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## Developing An Instructional Design for Writing A Product Knowledge by Fusing Multimodality Approach and Industry Practitioner Teaching Practice

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### ABSTRACT

There is a research aim in this study: create an instructional design by incorporating the Teaching Practitioner program and the Multimodality approach which focus on one learning outcome: composing a product knowledge of manufacturing industry. An instructional design was developed utilizing the Dick and Carey Model, involving some developments steps. The instructional design developed for this study combined elements of the Teaching Practitioner and the Multimodality approach with the English lecturer and the practitioner playing significant roles in each phase; and the implemented instructional design was able to enhance students' writing proficiency as demonstrated by the writing results. Based on the favorable results observed in this study regarding the implementation of the instructional design, the researcher proposes that ESP courses can adopt the identical instructional design.

## 1. Introduction

The Indonesian business, governments, and educational institutions are facing a significant challenge in comprehending the requirements of the labor market and equipping personnel for the future. This challenge arises in an era marked by swift technological advancements and changing work patterns. The significance of having a workforce that is not only prepared for employment but also possesses skills that are in line with the industry's growing expectations cannot be emphasized enough (Anjani 2021; Harding 2007). This is particularly accurate within the framework of Industry 4.0, which is fundamentally transforming the worldwide employment landscape. According to data from the Central Statistics Agency (BPS), Indonesia's unemployment rate was 5.83 percent of the total working-age population, which amounts to 208.54 million people. Out of this, 35.2 million people, or 14 percent of the unemployed, are diploma and undergraduate graduates. It is anticipated that the number of unemployed

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individuals will continue to increase (Central Statistics Agency 2023). Education is the most important factor in a person's life, because it can distinguish a person's ability to think (Bella, 2023).

Furthermore, according to the outcomes of the researcher's informal interview with several heads of Human Resource Development (HRD) in Karawang, it was revealed that many HRD personnel frequently encountered challenging circumstances when searching for individuals who met the necessary qualifications for employment. A significant number of candidates possessed abilities that were either less pertinent or unnecessary for today's companies. This discrepancy arises from the incongruity between the abilities that are necessary and the talents that are currently accessible.

This discrepancy can also influence the sluggish adaptation of the workforce. It is because the ESP course should be in line with the need of the stakeholders (Basturkmen 2006, 2010; Gollin-Kies, Hall, and Moore 2015; Hutchinson and Waters 1987, 1992; Hyland 2006; Robinson 1990, 1991; Smith et al. 2005; Tomlinson 2016). The involvement of industry practitioners in classroom teaching is of paramount importance. Their real-world experience brings invaluable insights to students, bridging the gap between academic theory and practical application. By integrating practitioners into the educational process, we ensure our students are well-prepared for the challenges of the modern workplace, enhancing their employability and future success. This collaboration between academia and industry creates a dynamic learning environment that benefits students, institutions, and the broader professional community (Kemdikbud RI 2023a, 2023b, 2023c).

Hence, it is imperative to modify the teaching and learning process in order to establish a connection between theoretical knowledge and practical application within a certain subject using multimodality and involving practitioner. However, this article only focusses on one teaching materials namely Product Knowledge as one of the texts which is often written by employees in manufacturing industry. Therefore, the writer conducted a study entitled " Bridging The Gap: Developing ESP Writing by Fusing Multimodality Approach and Industry Practitioners Teaching Practice"

## **2. Methodology**

This study employed Design-Based Research (DBR) methodology to develop an English for Specific Purposes (ESP) training program tailored to meet the specific needs of the manufacturing industry. DBR is an appropriate research design technique for this study because it allows for the examination of educational difficulties and the development of theory and practice. It achieves this by establishing learning outcomes and creating an environment that promotes learning (Barab & Squire, 2004; Reeves, 2006; Reeves et al., 2005; Wang & Hannafin, 2005).

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The research was conducted through a need analysis that involved interviewing one industry manager and subsequently conducting a practical examination. The instructional design was then developed using the step-by-step instructional design process outlined in Dick and Carey. Subsequently, the design was implemented in a trial and evaluation.

In this investigation, four distinct stages of DBR were implemented. The initial phase involved the collaborative investigation of practical issues by scholars and professionals. The subsequent phase involved the development of remedies that are based on well-established design principles. The final phase of the process includes the production of the ultimate design, while the third step involves the implementation of trial.

The participants in the class were the students of the 1st semester of Engineering Faculty. This is because the English Subject is taught in the first semester. The research participants consisted of 40 pupils. In addition, there was one teacher practitioner from the industry and one lecturer from the English Education Program.

### **3. Results and Discussion**

In accordance with Dick et al. (2009), the development of the instructional design for ESP writing course involved several distinct phases. The initial step is to establish instructional objectives. This objective was determined following an assessment of the stakeholder's overarching strategic objectives. The second stage in the Dick and Carey Instructional Design Model is an instructional analysis. The students characteristics and initial behavior analysis indicates that there is a substantial discrepancy between the students' current level of knowledge and expertise and their desired level of knowledge and expertise (Lockwood 2012; Lorenzo 2005; Munby 1978).

This information of the current condition enabled lecturers to more effectively develop instructional strategies that are advantageous to the students. The subsequent step in the process of attaining success is to create the objectives. The final task is to develop an instructional strategy. The instructor will be unable to develop an effective teaching strategy until they have first identified the objectives, goals, current state, and deficits of their student population. It should be based on analysis and employ the appropriate learning concepts. The final component of the Dick and Carey Instructional Design Model is evaluations.

#### ***Learning Objective***

The general learning objectives are known as instructional objectives (Harmer 2002, 2007; Richards, Platt, and Platt 1992). The instructional objectives for this research were derived from the Engineering research Program Curriculum, and the results of the need analysis.

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In general, the curriculum set utilized in the Engineering Study Program at the research site was derived from the core curriculum of the Engineering Faculty, the existing curriculum document stated that the instructional design of this study places a strong emphasis on the communicative aspect of language learning, or in other words, on the learners' capacity to use the target language, and in light of the results of the target situation need analysis:

In Vocational High Schools in the field of tourism expertise, chemistry subjects are not studied directly as subjects, but are integrated into applied science subjects (Afinda, 2023). The students who successfully complete the program will be capable of writing in English in a manner that is appropriate for the categories employed in the manufacturing industry, in this case is product knowledge. While the prototype's more specific course learning objectives are as follows:

Special Skills (Ketrampilan Khusus): Students are capable of communicating effectively in the engineering field (KK2).

Knowledge (Pengetahuan): Students possess a comprehensive understanding of the engineering concept (P1) and are capable of mastering the fundamental concepts of the English language (P2).

General Skills (Kompetensi Umum): Students are capable of exhibiting independent and quantifiable performance (KU 2).

Attitude (Sikap): Students exhibit a responsible attitude (S9).

The curriculum of the study program and the results of the need analysis were used to determine the course objectives for the special skills and knowledge. The general skills and attitude were derived from Kerangka Kualifikasi Nasional Indonesia (KKNI) or The Indonesian National Qualifications Framework (Depdiknas RI, 2002). The KKNI is a qualification framework for Indonesian human resources that juxtaposes, equalizes, and integrates the education, training, and work experience sectors in a work capability recognition scheme that is adaptable to the structure of many works sectors. Indonesia's curriculum for higher education is incomplete without KKNI.

### ***Instructional Analysis***

The instructional analysis is designed to identify the skill stages that students must master in order to effectively conquer the learning material (Dick et al. 2009). The learning stages of a course can be structured in four distinct ways:

- a) Structures of hierarchy, procedure, classification, and combination (Dick et al. 2009). In order to acquire ability A in a hierarchical system, it is necessary to first acquire ability B. This is demonstrated by two compartments, each of which contains ability A and ability B, and which are connected by upward-pointing arrows.
  - b) Procedural framework: It is recommended that one first study ability B in order to acquire ability A, as illustrated by two squares that contain ability A and ability B and are connected by horizontal arrows. Learning typically
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commences with simpler material and subsequently advances to more difficult material.

- c) Grouping structure; this structure delineates a variety of skills that have been independently acquired. Two or more ability areas are connected by lines that lack an arrow.
- d) The combination of two or three hierarchical structures, procedures, and groups is known as a combining structure.

Consequently, this prototype employs the procedural structure for instructional analysis, based on the principle that learning commences at the most beginner-friendly level and progressively escalates to the most challenging. The instructional analysis results are presented below.

### ***Student Behavior and Initial Characteristics***

Several tendencies are present among these pupils, as they are still in the first semester. The initial tendency is that students are still unfamiliar with a significant number of engineering concepts. Even if they do acquire a comprehensive understanding, it is typically general knowledge that was acquired during their junior or vocational high school years. The second stage involves the adaptation to the university environment, which is significantly different from the world of previous education. Typically, first-semester students exhibit high levels of motivation and curiosity.

### ***The Instructional Objectives and Design***

The indicators and learning outcomes in the instructional development were modified to accommodate the following: 1) the implementation of the use of texts in the manufacturing industry based on the results of the need analyses, and 2) multimodality. The specifics are as follows:

- a) The students possess the necessary writing abilities for professional use in the industry sector.
- b) The students will be capable of writing in English effectively.

The first is providing an explanation of the generic structure and linguistic characteristics of descriptive text by delineating the purpose and function of descriptive text; describing the generic structure of descriptive text; delineating the linguistic characteristics of a descriptive text; delineating the generic structure and linguistic characteristics of an authentic text that is relevant to product knowledge in a manufacturing industry.

The third is creating a Product Knowledges text that is distinguished by the generic structure and linguistic characteristics of Descriptive Text

- Identifying product specifications for a specific case in the manufacturing industry
  - Locating product specifications in the manufacturing industry that are associated with specific vocabularies by using texts.
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- Developing a product knowledge text by analyzing a specific scenario by using video which tells a specific case.
- Formulating the product knowledge text in accordance with the generic structure of a descriptive text
- Utilizing the linguistic characteristics of a descriptive text to compose the product knowledge

### *Students' Writing Results on The Trials*

The subsequent session will involve a discussion of the test results in relation to the content and organization, vocabulary mastery, grammatical structure, and mechanics (Brown 2001; Oshima and Hogue 1999; Weigle 2009). The students have already written the correct generic structure of the text in relation to the linguistic feature and generic structure following the instructional design. The process commences with the identification of the subject matter and progresses to the description of the products.

Additionally, all respondents were cognizant of the text's linguistic characteristics. The sentences of the respondents were suitable with the linguistic features since declarative in nature, and the entire clauses were composed in the simple present tense (Luu, 2011). It implies that respondents endeavored to furnish readers with a description (Gerot and Wignell 1994). All of the students' text focused on the specific participant. The writers' consistent use of specific participants suggests that they followed the Descriptive text feature, which emphasizes the importance of individual participants (Gerot and Wignell 1994). The following is an example of a student's writing can be seen in Figure 1.

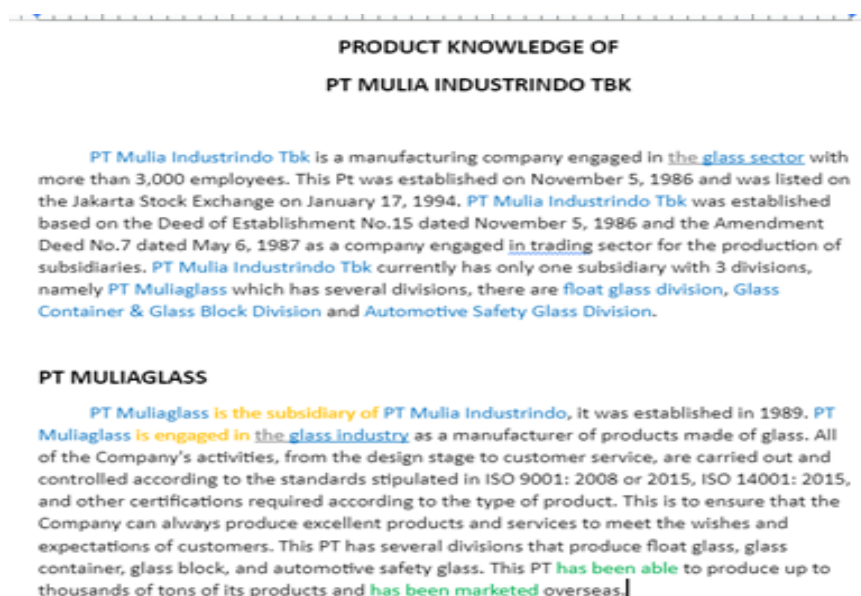


Figure 1. Student' Writing Result 1

The following is an example of a student's writing can be seen in Figure 2.

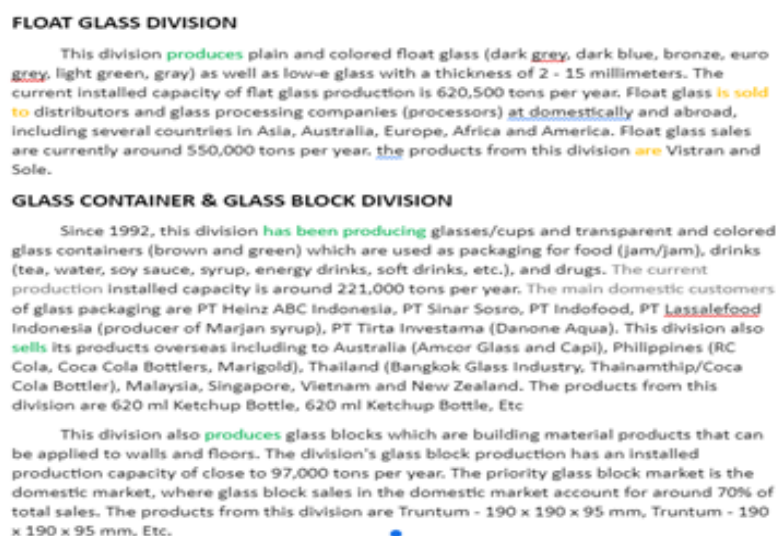


Figure 2. Student' Writing Result

After the treatment Figure 1 and Figure 2, the students have already written the correct generic structure of the text in terms of the linguistic feature and generic structure. This commences with the identification of the subject matter and proceeds with the product description. The text's linguistic characteristics were also recognized by all respondents. Declarative mood was employed in the sentences of the respondents, and the entire clauses were composed in the simple present tense. It implies that respondents endeavored to furnish readers with a description. The text of all students focused on the specific participant. The writers' consistent use of specified participants suggests that they subscribed to the Descriptive text feature, which emphasizes specific participants. The process of the relationship was also described by the respondents. The respondents' control over the linguistic features of the descriptive text was indicated by these findings. The image below serves as evidence that the students comprehend the linguistic characteristics of their own text, as they have indicated the colors of the features and provided a list beneath the text.

Interviews were conducted twice, prior to and subsequent to the instructional design's implementation. Respondents acknowledged their limitations in essay writing prior to the course design's implementation. They believed that their insights regarding industries were restricted. It is also demonstrated by their pre-test essays, which demonstrated a lack of conceptual clarity; they wrote no more than 250 words. Subsequently, they experienced feelings of anxiety when they were requested to compose the essay. Conversely, the respondents did not experience any anxiety emotions associated with their lack of ability following the implementation of the course design. They tended to believe that they possessed the necessary skills to complete the assignment. This assertion is corroborated by R#4: "Saya merasa kemampuan writing saya membaik" (I believe that my writing ability has been enhanced). In reference to this discovery, Westwood (2008)

stated that proficient writers typically possess a strong understanding of the necessary structure and are adept at writing mechanically. Consequently, the respondents did not experience anxiety regarding their inability to complete a task, as they possessed the necessary skills to compose the text. In accordance with this, Plummer (2001) asserted that an individual's personal worth must be derived from their abilities, which in turn instill a sense of confidence. However, individuals who are not as proficient in a particular area tend to exhibit a lower level of self-assurance (Plummer 2001).

#### 4. Conclusion

The main objective of this study was to lessen the gap between academic courses and industrial needs. The purpose of this study is to develop an instructional design that integrates the Multimodality approach and the Teaching Practitioner program. Using the Dick and Carey Model, an instructional design with seven development steps was created. The English lecturer and the practitioner played key roles in each phase of the instructional design developed for this study, which combined elements of the Teaching Practitioner and the Multimodality approach. The writing results showed that the implemented instructional design was able to improve students' writing proficiency. The researcher suggests that ESP courses use the same instructional design by incorporating the Teaching Practitioner and multimodality approach in the light of the positive implementation outcomes noted in this study.

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