contents, learning experiences and evaluation.

Competence standard is defined as the standard of students' minimum competence required after joining a learning process of a subject. It is used to elaborate the basic competences into appropriate students' learning experience.The basic competences are necessary to limits the teachers on how far thecompetence standard should be achieved. Indicators refer to some specific aspects of a basic competency that show the target achievement of a certain competence. through assessment. Learning experiences show the teachers and the students' activities to

achieve the basic competencies. Assessment means the activities in analyzing and interpreting students' learning progress. It could be in oral or written form. Source and media are important in syllabus to facilitate the learning process. The media can be used to improve and clarify the students' understanding of the topics being discussed. Based on the Minister of National Education Regulation (Permendiknas No. 41 Year 2007) on standard of process, the coverage of syllabus components involves the subject theme, standard competency, basic competence, learning materials, learning activities, learning objectives, time allotment, assessment and learning sources.

Regarding the explanation of parts of syllabus mentioned above as the syllabus components, for carrying out the language program there are several elements need to be considered in designing the syllabus including specification of linguistic as the primary concern for the learning materials, and learning objectives,. In this study, the syllabus components will combining the model of syllabus based on Shelton and graves , it covers the components; Course Information (such as course name, term, semester/year, times, and location), Basic competencies or learning outcomes, the materials, activities and time Assessments. This coverage will be used as the reference for the proposed syllabus resulted in the research

2.4.2. Approaches to ESP Syllabus Design

To design syllabus is to decide what to teach and in what order (Krahnke, 1987 : 3). However, approaches to syllabus design cannot be classified obviously in general since different linguists can propose different classifications. Wilkins

(one of them really put one approach apart from another. They believe that approaches work well when combined in various teaching situations instead. Krahnke (1987 : 9) says that in practice almost all actual language teaching syllabuses are combinations of at least two approaches.

Wilkins (in Long and Crookes, 1991: 2) divided syllabus into two super-ordinate classes, synthetic and analytic, which can be seen as two points on a continuum rather than as a strict dichotomy (Wilkins, 1976: 1-2, in Long and Crookes, 1991: 2). Synthetic syllabus segments the target language into discrete linguistic items for presentation one at a time: different parts of language are taught separately and step by step to enable gradual acquisition processes until the whole structure is built up completely. In contrast, analytic syllabus offers target language samples which have not been controlled for structure or lexis, which Wilkins (1976:13) in Long and Crookes, 1991: 3) claims as representing the real purposes for which people learn a particular language. Long and Crookes (1991: 4) add that this syllabus presents the language in whole chunks at a time, in molar rather than molecular units, without linguistic control or interference. They rely on the learners' innate knowledge of linguistic universals and the ways language can vary, knowledge which can be reactivated by exposure to natural samples of language.

Krahnke (1987, 10), furthermore, has proposed six types of syllabus. Firstly, structural syllabus is a kind of syllabus in which the content of language teaching is a collection of the forms and structures, usually grammatical elements

such as subject-verb agreements, tenses, tag questions, embedded clauses, and so on.

Secondly, Notional/functional syllabus is a collection of the functions that are to be performed when language is used, or of the notions that language is used to express, for instance, agreeing, apologizing, requesting, promising and so on. Then, situational syllabus refers to the kind of syllabus whose content is a collection of real or imaginary situations in which language occurs or is used, for example seeing a dentist, asking directions in a new town, or buying a book in a bookshop. Next, skill-based syllabus contains a collection of specific abilities differentiated on such skills or competence as reading, listening, speaking, and writing. For example, the topics may be classified on such reading skills as guessing meaning, scanning, getting the main idea, or critical reading. It can also be based on competency such as reading price labels, filling out a form, or identifying family members and relationships. Then, Content–Based Syllabus aims at teaching some contents or information using the language that the students are also learning. The students are simultaneously language students and students of whatever content is being taught, who are usually in a bilingual education program. The subject matter is primary, and language learning occurs incidentally to the content learning. An example of content-based language teaching is a science class taught in English.

Last but not least, task-based syllabus is one in which the content of the teaching is a series of complex and purposeful tasks that the students want or need

to perform with the language they are learning. Task-based approaches syllabi can create a favourable condition and facilitate language development since it focuses on the ability to perform real life related activities. The tasks might be as follow: filling out a form for certain course, writing a letter of complaint, conducting a job interview, writing an annual sales report, etc.

Rahimpour (2010) then states there are three kinds of proposals for Task-Based teaching syllabuses. They are procedural syllabus by (Prabhu,1987:46), the process syllabus by (Breen,1984:76; Breen & Candlin, 1980 :90) and Task-Based language teaching by (Long & Crookes,1992). Richards (2001:152-164), adds other kinds of syllabus. They are called competency based syllabus is a type of integrated syllabus because it combines elements of different types of syllabus. This syllabus is applied with a five part circle as building the context for the text, modeling and deconstructing the text, joint constructions of the text, independent constructions of the texts, and linking related text.

Callan and Widdowson (2013), explain that some researchers have classified syllbus through ***content.*** The first one is *structural* syllabus which has been criticized for not having communicative value by proponents of *functional-national* syllabus (e.g.Wilkins.1981). however, the functional-notional syllabus has, in return, been attacked by semidefenders of structural approaches (e.g.swan (1990) who maintain that a structural functional dichotomy is essentually false. And that meaning are implcit within structural approaches due to learners' understanding of their native language. Based on various syllabuses, the

researcher believes that syllabus will be meaningfull if the syllabus designed based on the students needs, so in this research the researcher focused to design Task-Based Syllabus.

Nunan (1988: p. 40) introduces the terms product and process syllabus. Product syllabus focuses on linguistic content, giving a list of grammar points or vocabulary items without real-world applicability. It is very clear, formal, and suitable for standardized tests, for instance lessons that focus on the students' ability to perform well at National examination or TOEFL/TOEIC. He includes grammatical syllabus and functional-notional syllabus into this type. In contrast, process syllabus tries to define language learning as the mastery of the real world skills and create open-ended learning. It focuses more on the learning experience itself rather than merely on the knowledge and skills which learners should gain as a result of instruction (Ismagilovaa and Polyakova, 2014: p. 1097). Nunan puts procedural syllabus, task-based syllabus, and content-based syllabus into this type.

To sum up those linguists actually share almost the same idea. Process syllabus of Nunan's is similar to task-based syllabus of Krahnke's and analytic syllabus of Wilkins' whereas product syllabus, structural syllabus, and synthetic syllabus are alike. Long and Crookes (1991: p. 4) add that situational and notional/functional syllabus, despite the claim that they belong to analytic syllabus, often end up as synthetic syllabus due to such classroom activities as practising requests or apologies combined with particular grammar points.

Rahimpour (2010, p: 1662), moreover, points out that among the above types of syllabus design, task-based approaches has recently become the concern among language researchers and syllabus designers such as Prabhu (1987), Robinson (1995, 2001), Skehan (2003), and Ellis (2003). Skehan (1998: p. 268), for example, points out that what counts in task-based approaches is the way meaning is brought into the main priority by the emphasis on goals and activities. However, Skehan (1996: pp. 41-42) also admits that this way of processing language to extract meaning does not guarantee automatic sensitivity to form so that instruction should also be made to be viable, to devise methods of focusing on form without losing the values of tasks as realistic communicative motivators, and as opportunities to trigger acquisitional processes. It can be concluded that task-based approach, when combined appropriately with other approaches, is the most suitable to help students learn to master certain language as it should be in real life use.

In case of ESP, attempts have also been made to place genre more centrally in the development of language curricula and syllabus design by such linguists as Swales (1990), Bhatia (1993), Paltridge (2001), Hyland (2003, 2004), and others (see Abbaszadeh, 2013, p: 1879). Paltridge (2001: p. 4, in Abbaszadeh, 2013, pp. 1879-1880) believes that a genre-based perspective focuses on language at the level of the whole text while at same time taking into account the social and cultural context in which it is used by grouping together texts with similar purpose, organization, and audience. It is in line with the aim of ESP course which expects students not only to enrich their linguistic competence but also get

familiar with the most common and important features of communication in their particular study, including the complex relations between social and cognitive factors (Petkovska, 2004: p.94). Bhatia (1991, in Abbaszadeh, 2013, p: 1881) sees genre analysis as an analytical framework which reveals both the utilizable form-function correlations and the cognitive structuring of information in specific areas of language use. This helps the ESP designers devise appropriate activities for the achievement of desired communicative outcomes in specialized academic or occupational areas.

To Swales (1990, p: 58, in Abbaszadeh, 2013, p: 1880), a genre comprises a class of communicative events with shared and recognized communicative purposes that shapes the schematic structure of the discourse, exhibiting patterns of similarity in terms of the structure, style, content and intended audience. Similarly, Hyland (2003, in Abbaszadeh, 2013, p: 1880) points genre as socially recognized ways of using language, grouping texts, and representing how writers typically use language to respond to and construct texts for recurring situations. In short, genre-based approach, also called text-based approach, is characterized by its communicative purposes, channel of communication (e.g. spoken, electronic, hardcopy), associated themes, conventions (rhetorical structure, lexico-grammar and other textual features), audience types, and the roles of the people. It represents ESP needs since it can accommodate communicative competence by providing explicitly the targeted texts in particular real working context (Abbaszadeh, 2013, p: 1881). Research also proves that generic-based consciousness-raising tasks can significantly affect speaking (Khatibi, 2014) as

well as writing competence (Alidoost, et al, 2014; and Tribble and Wingate, 2013). In addition, there occurs one of the most important contributions to the approach to reading in ESP whose idea belongs to Dudley-Evans and St John (1998: p. 46). It is the shift from Text as a Linguistic Object (TALO) to Text as a Vehicle of Information (TAVI). It shows that learning certain target language through a text especially ESP is no longer merely for the sake of such small linguistic units as enriching vocabulary or grammar, but of the tool to convey messages to get things done instead.

2. 4.3 Procedures of ESP Syllabus Design

Designing a syllabus requires some steps to do which is not an instant process. Nicholls and Nicholls (1978: p. 21, in Hatta, 2004: p. 148) propose four major stages: setting the objectives, selecting and grading the content, selecting and grading the learning experiences (tasks and activities), and finally evaluating. It is a cyclic and continuous process in which the knowledge and insights derived from assessment provide a fresh starting-point for further curriculum development.

Long (1985: p. 91, in Nunan, 1988: p. 47) offers the following procedure for developing a task-based syllabus: conducting a needs analysis to obtain an inventory of target tasks, classifying the target tasks into task types, deriving pedagogical tasks, and finally selecting and sequencing the pedagogical tasks to form a syllabus. Richards (2001: p. 145) provides a more complicated process of syllabus design: developing a course rationale, describing entry and exit levels,

choosing course content, sequencing course content, planning course content (frameworks and instructional blocks), and preparing scope and sequence.

Krarzia (2013:135), on the other hand, in his study on designing an ESP syllabus for commercial science program simplifies the process by considering three steps only: needs analysis, content specification, and syllabus organization. Meanwhile, Ismagilovaa and Polyakova (2014, pp: 1096-1098), in their study on syllabus design for master degree in Economics conduct the following stages: identifying the goal, analyzing the needs, selecting the authentic materials, assessing the plans, evaluating the course, and finally checking the students' satisfaction by distributing questionnaire.

It can be seen that the number of stages to design a syllabus really depends on the researcher's consideration on the study she/he is doing. There is no fixed rule. However, most previous research put high priority on setting up objectives by doing needs analysis, specifying the contents and learning experience by selecting, classifying, grading, and sequencing the needs (materials, activities, and tasks), and finally evaluating the syllabus. To add, there is a belief that syllabus design never serves as an end-product, but a cycle process instead in which the process can always be repeated to catch up with the latest advancement and needs.

2.5. Design and Development Research

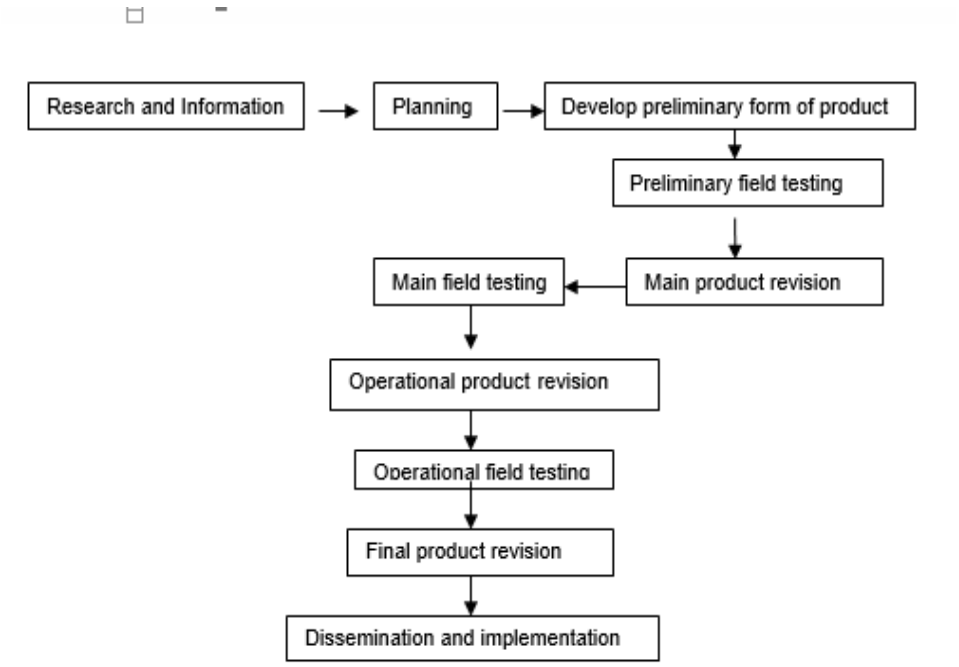
a. Borg and Gall model.

The design and development research, first proposed by Brown and Collins in the 1990s, is currently among the well-known methods in educational research to test theory and validate its practicality. The method is also known as developmental research, design research, design-based research, formative research and design-cased and possesses conceptual underpinning and practical aspects of the 'what' and 'how' of 'doing'. (sahrir, 2012:1). Hasan (2003: 7 in Ellis and Levy, 2010: 108) defines DDR is an investigation to develop a product or program to improve either the thing being developed or the developer.

Accoding to Borg and Gall (1998 : 772) Educational research and development (R & D) is a process used to develop and validate educational products. The steps of this process are usually referred to as the R & D cycle , which consists of studying research findings pertinent to the product to be developed, developing the product based on the finding, field testing it in the setting where it wil be used eventually, and revising it to correct the deficiencies found in the field testing stage. It indicates that product meets its behaviorally defined objectives. He also stated that basically research and development consists of two main goals, these are developing product and testing the effectiveness of the goal.

Moreover, borg and gall (1983) proposes ten steps in research and development cycle, there are "research and information collecting, planning, develop preliminary form of product, preliminary field testing, main product revision, main field testing, operational product revision, operational field testing, final product revision, and dissemination and implementation".

Figure 2.1 shows the steps of Borg and Gall Model.



b. Richey and Klein model

Richey and Klein (2007:1) specifies the definition to the education domain by saying that DDR is the systematic study of design,development and evaluation processes to establish an empirical basis for the creation of instructional and non-instructional products and tools and new or enhanced models that govern their development.

Klein (2014: p.2) states that DDR is classified into two large categories of studies : (1) product and tool research,and (2) module research. The following table illustrates types of DDR by Richey and Klein (2014).

Types Of DDR	Emphasis	Outcomes	Function/Phase	TypesOf Participants
Type 1. Product and Tool Research	Study of specific product or tool design and development projects	Lessons learned from developing specific products and analyzing the conditions which facilitate their use	Product design and development	Designers, Developers, Clients
			Product evaluation	Evaluators, Clients, Learners, Instructors, Organizations
			Validation of tool or technique	Designers, Developers, Evaluators, Users
Type 2. Model Research	Study of model development, validation or use	New design and development procedures or models, and conditions which facilitate their use	Model Development	Designers, Developers, Evaluators, Researchers, Theorists
			Model use	Designers, Developers, Evaluators, Clients
			Model validation	Designers, Developers, Evaluators, Clients, Learners, Instructors, Organizations

Table 1. richey and klein model.

C . ADDIE Model.

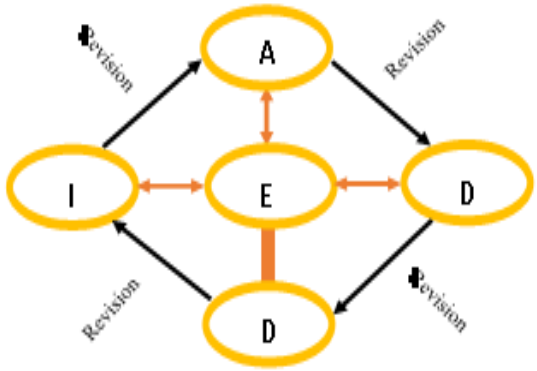
ADDIE is an instructional systems design (ISD) framework which is used to develop courses. It was firstly introduced in 1975 and was created by the Center for Educational Technology at Florida State University for the U.S. (Branson, Rayner, Cox, Furman, King, Hannum, 1975; Watson, 1981).

The ADDIE or ISD model consisted of 19 steps which were considered essential to the development of educational and training programs (Hannum,

2005). These steps were grouped into five phases (Analysis, Design, Development, Implement, and Evaluate) to facilitate communication of the ISD model to others.

The ADDIE Model is an iterative instructional design process, where the results of the formative evaluation of each phase may lead the instructional designer back to any previous phase. The end product of one phase is the starting product of the next phase.

Figure 2.2 shows the steps of this model.



. Core elements of instructional development. Adopted and modified from Gustafson and Branch (2002)

Steps in the ADDIE Model are: **Analysis**. This is the foundation for all other phases of instructional design because the problems, the source of the problems and possible solutions should be stated in this phase.

The next step is **Design**. This step involves the use of outputs from the Analyze phase to plan a strategy for developing the instruction. Here, the outline how to reach the instructional goals determined should be stated. Some of the elements of the Design Phase may include writing a target population description,

conducting a learning analysis, writing objectives and test items, selecting a delivery system, and sequencing the instruction. The outputs of the Design phase will be the inputs for the Development phase.

Development is the next step. This step builds on both the Analyze and Design phases. The purpose of this phase is to generate the lesson plans and lesson materials. So the instructions, all media that will be used in the instruction, and any supporting documentation are made.. This may include hardware (e.g., simulation equipment) and software (e.g., computer-based instruction).

Implementation phase refers to the actual delivery of the instruction, whether it's classroom-based, lab-based, or computer-based. The purpose of this phase is the effective and efficient delivery of instruction. This phase must promote the students' understanding of material, support the students' mastery of objectives, and ensure the students' transfer of knowledge from the instructional setting to the job.

Evaluation measures the effectiveness and efficiency of the instructions. The Evaluation should actually occur throughout the entire instructional design process - within phases, between phases, and after implementation. Evaluation may be Formative or Summative. Formative Evaluation is ongoing during and between phases. The purpose of this type of evaluation is to improve the instruction before the final version is implemented. Whereas Summative Evaluation usually occurs after the final version of instruction is implemented. This type of evaluation assesses the overall effectiveness of the instruction.

d. 4 D Model.

Sivasailam Thiagarajan, Dorothy S. Semmel, dan Melvyn I. (1974) proposed 4D model which contains Define, Design, Develop, and Disseminate.

The first step is **Define**. In this step, the researcher states and define some considerations of development. Need analysis is very important in this step because each product needs their own need analysis. The need analysis could be done by studying literature or previous research.

. The second step is **Design**. There are four steps in this phase. They are criterion-test construction, media selection which are suitable with the purpose of teaching, format selection, and initial design which is made based on the selected format.

The next step is **Development.** Thiagarajan (Online) divided this step into two activities. They are: expert appraisal and developmental testing.

Expert appraisal is done to validate the product. Experts give evaluation to fix the materials and the plan of the teaching. Whereas Developmental testing is done to test the plan product. The result of this test is used to fix the product. After being revised, this product is again to be tested to get the effective result.

The last step is **Dissemination.** Thiagarajan (Online), divided this step into three activities. They are: Validation testing, Packaging, Diffusion and Adoption.

After the product is tested and validated by the experts, the product is implemented to the real target, which are students. It hoped that in this step, there is no mistake concerning with the purpose of the teaching.

The next step is packaging. The product is packaged by printing it in the form of text books. After that it is disseminated to be able to diffused and adopted by learners.

e. Dick – Carey Model.

Dick – Carey model was an instructional design which was developed by Walter Dick, Lou Carey and James O Carey. This Model proposed the application of Instructional design which should be done based on the systematical procedures.

The steps of this model as Dick and Carey proposed are: Identifying the general aim of learning, Doing the learning analysis, Identifying the students' behavior, Identifying the purpose of learning, Developing the test, Developing the learning strategy, Developing and choosing the learning materials, Designing and doing formative evaluation, Revising the learning materials and Designing and doing Summative evaluation.

Some Positive points of this model are firstly every steps or phases are clear and easy to follow. Secondly, it is very effective and efficient. Thirdly, it is a kind of model which is very details in instruction and easy to be followed.

The Negative points of this model are: firstly, it is not suitable if it is done for e-learning in a big scale. Secondly, not all the procedures in teaching learning activity can be developed based on those procedures. And thirdly, the try out test is not clearly explained when it should be done. At last, no expert's validation in this model.

2.6. Conceptual Framework

The aims of this study is Designing an IQP-based ESP syllabus for the bachelor degree students of Industrial Engineering at UNTIRTA University,Banten by using Design and Development Research. Genarally every Industrial Engineering in every university has different focused program, in this case Industrial Engineering Program at this University is focused at Steel Industry.

Indian Qualification Pack standard for industrial engineering is selected because India is the bigest country of steel produsen at 2016 after China,Japan, and vietnam. The study also attempts to answer three sub questions : firstly how the basic competencies, materials, activities, and assessments in the existing ESP syllabus for bachelor degree of industrial engineering program at UNTIRTA University are, secondly, how are the Basic Competences, Indicator, Materials, Activities, and Assessments expected by the IQP for Industrial Engineering are, and the Basic Competences, Indicator, Materials, Activities, and Assessments in the existing ESP syllabus comply with those of IQP for Industrial engineering. Considering that the important steps in designing syllabus are setting up goals by doing needs analysis, specifying the contents and learning experience by selecting, classifying, grading, and sequencing the needs (materials, activities, and tasks), and finally evaluating the syllabus.

2.7 Previous Studies

Designing ESP syllabus have ever been done by many researcher, Especially for Engineering Program. There is three previous study related to Designing ESP Syllabus.

The first is from Biswanandan Dash (2014) entitled : An ESP Syllabus Design for the Engineering students of Bijupatnaik University of Technology,India. The aim of that study is to Develop an ESP –Based course across different engineering streams. Simultaneously, the present syllabus and the review of literature serve to keep the learners' needs in view and are regarded as an ESP Course for Engineering Education. The findings of this study can serve to improve current practices by embarcing this as a guideline in designing the sylabus and the textbooks as well as offer a substantive understanding for the employability of Engineering graduates.

The Second is from Suprih Ambawani (2014) Entitle : Designing ESP syllabus for students of Industrial Engineering,Institut Sains & Teknologi AKPRIND,Yogyakarta. The aims of that study is to develop a syllabus for English course for the first year students of Industrial Engineering based on students needs at Institut Sains & Teknologi AKPRIND,Yogyakarta. As the result, it is concluded that this topic-based syllabus is appropriate for English course since it is developed based the needs analysis involving the head of Industrial Engineering Department, subject specialists, students and English lecturer and validated by two experts, syllabus design and content experts.

The third is from Imas Wahyu Agustina (2017) entitled : Designing an AQF-Based ESP syllabus for the Bachelor Degree students of Management of Logistics and Materials Program at STMT TRISAKTI Jakarta. The aims of that study is to

Design an AQF-based ESP syllabus for the Bachelor Degree students of Management of Logistics and Materials program at STMT Trisakti Jakarta. It is also meant to identify the Topics, Learning Objectives, Materials, Activities, and Assessments available in the existing ESP syllabus for bachelor degree of logistics program at STMT Trisakti and the AQF for logistics, and see how they complies each other. The results of the study reveal that the topics, learning objectives, materials, activities, and assessments available in the ESP syllabus include limited exposure to logistics-related matters.

Since there were previous studies in terms Designing ESP Syllabus for Engineering, this research propose to Design an IQP –Based ESP syllabus for the bachelor degree students of Industrial Engineering Program at UNTIRTA University by Identifying the Basic Competence, Materials, Activities, and Assessments available in the existing ESP syllabus for bachelor degree of Industrial Engineering Program at UNTIRTA University and the IQP for Industrial Engineering, and see how they complies each other. Furhtermore,it is also expected that this proposed syllabus will give benefits for both lecturer and students of Industrial Engineering Program.

CHAPTER III

RESEARCH METHODOLOGY

This chapter presents the methodology that used in conducting this study. This chapter consists of the objective of the study , research design used in this study, data and data source, instrument of the study, data collection procedures, and data analysis procedures.

3.1. The Objective of the study

The purpose of the study is to Design an IQP (Indian Qualification Pack) -Based ESP Syllabus for the Bachelor Degree students of Industrial Engineering Program at UNTIRTA University .

3.2 Research Design

This study adapted the DDR model based on Borg and Gall Model (1983). It is choosen because the steps in his steps answering the problem encapsulated in the research questions. As it systematic yet flexibility, the DDR enables the researcher to improve and modify the procedures. As the researcher already stated that Borg and Gall proposed ten steps in Research and Development cycle. They are: research and information collecting, planning, develop preliminary form of product, preliminary field testing, main product revision, main field testing, operational product revision, operational field testing, final product revision, and dissemination and implementation".

Borg and Gall (in Emzir: 2013: 271) stated that it is possible to limit or modify this model for small scale, including to limit the steps of research. This happens because it should be considered to the researcher's condition.

Due to limitation of time and high cost, the researcher modified the model proposed by Borg and Gall (1983) into Five steps of Designing Syllabus. They are : (i) Doing need analysis (ii) Designing Proposed syllabus (iii) validating the proposed syllabus (iv) revising the proposed syllabus (v) Designing the Sylabus.

The modified model based on Borg and Gall (1983)

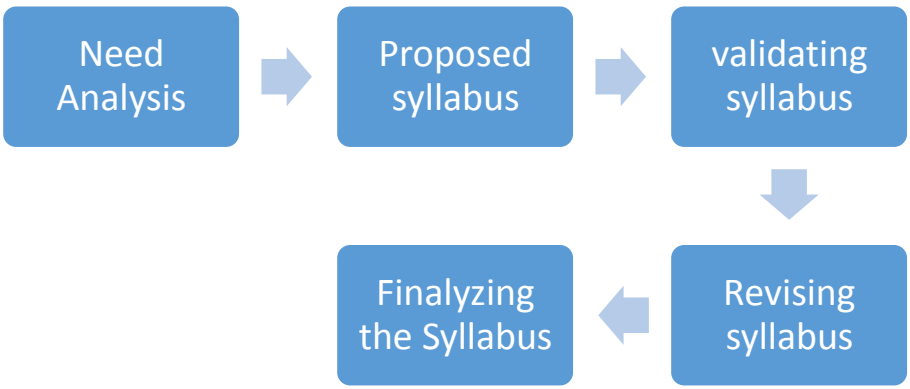


figure 3.2. The process of designing syllabus.

The following table is illustrated the steps in designing syllabus to answer the research questions.

Type	Statement of Research Questions	Stages
Sub-Question 1	How are Basic Competencies, Materials,Activities and Assessments expected by the IQP for Industrial Engineering ?	Need Analysis
Sub Question 2	How are Basic Competencies, Materials,Activities and Assessments expected by the IQP for Industrial Engineering?	
Sub Question 3	How do Basic Competencies, Materials,Activities and Assessments in the existing ESP syllabus comply with those of IQP for Industrial Engineering?	
Main Question	How is the IQP –Based ESP Syllabus for bachelor degree of Industrial Engineering at UNTIRTA University?	Designing Proposed Syllabus
		Validating the proposed syllabus by experts.
		Revising Syllabus
		Syllabus Design

Table 2. Research questions and the stages of research design

3.3 Data sources and Collecting Prodedures.

The technique of data collecting procedures in this reasearch are : (i) Need Analysis. the syllabus designers find out the existing ESP syllabus and textbook for bachelor degree program of Industrial Engineering used in odd semester year 2017, then identifying it whether the existing syllabus has been based on students need. Its can be seen at the graduated standard competencies from UNTIRTA

University. Find the IQP Standard of syllabus, next the syllabus designers identify the basic competencies, materials,activities and assessment in the existing syllabus and the IQP Standards.

(ii) Design the proposed syllabus. After identifying the existing syllabus and IQP Standards, the syllabus designers try to comply the Basic Competencies, Materials,Activities and Assessments in the existing ESP syllabus comply with those of IQP for Industrial Engineering. Aftr that the research try to design an IQP based-ESP syllabus for Industrial Engineering. (iii). Because of time limitation FGD (focused group discussion) choosen as validation stage. The experts validating the proposed syllabus , this syllabus was validated by the syllabus experts by diong FGD (Focus Group Discussions) in the seminar hasil, they give the comments and many suggestions in the proposed syllabus to make it better and compiled well. Furthermore, the researcher doing FGD with Industrial Engineering Experts, the process are same as FGD with syllabus expert, he gave the comments and many suggestions in the proposed syllabus. (iv) after validating the proposed syllabus and analyzing the comments and suggestions from the experts judgement, the next steps was revising the Proposed syllabus based on the experts judgements and comments from the experts syllabus and experts of engineering. (v). The last steps was finalizing the syllabus product.

This following table is illustrates the Data source and Data collecting procedures :

Stages	**Data source**	**Methods**	**Time**
Need Analysis	• The existing ESP syllabus and textbook for bachelor degree program of industrial engineering used in odd semester year 2017. • Vision and Mision of Industrial	Document Review	Sep – Nov 2017

	Engineering Program. • Graduate Standard Competencies of Industrial Engineering Program. • The latest documents of IQP for industrial engineering (National occupational standards developed by ministry of skill development & entrepreneurship of indian government 2015..		
Design Proposed Syllabus	• Analysis results of the existing ESP syllabus and the textbook, and the latest documents of IQP for industrial engineering, used as data source on the previous stage.	Document Review	December 2017
Syllabus Validation	• The experts of syllabus and expert of Industrial Engineering validated the proposed syllabus.	Review	January 2018
Revising syllabus	• The researcher revised the syllabus based on the Experts judgements and their comments toward the proposed syllabus.		
Syllabus Design	• The researcher Design the ESP syllabus for Industrial Engineering program at Untirta University.	Document Review & experts judgements	January 2018

Table 3.Data source and collection prcedures.

3.4. Data Analysis Procedure

This Table illustrated the Procedures in analyzing the Data.

Stages	Questions	Procedures
Need Analyis	Sub question 1	• Find the existing ESP syllabus for bachelor degree of Industrial Engineering at UNTIRTA University used in odd semester year 2017. • Analyze the Basic Competencies, Materials,Activities And Assessments stated in the existing ESP syllabus for Industrial Engineering
	Sub question 2	• Find the latest document of IQP for Industrial Engineering (National occupational standards developed by ministry of skill development & entrepreneurship of Indian Government 2015) • Select the most representative industrial engineering qualifications out of qualifications available on the list. • Analyze Basic Competencies, Materials,Activities and Assessments of the selected qualifications.
	Sub Question 3	• Analyze how the existing ESP Syllabus for Industrial Engineering (results of sub-question 1) complies with the selected qualifications of the IQP for Industrial Engineering (results of sub question 2).
Design Proposed Syllabus	Main Questions	• Select, classify, grade, and order the basic competencies, materials, activities, and assessments (results of the sub-question 3) to fit an IQP –Based ESP Syllabus for industrial engineering for 14 classroom meeting @100 minutes. • Propose a tentative IQP-Based ESP syllabus for bachelor degree of industrial engineering program
Validating proposed syllabus.		• Set up an appointment with experts of syllabus and experts of industrial engineering • Conduct interview and discussion with the experts of industrial engineering to review and validate the proposed
Revising syllabus		• Conduct focused group discussion with the experts of syllabus to review and validate the proposed syllabus • Revise the proposed syllabus based on the experts' comments
Syllabus Design		• Present the final IQP-based ESP syllabus for bachelor degree of Industrial Engineering program

Table 4. Data analysis Procedure.

CHAPTER IV

FINDINGS AND DISCUSSION

The aims of this study is to design an IQP-based ESP syllabus for the bachelor degree students of Industrial Engineering at UNTIRTA University. This chapter describes the findings and the discussion which are divided in accordance with the research questions. Firstly, it describes how the basic competences, indicator,materials, activities, and assessments are in the existing ESP syllabus for bachelor degree of Industrial Engineering at UNTIRTA University. Secondly, it informs how the basic competences, materials, activities, and assessments expected by the IQP for Industrial Engineering are. Next, the results are complied and used as the guidelines in designing the IQP-based ESP syllabus for bachelor students of Industrial Engineering program.

4.1 The Existing ESP Syllabus for Industrial Engineering

As mentioned in chapter I, there are four levels of english compulsory classes at UNTIRTA University which students of bachelor degree should take. English level one focuses on General English; English Level two targets at English for Business; the aims of English level three is English for Spesific Purposes (ESP); and finally, English level four stresses on TOEIC preparation. Since the research focuses on designing ESP Syllabus for Industrial Engineering, analysis is only conducted to the existing syllabus of ESP for Industrial Engineering Program used in odd semester year 2017 and the textbook as well to give further information on the basic

competencies, indicators, materials,activities and assessments given in the class. The authentic existing ESP Syllabus for Industrial Engineering at UNTIRTA can be seen in appendix 1 consisting of basic competencies, indicators, materials,activities,times allocation, and assessments. The syllabus was designed to fit 14 classroom meetings hich takes around 100 minutes per meeting and actually the former one used in the previous years. The following parts explain separately the basic competencies, indicators, materials,activities and assessments available in the existing ESP syllabus and textbook for Industrial Engineering.

4.1.1 Basic Competencies

Basic competences are necessary to limit the teachers on how far the competence standards should be achieve. There are seven competencies in this syllabus,to cover in 14 classroom meetings, meaning that one basic competency is more or less allocated one,two or three sessions. First basic competency is the students able to comprehehend which will be discussed in the english subject. it can be seen that the statements convey ambiguity, which material that students ere going to comprehend. Whereas, it should be mention,what kinds of material that students should be understand.

The second basic competency is students able to understand part of speech including, *noun (countable and uncountable noun) ,adjective, adverb, and verb* .so, the students able to use word calsses appropriately. it can be seen that the statements convey general language ability which can also appear in general or bussiness english classes, meaning that these basic competency are not spesific enough to represent the language needs at Industrial Engineering context.

The third basic competency is students able to understand *verb tenses* and *passive voice* also able to use them appropriatelly. this is the some case with the second basic competency, that this material can appear in genereal English classes. So, this also less spesific enough to represent the language needs at Industrial Engineering context.

The fourth basic competency is students able to understand the meaning of short functional and simple monologue texts in form of descriptive. This basic competency is almost in line with the industrial engineer job, because sometimes the students of Industrial Engineering should be able to describe place, job, and equipments related their job to the subordinate.

The Fifth basic competency is students able to understand the meaning of short functional text and simple monologue text in form of procedure in Industrial Engineering Contexts. This statements seems unclear, because its inability to explain what the lesson expects the students do in the class after comprehending the text.

The sixth basic competency is students able to understand the process of making a paragraph and able to make a coherent paragraph. This statements almost in line with the needs of industrial engineering students,because sometimes they expected to be competent in make a paragraph,especially in writing skill.unfortunately, in this basic competncy doesnt mention yet what kinds of skills that the students be able to.

The seventh basic competency is students able to understand and able to finish the exercise related to the material which have been learnt. The basic

competencies is unclear either, it doenst mention yet what kinds of material to be comprehend. The basic competencies at the existing syllabus is too general or not spesifically addresses to any iron and steel –related competencies the students do at their future job.

Furthermore, all of the basic competencies dont mention yet what kinds of skills should be achieve, due to the word of " comprehend/understand " can not be used to make a mesurement . so its expose the students to be a general students without any spesifications. However, their relation with iron and steel work activities cannot be correlated clearly just by studying the grammar, reading the texts,etc. Out of seven basic competencies, only one explicitly mentions that the basic competencies is going to understand and make the procedure text. while in fact iron and steel engineer have a wide range of responsibilities.

4.1.2 Materials

In the first meeting, the teachers only introduce the syllabus about activities and material that will be learn in one semester at a glance. In the second and third meeting, the materials cover word classes including noun,adjective, adverb and verb. it doesnt mention the example of the word classes it sellf. Whereas it should be completed by the examples,in which students able to prepare what they shold be learn before learning process. In the fourth and fifth meetings, the materials are about tenses and passive voice, This material is almost appropriate with the industrial engineer needs, because engineer should be able to make small notes, leter of invitation, instructions, warnigs, etc. In the sixth and seventh meetings, the material are about descriptive text. This material is almost appropriate either with

the engineer needs, because they expected to able to describing place,tools, instructions etc. In the eighth, ninth, and tenth meetings, the meterial is about procedure text, it in line with the engineer needs. For example in making the manual intructions and the procedure of designing a good product etc.so,it will be better if inserted the language needs in industrial engineer jobs as an Iron ans steel assistant.. in the eleventh,twelveth,and thirdteeen meetings, the material is paragraph writing. It doesnt clear yet, because in the syllaabus doesnt clear yet in making the instructions to write a paragraph. The fourtheen meetings is the last meetings before final examination, the material is about review and exercises. In the existing syllabus, the statements is unclear,what materials should be reviewed and what kinds of part will be exercised. Finally the whole material in the existing syllabus are tend too general and too much discussed structure materials . Moreover, the text are not different from those of in business English since they are not in industrial engineer tasks context. only in the part of procedure text better engineer contexts,such as making some instructions for meeting invitations, explaining the way of designing a good product at industry.finally most of the the material less spesifict for industrial engineering in steel and iron production.

4.1.3 Activities

As stated in the Existing syllabus, the activities are explaining the material for one semester, explaining,discussing and identifying each word classes, explaining and discussing verb and tenses, passive voice, descriptive text, procedure text and explaining on how to make a good sentences until become a

good paragraph related to industrial engineering. The last is reexplain all the materials learnt and giving the exercises. On the other hand, the activities done by the students are not stated in this syllabus. Overall, activities, materials and assessments is corresponding with basic competecies. Furthermore, its doesnt meet with the needs of industrial engineering students.

4.1.4 Assessments

The assesments in the existing ESP syllabus for industrial engineering mention that the evaluation are in written and spoken form,but it doesnt spesify what the students are actually to do and what are being evaluated. A further look at the textbook also reveals that there is no such terms as evaluation or assessment. All are called practice.this creates an abiguity on which kinds of competencies to focus and to evaluate.

The first meeting, which aims to understand the material which will be discussed in the english subject is can not be well assesssed since there is no clear istruction to do. In the second and third meetings, which aims at enabling the students to understand word classes including noun,adjective verb,adverb and verb and enabling to use it appropriately. cannot be well assessed since there is no clear instruction to do. In the fourth and fifth meetings, which aims at enabling the students to explain the verb tenses and passive voice. It representd the istructions in which the students can able to explain and use the verb tenses, and passive voice .Nevertheless,there is no explicit instruction whether they have too write the sentences by using different tenses and passive voice or not. In the sixth and seven

meetings, which aims is the students are able to describing someone in the picture in spoken and written form, the istructtions does not explicitly explain the students role. To add, the text is not in line with the materials relating to inustrial engineering needs. In the eighth until tenth meetings, which aims the students are able to read manual instructions, explaining the function of prodecure text, making some instructions for meeting invitations and explaining the way in designing a good product at industry, there is no relevan instructions on assessments, its requests the students to discuss in a group. In eleventh until thirdteen meetings, which aims to write the paragraph, it is relevan instructions,but it less spesific, what the students are going to write about. The last is fourth meeting which the students are enable to review the materials, there is no clear assessments, its only excercise and class participation.

4.2 The IQP for Industrial Engineering

This IQP consists of 5 unit title (Main Tasks), every Main Task has each Sub Tasks, there are : Performance Criteria (PC) , Knowledge and Understanding (KA & KB), and Skills. In the Main Task 1 and 2 (receive toosl and tackles from stores/depertment. & assist for smooth at site) the PC has 6 qualifications, KA 6 qualifictions, KB 7 qualifications, and skills A 14 qualifications skill B 1 qualification . In Main Task 3 (clean the equipments and work site) PC has 9 qualifications, knowledge A has 6 qualifications, knowledge B has 7 qualifications, skills A (generic skills) 11 qualifications, skill B (professional skill) 1 qualification. In main task 4 (use basic health and safety practices at the

work place) PC has 26 qualifications, Knowledge A has 2, and knowledge B has 23 qualifications. Skills A 6 qualifications,and skills B has 13 qualifications. The last is main task 5 (work effectively with others)PC has 10 qualifications, Knowledge A has 4 qualifications, Knowledge B has 17 qualifications. And skills A has 5 Qualifications,Skills B 13 qualifications. And the last is criteria for assessment of trainees. Therefore,analysis and discusion done on those five sub tasks .yet,since each main aand sub tasks covers to many details, analysis and discussion are done through sampling to see sample details and recurring patterns of sentencing.The following parts will discuss the Basic Competencies,Indicators, Materials, Activities And Assessments.

4.2.1 Basic Competencies

The document of IQP for industrial Engineering does not explicitly state the "Basic Competencies" like in an Existing Syllabus, however similar function can be found in the terms " unit title (Tasks)" it available in the description of each unit (tasks) of competency informing the individual on the job must be able to. this IQP consist of five unit title (Main Tasks) which is involves the Performance Criteria, Knowledge and Understanding, and skills which is separated into Writing, Reading, Listening, Speaking Skills, Integrity,Reliability,and Time Management as the Sub task.

For example, the main task of the first unit title is "Receive tools and tackles from stores as per job requirement at site " stating the following objectives ,this task involves the sub tasks in performance criteria such as : students are able to inform ho to Ensure the required tools, tackles, equipments and necessary hardware are in proper

working condition and match specification as per the job requirement and the list being provided by the supervisor. In the The sub task at the

knowledge and understanding, the students on the job needs to know and understand how to inform the safety policy of the company. In the sub task at the writing and reading skills, the students should be able to read instructions and SOP (standards operation procedures) . at listening and speaking skills, the students should be able to effectively understand about operational requirements. At integrity, maintain the integrity with respect to company property and time. At realiability, the students shold be able to know and understand how to work in a discipline environment and adhere to working norms of the organization. Finally, At time management, the students should be able to understand how to prioritize and execute tasks within the scheduled limits.

Basically, whatever term they use,they share common function; that is stating the objectives. They state the basic competence in general and then specify it with many sub-tasks or learning objectives. Furthermore, this document aims at describing the job qualification of Industrial engineer at iron and steel-assistant occupations, some basic competencies put emphasis on the job responsibilities or the tasks specifying the language competence so that the language competence is explicitly stated. In fact, information on specific language expextation is essential since it can industrial engineering program provide its students with the appropruate exposure to engineer –related language learning materials-rather than the general one-the materials of which focus on the language (grammar, lexis,and register), skills,discourse and genres appropriate to specific jobs and

responsibilities they are dealing with later on (Dudley-Evans and St john,1998:pp.4-5)

4.2.2 Materials

The materials in this IQP are not explicitly described in the document; however,they can be identified by looking the learning outcomes or " main tasks" which will show the required materials to discuss in the class in accordance with the requirements of the competencies. For example, for competency "Receive Tools and tackles from stores/department " required the following materials :

- Various of equipments related to iron and steel-assistant
- Tools and equipments required for iron and steel indstry
- The text of Safety procedures for various work
- The example Escalation matrix for reporting identified problems
- Lay out of various work sites
- Sequence of various dismantilng/assembling
- The text related Safety policy of the company
- Text of Work instructions
- SOP (standard operation procedures)
- Small notes
- Business correspondence
- Example of equipments manuals and process documents.
- Expression of politeness
- The procedure text related problem solving.

It can be seen that a syllabus referring to this document should include engineer for iron and steel spesific materials. Exposure to authentic materials can oplimally help the students develop the expected competence.,including the languange since what they deal with later on in their work place. For example, when students get sufficient exposure to international codes and regulations,work

and safety requirements, work instructions, relevant documents,they will be able to receive tools and equipments well. However, it is impossible to include all of the materials from the list into the syllabus,so that experts judgements needed to decide top priority kinds of documents are necessary to conduct. By doing so, the lesson can present effective learning.

4.2.3 Activities

The document of IQP For Industrial Engineering at iron and steel-assistant does not explicitly state the activities to do in the class either; never the less, they can be identified by looking the learning outcomes or " main tasks" which will show the activities in the class in accordance with the competencies. For example, for competency "Receive Tools and tackles from stores/department " described the following activities :

- Identifying the required toos,tackles,equipment for the job by doing consultations with supervisors.
- Coordinating within departement /store to obtain the identified tools and tackles to be carry out to job site.
- Eliminating damages that may exists when carrying the tools .
- Communicating and working effectively with others when receiving tools
- Reading work instrictons and standard operation procedures (SOP)
- Creating small notes /work documents for supervisor related to operation
- Read business correspondence
- Reading equipment manuals and proces documents given by the equipment supplier to understand the equipment and working process.
- Selecting and using required personal protective equipment conforming to industry and and work health safety /occupational health and safety (OHS) standards.
- Working systematically with required attention to detail without injury to self or others,or damage to tools or equipments.

Likewise, a syllabus referring to IQP should include iron and steel engineer spesifics practices,the activities that the students will do later on their

work place. Practising authentic activities can help the students get involved in identifying the required tools,tackles and equipments and necessary hardware for job to be carried out, reading and following istructions, they will be ready to do real job in receiving tools and tackles correctly after they graduate the study. Yet, selection must be made by involving the Experts Judgements,because syllabus designers cannot just take it for granted to take in all activities on the list since not all of them can be modified into calassroom language activities, especially to fit ESP language learning context.

4.2.4 Assessments

The assessments in the IQP, each Performance Criteria assessed by proportional marks both Theory and Practice. The assessment for the theory part will be based on knowledge bank of questions which created by IQP. To pass the qualification pack,every students should get the score a minimum of 60% . it means that in ESP classroom context, assessments must be adjusted to represent the real working context. to add, assessment processes and tecniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the students. It means that the assessments must be adjusted to the learning objectives and the students' level of competence.

In short, with some adjustment to the needs,the document of IQP for industrial engineering iron and steel-assistant can really give insight on what to put in an ESP Syllabus for industrial engineering for iron and steel company,

sepecially to keep the Basic competencies, indictors, material,activities and authentic assessments. Thus, the ESP course can optimally develop the students' expeced competence in doing iron and steel company activities. To see The assessment scoring can be seen at the Appendix III.

4.3 How the Existing Syllabus complies with the IQP

This part describes the comparison and contrast on how the basic competencies, indicators,materials,activities,and assessments are presented in the existing ESP syllabus for Industrial Engineering and in the document of IQP for Industrial Engineering. It tries to seek the gap so that the information can be used to design an IQP-based ESP syllabus for Industrial Engineering, especially at UNTIRTA University. A table is given in each sub-title informing sample statements available in each document,the gap (how they are differ), and the plan for the proposed syllabus (what to put in the proposed syllabus).

4.3.1 Basic Competencies

The table bellow informs how the documents state the basic competencies of the lesson. The ESP syllabus states the basic competencies in a simpler way to informing wht skills to focus (written and /or spoken) and what the materials are, however, most basic competencies cannot specifically address to industrial engineering related to iron and steel competence the studens can do at the end of the lesson. On the other hand, the sentences describing the basic competencies witten in the IQP document are too long describing the basic competencies and implicit in describing the materials to cover. Most of them can describe clearly the iron and steel-assistant competence expected from the students at the end of the lesson. Thus, the proposed syllabus formulates the Basic Competencies in

sufficient length (alsmost similar to that of the ESP Syllabus), yet directly addresses the competence to the iron and steel-assistant tasks.

ESP syllabus	IQP Standards	Gap	Proposed syllabus
• Able to understand and write the short functional and simple monologue texts in form of descriptive. form of procedure in industrial engineering contexts.	This unit title involves the performance criteria, skills, and knowledge required to receive tools and tackles. and it as part of work activities undertaken within the industrial engineering related to iron and steel-assistant. At the performance criteria,It includes identifying the required tools,tackles and equipments and necessary hardware for the job to be carried out. carrying the tools,tackles and equipments and hardware to the job site without damage. In the knowledge and understanding, the students able to understand the safety policy of the company.at the skills, the studetns able to read,write,the work instruction and Standard Operation Procedures (SOP).	The statement of the basic competencies in the ESP syllabus is simpler,but not spesiffically addresses to any iron and steel engineer realated competece the students can do at the end of the lesson. On the other hand, the sentences describing the basic competencies written in IQP document are long enough . they describe clearly the iron and steel engineer related competence expected from the students at the end of the lesson.	Basic competency are formulated in sufficient length (almost similar to that of the ESP syllabus) but,directly address to the iron and steel enginer tasks.

Table 5. Basic competencies in ESP syllabus and IQP.

4.3.2 Materials

Table bellow preents the comparison in the materials in the two documents. In the ESP syllabus, the materials listed are not spesific enough to correspond to iron and steel engineer work. for example, the syllabus is unable to understand the function of word classes,inluding noun,adjective, adverb, and verb , and can use it appropriately. in contrast, the materials in IQP spesify the ones needed in accomplishing certain units of competency in industrial engineering related tasks. However, in some case ESP syllabus designers need to identify the material by looking the learning outcomes or " main tasks", to ensure what the materials are actually needed in accordance with the requirements of the competencies. so that, the proposssed syllabus specifies the materials according to industrial engineer at iron and steel related the graduate standard competencies.

ESP syllabus	IQP Document	Gap	Proposed syllabus

Noun o Countable,uncountable, a/an,other-another Adjective : o Adjective word order, adjective ending w/-ing and-ed o Adverb o Verb Verb tenses: o Simple present tense o Present continuous tense o Present perfect tense o Simple past tense o Past perfect tense o Future tense Descriptive text o Describing objects in the workshop o Describing simeone from the picture Procedure Text o Explaining the function of procedure text. o Reading manual instruction o Making some instructions for meeting invitation o Explaining the way of designing a good product at industry.	the identified materials from " receiving tools and equipments " : • Text related to Safety procedures • Procedure text related to Identifying the problems • The text related Safety policy of the company • Example of Work instructions • SOP (standard operation procedures) • Making Small notes • Example of equipments manuals and process documents. • Expression of politeness Experts judgements needed to decide top priority kinds of materials are necessary to conduct. By doing so, the lesson can present effective learning.	The materials listed in the ESP Syllabus seem to general for engineer work. Eventhough the grammatical structure are used in the engineer context. but the grammatical structure is not clearly iron and steel assistant needs. The material in IQP specify the ones needed in accomplishing certain competencies. Yet we cannot just include all of them in the syllabus since there are many to cover and it may not fit the meeting sessions in the class.	The materials are specified according to industrial engineering at iron and steel, related to the graduate standard competencies.

Table 6 .The Materials in ESP syllabus and IQP

4.3.3 Activities

In the ESP syllabus, the statements explaining the activities are really classroom-like,meaning that they are verry common sentences used to describe what

the teachers and students do in the class. They are not meant to accomplish iron and steel engineer tasks. Meanwhile, the IQP document presents better statements in explaining the acivities representing the workplace operational situations especially in iron and steel company. Yet, some of them might sound too practical, suitable only in context of working, so that they must be adjusted to fit classroom condition. In brief, the proposed syllabus formulates the activities by combining the pedagogical activities with spesific purpose or context of activities in industrial engineering at iron and steel engineer.

ESP syllabus	IQP Document	Gap	Proposed syllabus
○ Explaining and discussing and identifying about Noun,Countable,uncountable, a/an,other-another ○ Adjective : Adjective word order, adjective ending w/-ing and-ed,Adverb,Verb. ○ Explaining and discussing *verb tenses* and *passive voice.* ○ Explaining and discussing about descriptive text,function and the aims of it. ○ Doing a dialogue for delivering a descriptive, using vocabularies and techniques in text descriptions. ○ Explaining and discussing about compilation of sentences till become a paragraph,writing a paragraph related to the theme of industrial engineering context. ○ Reexplain about the material already studied ○ Exercises.	○ Identifying the required toos,tackles,equipment for the job by doing consultations with supervisors. ○ Coordinating within departement /store to obtain the identified tools and tackles to be carry out to job site. ○ Communicating and working effectively with others when receiving tools ○ Reading work instrictons and standard operation procedures (SOP) ○ industry and and work health safety /occupational health and safety (OHS) standards. ○ Working systematically with required attention to detail without injury to self or others,or damage to tools or equipments. The skills cover : • Reading • writing • listening • speaking	The statements explaining the activities in the class in the ESP syllabus are really classroom-like,which are very common. The relation to real engineer tasks cannot be seen clearly. Te statements explaining the activities in the class mentioned by the IQP are better in representing the workplace operational situations,especially in industrial engineering at iron and steel company. Yet,they must be adjusted to fit classroom condition.	The activities are formulated by combining the pedagogocal activities with specific purpose or context of activities in industrial engineering

The table 7 . activities in the ESP syllabus and IQP.

4.3.4 Assessments

The ESP syllabus does not provide any particular statement for the assessment,especially on what purpose to accomplish and how to evaluate the students. Further look at the book also reveals the same,there is not sub title named assessment,evaluation or so. It makes assessment given to one class different from annother since the teachers do not have clear guidelines and may create any evaluation as they wish. On the contrary, IQP states more clearly the assessments to evaluate the students competence in iron and steel company workplace environment. Yet, the formulation should be adjusted to fit the classroom context. therefore, the assessment in the proposed syllabus will clearly mention the competence to assess and iron and steel assistant tasks to accomplish.

ESP syllabus	IQP Document	Gap	Proposed syllabus
Spoken and written	The assessments in the IQP, each Performance Criteria will be assessed by proportional marks both Theory and Practice. The assessment for the theory part will be based on knowledge bank of questions which created by IQP. To pass the qualification pack,every students should get the score a minimum of 60% .	In ESP syllabus,particulary,there is is no clear statements on how the students are evaluated and what purpose is to accomplish. In IQP, tasks to do to evaluate the students competence in iron and steel engineer workplace environment are clearly stated. Yet, the formulation should be adjusted with the classroom context.	Assessment is explained clearly mentioning the competence to assess and iron and steel assistant tasks to accomplish.

Table 8. The assessment in ESP syllabus and IQP.

4.4 The IQP –Based ESP syllabus for bachelor degree of Industrial Engineering

Analysis to the existing ESP syllabus for the bachelor students of Industrial Engineering program at UNTIRTA University used in odd semester year 2017 reveals several things. The available materials are too common, only one out of seven corresponds to iron and steel engineer activities, so that revision to make it more iron and steel engineer-related is needed. The basic competencies in the ESP syllabus also need reformulating since they still sound general and do not correlate with iron and steel engineer abilities. The materials and learning activities are also presented in pedagogical way but cannot contribute well to engineer knowledge and practices. Lastly, the ESP syllabus should specify the assessment, especially on what to achieve and how to do it, not merely mention spoken or written.

Meanwhile, analysis to the Indian Qualification Pack occupational standards for iron and steel-assistant released in 2015 reveals some of the following aspects. the basic competencies in IQP are too long, so that the ones in the proposed syllabus should be made in sufficient length, explaining what knowledge and ability to achieve. For the materials and learning activities, selection must be made because there are too many to cover while the number of meetings in the class is limited. Finally, the assessment in the IQP can well

represent the iron and steel working condition; however, it should still be fit to the classroom context.

The first draft of the IQP-Based ESP syllabus for industrial engineering at iron and steel (see Appendix 1) was designed in January 2018. It was still simple consisting of course description and course outline (sessions, topics, and competence, which are divided into reading, listening, speaking, and writing).

The final product of the IQP-based ESP syllabus for the bachelor students of industrial engineering program can be seen in Appendix 2. It comprises course description and course outline. The syllabus is for 14 sessions of classroom meeting @100 minutes, one session of mid-term test, and one session of end term test. The course outline informs readers about the sessions, basic competencies, materials, activities, and assessments. the syllabus is made in such a way to provide clear plans to do in the class so that the students can get enough exposure to broaden the knowledge and develop their language competence, especially in accordance with the industrial engineer job responsibility.

CHAPTER V

CONCLUSION AND SUGGESTION

This study aims at designing an IQP-based ESP syllabus for the bachelor degree students of Industrial Engineering program at UNTIRTA University. This chapter concludes the overall research, especially the findings and discussion, and provides some suggestions.

5.1. Conclusion

The major conclusion of this study can be drawn as follow:

The existing ESP syllabus for the bachelor students of Industrial Engineering program at UNTIRTA University used in odd semester year 2017 is still the former one, while in fact it should have been renewed in accordance with the latest demand and changes to the program. Results of the analysis to the document reveal several things. Firstly, the several available materials are considered too common, only one out of seven material corresponds to industrial engineering in iron and steel activities, so that revision to make it more spesific based on students of industrial engineering required. Secondly, the basic competencies stated in the ESP syllabus also need reformulating to make them more specifically to achieve engineer abilities. Next, although some detailed materials are related to industrial engineering, it is not enough to represent

authentic materials in engineering job so that they cannot optimally broaden the students' knowledge in lndustrial engineering .

Moreover most learning activities are too classroom-like and unable to optimally train the students to do ion and steel assistant tasks and practices. Lastly, the ESP syllabus does not specify the assessment since it only mentions spoken and/or written without any information on what to do and evaluate.

The learning objectives in IQP, furthermore, use too long sentences to be put in a syllabus though they can clearly explain the broad and narrow objectives. Besides, there is a wide range of materials and learning activities so that, when included in a syllabus, selection must be made to fit the number of classroom meetings. Finally, the IQP can well present the assessment in the iron and steel engineer working condition; however, it should still be fit to the classroom context.

In brief, the existing ESP syllabus needs revising since it lacks of correlation with the industrial engineering-related job responsibility. On the other hand, the IQP for industrial engineering provides detailed explanation and description on iron and steel -related job responsibility. This study hopefully can bridge the gap so that an IQP-based ESP syllabus for Industrial engineering can be designed and relevant to Indonesian context, especially at UNTIRTA University.

5.2. Suggestions

In accordance with the previous discussion and for the betterment of similar further study, several suggestions are offered. It is recommended to do things as follow:

1. Investigate ESP for industrial engineering based on different documents to get more pictures on industial engineering-related activities.

2. Investigate the details of industrial engineering documents to see the exact diction and grammar needed.

3. Use wide range of authentic industrial engineering-related sources to design a textbook for the students of ESP for industrial engineering course.

4. Select carefully the commercial books, or the compilation, for industrial engineering classroom use to make sure that the materials really represent ESP for industrial engineering rather than general or business class.

Last but not least, this study may be still far from perfect; yet, the revision stil needed. its results hopefully can contribute positively to the improvement of ESP syllabus and materials for industrial engineering program at UNTIRTA University in specific and the same program at other colleges or universities as well.