

Moving towards 21st Century English Language Teaching

Developing ESP multiliteracies-based materials

Siti Kustini^{1*}, Didi Suherdi², Bachrudin Musthafa²

¹ Informatics Engineering Department, Politeknik Negeri Banjarmasin, Banjarmasin, Indonesia

² English Education Department, Universitas Pendidikan Indonesia, Bandung, Indonesia

*Corresponding author. Email: <u>kustini@poliban.ac.id</u>

ABSTRACT

Learning materials are considered as one of the primary agents of conveying knowledge to learners that their roles are undoubtedly pivotal in the teaching and learning process. This paper attempts to delineate course materials development in the context of English for Specific Purposes (ESP) in Informatics Engineering area in a state polytechnic of Banjarmasin. The proposed learning materials was designed for the purpose of providing learners with up-to-date instructional materials relevant to their needs and current conditions. Two prominent theoretical constructs of multiliteracies and the knowledge processes of Learning by Design (LbD) were set as guideline in determining the activity and the task types. For the purpose of developing ESP learning materials in this paper, Research and Development (R&D) design was utilized in which Jolly and Bolitho's (1998) model of materials development was selected in the process of materials writing. This model involved six major stages including identification of needs, exploration of needs, contextual realization, pedagogical realization, physical production, and evaluation. The discussion of this paper specified merely on the first four stages within the model consisting of identification of needs, exploration of needs, contextual realization, and pedagogical realization. To identify and explore learners' needs, questionnaire and document analysis were conducted. The results of this study hopefully could contribute to the development of ESP learning materials and course materials writing theory and serve as the guideline for teachers and other materials developers to produce and create appropriate and meaningful materials for ESP learners.

Keywords: ESP, learning material, learning by design, multiliteracies, skills, 21st century

1. INTRODUCTION

Learning materials are regarded as one of the primary agents of conveying knowledge to learners that their role is undoubtedly crucial in teaching and learning practice (Hutchinson & Waters, 1987; Dudley-Evans & St John, 1998; Tomlinson, 2008). Materials serve as the basis for much of language input learners receive and the language practice that occurs in the classroom and are one of significant elements in language curriculum (Brown, 1995; Richards, 2001; Tomlinson, 2008). Learning materials also function as knowledge organizer that they are selected in such a way to meet learners' needs. As Hutchinson and Torres (1994) contend that materials provide the necessary input into classroom lessons through different activities, readings and explanations. Taking into account the substantial roles that materials play, it is indispensable that teachers should be encouraged to design and/or adapt materials which are excellent enough to stimulate and support language learning.

In the context of English for Specific Purposes (henceforward ESP), the process of designing and developing learning materials are considered as complex, underpinned by comprehensive needs analysis in terms of both target and learning process needs. The language learning syllabi and materials developed as a result tend to be 'multi-layered' (McDonough & Shaw, 1993) including topics, skills, structures, functions, roles, etc. In addition, learning materials should make the most of learners' existing knowledge and experience and offer the chance of taking in new information through interesting, challenging and achievable tasks. Only in this way can learners be equipped with effective use of language for future communication purposes. The quality of the materials, to a great extent, can in turn influences the teaching methodology, which influences learners' motivation and learning results. Therefore, writing ESP materials is a very time demanding and effort-consuming task, which requires insightful thinking, profound vision, and a considerable experience as well to reach the right decision.

This paper attempts to provide ESP teachers a guideline to develop ESP learning materials which is relevant, appropriate and reliable for learners so that it can serve learners with an innovative and up-to-date English learning materials and to provide them with knowledge and experience and offer them chances of taking in new information through interesting, challenging and achievable tasks. On the ground of developing ESP learning materials, two theoretical constructs will be used as a guideline for developing learning materials including multiliteracies and the knowledge processes of Learning by Design (henceforward LbD).

2. LITERATURE REVIEW

2.1. The Conceptual Frameworks of Materials Development

Tomlinson (2011, 2012) defines language learning materials as anything which can be used to facilitate the learning of a language (linguistic, visual, auditory or kinaesthetic). These materials can be presented in print, live performance, on cassettes, CD-ROM, DVD, or in the internet. These materials can be instructional, experiential, or exploratory. The concept that Tomlinson proposed is similar to the one articulated by Richards (2001), Brown (1995), and McGrath (2002).

In developing materials, several principles should be kept in mind so that good learning materials are achieved. Hutchinson and Waters (1987) suggests that good materials should attract learners' interest, contain enjoyable activities which engage the learners' thinking capabilities, provide opportunities for learners to use their existing knowledge and skills, and include content which the learner and the teacher can cope with. It is advocated that good materials should provide a clear and coherent unit structure, which will guide the teacher and the leaner through various activities in such a way as to maximize the chance of learning.

In terms of the role of ESP materials, Hyland (2006) highlights four principal functions. The first function is to do with scaffolding learners' understanding of language use. This function suggests ESP materials developers to provide learners with well-selected and designed materials with a wide range of different text types to engage learners in thinking about and using language. The second role of ESP materials deals with the provision of good language models. A good ESP learning materials should contain representative samples of correct language use in various situations using various possible examples of language features, structures, and genres. The aim is to increase learners' awareness of the organization of texts and the attainment of communicative intentions. To this end, the constructed learning materials be relevant to learners' target contexts and authentic. The third function involves stimulating learners' creativity, critical thinking. organizing, planning, engagement, and motivation. Explicit materials, e.g. a lecture recording, can stimulate language use in a relatively structured way. However, materials that are less explicit and likely to generate various interpretations, e.g. Lego bricks used to symbolize real objects, allow learners to give vent to their creativity and produce divergent responses (Hyland, 2006). The last function includes reference materials which focuses on knowledge rather than practice (Hyland, 2006). This category includes a wide range of materials - typically texts or Web-based information, dictionaries, encyclopaedias, explanations, examples of relevant grammatical, stylistic and rhetorical forms. They are particularly relevant to learners engaged in self-study who have little or no class contact.

2.2. Multiliteracies

Multiliteracies is a term introduced in 1996 by a group of literacy researchers and educators, known as the New London Group (NLG). This group proffered that literacy in the twenty-first century should extend beyond reading and writing. Literacy should involve all various ways of communication to make meanings (i.e. through combinations of linguistic, gestural, audio, visual, tactile and spatial semiotic modes) as well as an appreciation of diversity of textual, contextual, social and cultural conventions that influence the use of these modes for different people in different situation (New London Group, 1996; Cope & Kalantzis, 2015)

To translate this construct into instructional process, the New London Group (1996) develop a pedagogy called multiliteracies pedagogy. This pedagogy was developed and organized into two sections: the "what" of literacy pedagogy and the "how" of literacy pedagogy. The "what" of multiliteracies pedagogy draws from multiple modes of meaning making to support a design process of literacy learning. The "how" of multiliteracies pedagogy draws from a range of relationships between four components: situated practice, overt instruction, critical framing, and transformed practice.

2.3. Learning by Design

The ESP instructional materials in this paper were developed under the tenets of multiliteracies approach to learning, in particular the knowledge processes of Learning by Design (Cope & Kalantzis 2009a, 2009b, 2015; Kalantzis and Cope 2010, 2012; Kalantzis et al. 2005). The LbD describes the practical approach of the four dimensions in multiliteracies pedagogy. This LbD framework introduces four knowledge processes of experiencing, conceptualizing, analysing and applying. Experiencing is regarded as immersion in the everyday lifeworld of the learner. Conceptualizing refers to the ability to differentiate between concepts, theory, generalizations and particularisations, and to the ability of being able to identify and understand them. Conceptualising allows the learners to "become active conceptualizers, making the tacit explicit and generalizing from the particular" and thus it includes "the development of metalanguage" when discussing the "design elements" (Cope & Kalantzis 2015, p. 4). The knowledge process of analysing can be viewed as involving critical thinking as it "...requires that learners be able to examine a context, event or piece of information and be able to articulate in a systematic and assumptions critical way the underlying and implications of its application or function" (Yelland et al. 2008, p. 202). In applying, the learner can use his or her skills and learning when creating new information in a way that "it has a purpose and can add value to our lives and the lives of others" (Yelland et al. 2008, 202). In other words, learners are encouraged to create different types of information and text according to "their understandings of meaning-making conventions and their expressions of subjectivity" (Rowland et al. 2014, p. 142).

3. METHOD

Since the purpose of this study was to produce learning materials, Research and Development (R & D) design was utilized. Looking at the definition of R & D design, Gay, Mills, and Airasian (2012) pinpoint that it is the process of researching the learners' needs and then developing the product to fulfil those needs. This type of research is not supposed to formulate or test the theory like those of other designs. Another definition of R & D is offered by Borg and Gall (2003). They define R & D as the process used to develop and validate educational product development and validation studies. To this end, Borg and Gall (2003) created six cycles in R & D consisting 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 will be used eventually, and revising it to correct the deficiencies found in the field testing stage. In short, this cycle basically can be categorized into two main process, namely; (1) developing the product, and (2) testing the effectiveness of the product.

Literature review informs the existence of several models of R & D in instructional materials development. For example, ADDIE, a model which

was first developed by Florida States University's Center for Educational technology for the U.S. Army during 1970s. ADDIE is an acronym for the five-phase courseware development program of analysis, design, development, implementation, and flexibility. This model is considered as the most common model used to create instructional materials. The other models include Dick & Carey Model, Instructional Development Learning System Model, Jolly & Bolitho's Model, and Masuhara's Linear X-Model. For the purpose of developing ESP learning materials in this paper, the Jolly and Bolitho's model will be used for it provides comprehensive account of the process of materials writing.

Jolly and Bolitho (1998) set six major stages in the materials development involving process of identification of needs for materials (questionnaires and feedback from students), exploration of needs (language, functions and skills to be presented), contextual realization of materials (text type, text topic and degree of complexity), pedagogical realization of materials (appropriate learning and teaching tasks and instructions), physical production (layout, type size, illustrations) and evaluation of materials against agreed objectives (feedback from students and teachers and follow-up actions such as throwing away or revising the materials). They criticize the materials, either published or teacher-generated, which have not been trialled and evaluated for being 'simple' and for lacking 'the final touch of excellence' (Jolly & Bolitho, 1998, p.96), due to their ignorance of the learners' needs in authentic settings.

To conduct needs analysis, questionnaire was distributed and teaching documents were analysed. The questionnaire could be accessed online via google form and distributed to students of Informatics Engineering study program at a state polytechnic of Banjarmasin. There were 119 students filled the online questionnaire. The questionnaire consisted of two main sections in which the first part elicited the perceived level of the students' English proficiency, while the second part contained questions related to the application multiliteracies in the ESP learning. The teaching document data were gained from the current syllabus and learning materials.

4. FINDINGS AND DISCUSSION

This paper aims to elaborate how to develop ESP course materials which are based on the multiliteracies approach of Learning by Design. To accomplish the goal, the model of materials development from Jolly and Bolitho is adopted in which the process of materials writing undergoes six stages as mentioned in the previous section. However, due to space constraint, this paper will only expose the results of data analysis in first four stages of the materials writing.

4.1. Stage 1: Identification of needs

In the context of designing ESP learning materials grounded from the theory of multiliteracies, the needs analysis was conducted by looking at context analysis, current syllabus, current learning materials, and questionnaire.

The current ESP course syllabus in Informatics Engineering at State Polytechnic of Banjarmasin study program consisted of a number of parts including general information of the course, the goals and objectives which were articulated in each meeting in the course unit, and the basic information of the assessment. The topical based or content-based syllabus which is organized the content around themes, topics, or other unit of contents seemed to be adopted in the syllabus. However, the current syllabus was not designed based on the learners' needs and did not consider the Indonesian National Qualification Framework as stated in the government regulation.

The course contents in the present ESP syllabus in Informatics Engineering study program were not arranged based on the consideration of simple to complex sequence as the learning materials were compiled and modified from different commercial textbooks. As a result, these selected materials unlikely match with the prescribed syllabus and the learners' English proficiency. In the case of materials selection and adaption, teachers seemed to have difficulty in making decision on which materials which best suit to the learners' English proficiency level and needs.

To find out current learners' needs, a questionnaire was distributed. There were eleven set statements containing the students' perceived level of their English proficiency and their perspectives of learning English in multiliteracies era. Regarding the students' current English level, the result indicated that 47.5% of the students perceived that their English was in good proficiency level, while 50% of them acknowledged themselves in the low level of proficiency, and 2.5% of them was poor in their English. This result implies that the learning materials should be constructed using the language used in the beginner level of English proficiency.

The result of students' perceptions towards English language learning in multiliteracies era can be seen the Table 1. Table 1 shows that the students' goal of learning English was for communicative purposes and that various multimodal resources should be integrated in their learning. In order to motivate and engage students in learning technology should be used in the instructional practices. In terms of the tasks, collaborative assignments should be provided in the types of tasks given should promote students' creative and critical thinking.

Multiliteracies Learning				
No	Statement	Disagree	Agree	
1.	Learning English should focus on improving students' English communication skill	15.3%	84.7%	
2.	Learning English should focus on improving students' reading and writing skills	45%	55%	
3.	Learning English should involve the use of various	13.6%	86.4%	

Table 1. Students' Perspectives towards English

2.	Learning English should focus on improving students' reading and writing skills	45%	55%
3.	Learning English should involve the use of various media and resources	13.6%	86.4%
4.	Learning English should involve the of use technology to improve students' motivation and engagement	13.4%	86.6%
5.	Learning English should improve not only English language skills but also digital literacy skills	43.2%	56.8%
6.	Learning English should assign collaborative tasks involving the use of technology	28.8%	71.2%
7.	Learning English should assign tasks which foster students' creativity and critical thinking	27.1%	72.9%
8.	Learning English should improve students' ability to do public speaking	16.1%	83.9%
9.	Learning English should be delivered in an online mode and face to face	23.7%	76.3%
10.	Learning English should involve the use of authentic texts	20.3%	79.7%

4.2. Stage 2: Exploration of needs

In this stage, the elicitation of language, functions and skills used in the learning materials are determined. As the materials adopted multiliteracies approach, the choice of the language, functions and skills were carefully designed to enhance learners' competence and skills in communication, collaboration, creativity, and critical thinking. In terms of the function of the language, the learning materials was constructed to fulfill communicative function involving the skills of viewing and representing in multimodal ways. The learning materials was designed not only using printed materials but also non-printed materials.

4.3. Stage 3: Contextual realization

Contextual realization has to do with the text type, text topic, and degree of complexity. As the materials is intended to be used for ESP students, the text topics selected have highly correlation with the specific language usage. In terms of the text types, the explanatory texts were chosen since these types of texts were likely present information on certain topics in particular field of science. Table 2 provides information on the analysis of contextual realization.

Intended teaching situation(s)	Most of the tasks in this learning materials require pair and group working situations
Purpose(s) of the course designed for	ESP mainly students of ICT Engineering
Syllabus type	Process-oriented syllabus, more specifically task-based syllabus, more focus on communicative aspects of language.
Aims of the learning materials	General objective of the course of the learning materials is to develop students' multiliteracies skill and communicative skill in the context of ICT engineering.
Organization of the topics and sequence	The topics in the learning materials are sequentially organized from the general topics to the specific ones.
Types of language	The language used in the learning is simple except the use of the terms related to information technology.
Gained knowledge, issues awareness and experience	The learners are not only provided with the knowledge of English for communicative purposes but also the knowledge of multiliteracies including viewing and representing using multimodal resources.

Table 2. Contextual Realization

4.4. Stage 4: Pedagogical realization of materials

It is in this stage that the tasks, activities, and appropriate instructions are decided. From the perspective of multiliteracies theory, authentic tasks are suggested to be used in the instructional process. The aims of utilizing these tasks are to develop students' abilities to analyse critically and reflexively with multimodal texts in they have the awareness how cultural content and language (as well as other semiotic modes) are necessarily bound and how a learner's own stance and identity informs his or her interpretation and production of texts. The tasks assigned incorporated media and modes that the students valued outside of schools in an attempt to make connection to the students' lived experiences and to provide a better, more relevant, more interesting schooling experiences for the students. The tasks were designed around projects that 'required students to integrate and orchestrate images, written text, sound, music, animation, and video into their designs (Walsh, 2007).

The tasks and activities were ordered based on the LbD framework consisting of experiencing,

conceptualizing, analysing, and applying. In terms of experiencing, the tasks were constructed to elicit students' personal or prior knowledge of the subject, engage in and consider new situations, experiences, information and texts, and trigger them to find new sources of information. Concerning with conceptualizing dimension, the tasks lead students to find concepts, define concepts, collect concepts or important terms, classify concepts or individual textual properties, find similarity and difference of the concept, discover the relationships between concepts and possibly forming a schematic overview of the topic, assemble concepts into interpretive frameworks, and make generalizations of concepts. Regarding analysing stage, the tasks were structured to engage students in examining texts and their functioning (e.g. how different techniques are used for different effects and how ideas and information are used), discussing and/or explaining a topic, reasoning, drawing conclusion, summarizing, analysing logical and/or textual connections, and understanding of cause and effects. In addition, the tasks were designed to make the students aware of the interests, different points of view and motives behind the texts, ideas and/or information, consider the topic from different point of view, evaluate the reliability of information, and debate a topic. In terms of applying, the tasks were designed to stimulate students to produce something conventional or predictable that is in keeping with the class' topic, to choose a topic and explaining about it, producing text or an equivalent in another form in a specific genre, to create something unconventional, hybrid or transgressive based on what has been studied in class, to transform text into another form or genre, and to be active in a creative form.

5. CONCLUSION

One of the salient factors to the successful teaching and learning practice is learning materials. The ability to design and/or adapt materials is highly encouraged that the materials produced are relevant to students' needs, current situations and able to stimulate and support instructions. This paper delineates learning materials development based on the theoretical construct of multiliteracies and Learning by Design. In the process of materials writing, Jolly and Bolitho's model was utilized.

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