DINAMIKA DAN PEMIKIRAN

PENDIDIKAN ISLAM

KAJIAN KLASIK DAN KONTEMPORER

70 TAHUN
PROF. DR. HAIDAR PUTRA DAULAY, MA

Guru Besar Sejarah Pendidikan Islam
Universitas Islam Negeri Sumatera Utara

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BAB IV

MANAJEMEN, INOVASI DAN TEKNOLOGI PENDIDIKAN ISLAM

DEVELOPING ENGLISH MATERIALS FOR MATHEMATICS EDUCATION DEPARTMENT STUDENTS

Dr. Didik Santoso, M.Pd.

A. The Background of the Study

The objective of learning English forMathematics Education De partment students of State Islamic University of North Sumatera is to enable them to communicate oral and written English accurately and adequately in academic situation and in daily life. In this objective, communicating in daily life means the students are expected to be proficient in General English and communicating in academic situation means the students are expected to have proficiency in English for Specific Purpose namely English for Mathematics Education.

Besides, the students should have proficiency in oral and written English. Oral English belongs to listening and speaking while written English belongs to reading and writing. Communicating accurately is that the students should have good linguistic competence such as in grammar, vocabulary, and pronunciation. While communicating adequately is that the students should have good discourse and strategic competencies.

To achieve the above objective, the English materials should be authentic, relevant, consistent, and adequate. Authentic materials are that the content should be developed on the basis of the real life in which the students live. Relevant materials are that the materials which is developed should achieve the students' basic competency. Consistent materials mean that the learning materials are suitable with the students' need. While adequate materials refer to the sufficiency of the materials to assist the students to achieve the basic competence.

However, the existing English materials used by the students of Mathematics

today do not meet the criteria mentioned above. The materials seem still not relevant to the students'need as mathematics education department. The content tends to use reading texts concerning mostly about religion while mathematics texts are almost absent.

Moreover, the existing materials tend to highlight the mastery of the language structure and elicit the students'verbal ability rather than non-verbal ability. In the very beginning of the lesson, the students are given several lists of expression in greetings. On the left side is given in English expressions and on the right side is their translation in Indonesian. This can be proven by the following fact written in the student's book.

<div align="center">

The 1ˢᵗ Meeting

GREETINGS

</div>

Hello! Hallo! Hullo!	Hi Hallo! Hai! (Hanya diucapkan kepada teman akrab)
Good morning!	Selamat Pagi!
Good day! Good Noon!	Selamat siang!
Good Evening!	Selamat malam!
Good Night!	Selamat malam (mau beranjak tidur)
How are you?	Apa kabar? (tanya kesehatan)
Etc.	

The expressions described above are not put in the context. This can cause misundertanding in interpreting the meaning of the expression. The expression "good night" does not possess only one meaning. It could be 'going to sleep' but also "saying goodbye in the evening".

Besides, this kind of list directs the students to memorize those expressions. This means the students are forced to use remote memory rather than critical thinking. This causes learning to be a burden and not as a need (Nggermanto, 2001:197). The dialogues presented in the students'book are not arranged in sequence. The first dialogue is about "At the University" and the next topic is about "Two Couples Meet at a Dance". These two topics are not in sequence to each other. This can cause the difficulty in learning the dialogues.

Furthermore, the materials do not show the integration of skills and content. There is no relationship between the speaking material and the

<div align="center">569</div>

reading material. The content does not represent the subjects that they learn especially related to mathematics.

To solve the problems, the accelerated learning approach is regarded suitable to develop the English materials for Mathematics Education Department students for several reasons : Firstly, the accelerated learning stimulates not only verbal ability but also non-verbal ability. Secondly, the accelerated learning promotes learning how to use the language in the context of situation, learning the natural, social, and moral realities as well as learning the rules of the language.

B. The Research Problem

Based on the background and the objective of the study, the research problems are formulated as follow: (1) How are the existing English instructional materials used today by the students of Mathematics Education Department?, (2) What English materials are needed by the students of Mathematics Education Department?, (3) How are the English materials for Mathematics Education Department students developed based on the Accelerared Learning Approach.

C. The Objective of the Study

The objectives of this study are: 1) Analysing the existing English instructional materials used today by the students of Mathematics Education Department, 2) Doing need analysis of English materials for Mathematics Education Department Students, 3) Developing the English material model for Mathematics Education Department Students based on the accelerated learning approach.

D. The Scope of the Study

This study deals with the development of English materials for the students of Mathematics Education Department based on the accelerated learning approach. This study will focus on the three main points: 1) Analysing the existing English instructional materials used today by the students of Mathematics Education Department, 2) Doing need analysis of English materials for Mathematics Education Department Students, 3) Developing

the English material model for Mathematics Education Department Students based on the accelerated learning approach.

E. Significance of the Study

The significances of this study are: (1) to create more effective and efficient material to achieve the students' learning objective. This materials do not emphasize only on mastering the knowledge and the skills of the English language (too mechanistic and verbal) which tends to optimize the intellectual intelligence but also the emotional and spiritual intelligences, (2) to accelerate the students' mastery on the four skills of the English language, (3) to provide more appropriate materials with the need for the students of Mathematics Education Department, (4) to create more productive, joyful, and without stress learnings because the materials contain more situations that stimulate the concious as well as unconcious learning altogether, (5) to help the teacher of English not too burdened in teaching because the students are more active than the teacher. The students' role is as actor and performer and the teacher is a facilitator.

F. The Literature Review

1. English Materials for Mathematics Education Students

English materials for mathematics education department students should be based on the objective of learning English in the department of mathematics education and the theory of language learning. The objective states that the students are able to communicate in the daily life and in academic situation, to communicate oral and written English, as well as to communicate accurate and adequate English. On the basis of this learning objective, the English materials should contain English for daily life, English for mathematics education, the integration of the four language skills : listening, speaking, reading and writing as well as stimulating the grammatical, discourse, and strategic competence.

The theory of language learning which is suggested by the curriculum of mathematics education department is communicative approach. This approach expects the students to have the ability in grammar, vocabulary, and pronunciation. Besides, the students should have the knowledge of pragmatics, cultural sensitivity and recognize the language use.

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In other words, English materials for Mathematics Education Depart-ment students should use real life as the source to develop the materials, the materials should develop English for Spesific Purposes in mathematics education, the materials should contain the elements of the language, the materials should integrate the four skills (listening, speaking, read-ing, and writing), and the materials should develop communicative competence. The communicative materials should be text-based, task-based, and authentic.

2. Accelerated Learning Approach

Accelerated learning, according to Moor (2003:1) is a multi-sensory learning process that most of which resembles how we learn the first language. Language is presented conformed with the learning styles in a relaxed but fully attentive environment. In the user's point of view, the characteristics of accelerated learning is to comprehend a language on the basic level acquired with a high speed, the learning process is not difficult, whatever success achieved on the basic level should be consistent along the learning process, whatever learned could be instantly used, and accelerated learning encourages learners to think in the target language.

Pestalozzi (2006:1) argues that accelerated learning is a creative communicative language teaching with the supplement of music, relaxation, and suggestion. This is a whole approach in teaching that provides positive effects on the students' psychological atmosphere and through this process, it can help to create effective learning. In other words, accelerated learning is more economical communicative teaching in utilizing time. In the elaboration stage, the accelerated learning is almost the same as communicative teaching. However, accelerated learning is more implicit in presentation. Therefore, there are three fundamental principles of accelerated learning namely (1) learning is indicated by a joy and without any stress, (2) learning occurs on the concious and unconcious levels, (3) Learners' potentials can be tapped through suggestion.

Accelerated learning is a language learning that involves left brain and right brain. Language is perceived through concious and unconcious thinking. In order to stimulate these two kinds of thinking, language is presented through story that the learners are able to retain the lesson more in context. Emotion is involved in understanding language through the use of music (http://www.languagebusiness.co.uk/al.htm, 2006:1).

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In foreign language learning, accelerated learning is a systematic approach to teach a whole person, containing foreign language core elements used by learners collaboratively that enable them to learn faster, more effective, and more enjoyable. An effective accelerated learning program involves new findings on multiple-intelligences, learning styles, neuroscience, and cognitive psychology. To create this atmosphere, accelerated learning applies relaxation, visual arts, and music (DePorter, 1992:1-3).

A foreign language accelerated learning is a unique way to learn a foreign language by applying teaching based on whole learning theory to maximize any individual learning style. This approach can optimize the individual natural learning ability. The learner will be able to master the language more from a relaxed and enjoyable learning environment in order to encourage the learner to communicate and to interact. (http://www.uh.edu/academics/dce/prog/lan.html#method,2006:1).

Based on the above theories, accelerated learning, therefore, has seven foundation principles: (1) learning involves the whole mind and body, (2) learning is creation, not consumption, (3) collaboration aids learning, (4) learning takes place on many levels simultaneously, (5) learning comes from doing the work itself with feedback, (6) positive emotion greatly improve learning, and (7) the image brain absorbs information instantly and automatically (Meier,2000:9-10).

From the above notion, it can be concluded that accelerated learning is a communiacative language learning approach that integrates brain, emotion, and body to activate concious and unconcious thought by using relaxation, music and suggestion.

3. An Alternative Model of English Materials for Students of Mathematics Education Based on Accelerated Learning Approach.

The curriculum suggests that the constructivism approach is used to design the English materials. This approach says that the students not only receive the language knowledge from their surroundings but also act, construct, and plan their knowledge and understanding about the language (Hadley, 1993), starting from non scientific knowledge becomes scientific one. This approach regards the lecturer as a facilitator and provides condition in order the learning process runs well.

The model of the English materials that are suitable for the constructivism philosophy is the materials developed based on the accelerated learning approach. The accelerated learning is inspired by suggestopedia original language training methodology initiated by a Bulgarian psychotherapist and physician Georgi Lozanov in the early 1960s. This methodology has at least eight basic elements : (1) Learning environment should be enjoyable, (2) Using appropriate and effective music to enhance learning, (3) Using perpherals, (4) Teachers should estabish credibility to their students, (5) Creating positive atmosphere in learning, (6) Using arts and drama, (7) Using active and passive concert, and (8) Three phases of teaching procedure: preparation (preparing learner to learn), active (providing learning experience), and passive (reflection and remedy) (De Porter, 2001:1-3).

The accelerated learning is supported by the language theory, theory of language learning, brain theory, learning theory, and theory of multiple intelligences (Santoso, 2007). Theory of language that bases this accelerated learning is the language theory as communication. This means that language is learned to develop what Hymes (1972) calls it as "communicative competence". The theory of communicative competence says that language learning is organized based on the communicative functions needed by a language learner and emphasizes the way in which a certain grammatical form used to express those functions accurately. The communicative competence does not only include the grammatical competence (knowledge of explicit and implicit grammatical rules) but also sociolinguistic or contextual competence (knowledge of language use) and strategic competence (Canale & Swan, 1980:2-3).

The language learning theory that provides the basis for the acclerated learning is second language acquisition theory stated by Savignon (1983) that language acquisition is determined by linguistic, social, cognitive, and individual roles. It is also inspired by Krashen's theory of second language acquisition which is called "acquisition and learning theory". According to this theory, acquisition is an unconcious process similar to the process in acquiring the first language, while learning is concious knowledge or knowledge of the language. This theory is strenghtened by Krashen's another theory which is called "affective filter hypothesis". It says that language will be acquired when comprehensible input is received in a low anxiety situation. Beside that, there are three principles of language learning theory that bases the accelerated learning: communicative principle (activities involved in real communication can create learning), task principle

(activities in which language used to do meaningful task enables to create learning), and meaningful principle (meaningful language for the learner will support learning process).

The brain theory that bases the accelerated learning is the truine brain theory. This theory is stated by Paul MacLean (1990) as a researcher of National Institute of Mental Health. The theory says that human brain consists of three layers: reptilian system, mammalian or limbic system, and neocortex (Reid, 1995; 28). The three systems are in unity. This means that neocortex as the learning brain or cerebral cortex will be optimal and effective when the reptilian and the limbic systems are stimulated so that it functions actively in learning.

The accelerated learning is also based on the learning theory describing that learning is a process of involving concious and unconciuos thought. When learning, concious and unconciuos suggesstions are needed. Conciously, suggestion is done by involving learners to listen their teacher, and unconciously, suggestion is done by realizing learners' thought about peripheral things, conscience, teacher's tone, and sound in the room. Besides, the teacher should create positive situations, and enjoyable, safe and joyful learning environment (DePorter, 2001:1-2).

The multiple intelligences theory also bases the accelerated learning. The theory is proposed by Howard Gardner, a professor in education from Harvard University. It says that learning not only involves intelligence quotient but also varous intelligences since humanbeings has multiple intelligences such as linguistic intelligence, logical-mathematical intelligence, visual-spatial intelligence, body-kinesthetic intelligence, interpersonal/social intelligence, intrapersonal intelligence, and naturalistic intelligence (Gardner, 2003:1-4).

The accelerated learning in teaching language is a creative communicative approach with the supplement of music, relaxation, and suggestion. This is the whole approach in instruction that give positive effect to the learner's psychological atmosphere. Through this process, the effective learning can be created. In other words, the accelerated learning is a communicative language teaching which is more economical and creative. In the elaboration session, the accelerated learning is almost the same as communicative language teaching.However, the accelerated learning is more implisite in the presentation.

Therefore, the learning materials based on the accelerated learning

approach have three basic principles : (1) The learning materials should create the productive, joyful, and without stress learnings, (2) The learning materials should stimulate conscious and unconscious learning, and (3) The learning materials should be able to optimize the students' potentials through suggestion (Pestalozzi, 2006).

G. The Research Method

This study uses the developmental research. Gay (1992) says that the developmental research is not intended to test the theory but to develop an effective model that is appropriatewith the students' need and interest in oder to get a product. Then, the product is validated and revised. The result of this research is the qualified product theoretically, methodologically, and empirically.

This study follows four steps of developing the materials: (1) analysing the existing materials, (2) doing need analysis, (3) designing the material, and (4) validating the material. Analysing the existing materials is to know the weakness and the strenght of the present materials used by the English lecturer.

Doing need nalysis is done to determine the target need and the learning need of the students. The target need is what is needed by the students in a certain sitution. This need is categorized into necessities, lacks, and wants of the students. The necessities are the demands of the students in certain situation. The lacks are the gap between the competence that the students have and the expected competence that the students should have. The wants are the need that the students think is important for them.

Designing the material is intended to determine the competency of the students, deciding the learning objective, determining the content and the language focus, and developing the model based on the accelerated learning approach. Validating the material means evaluating the design, the content and the exercises which are done by the the lecturers, the experts, and the students.

This research will be conducted at the Faculty of Tarbiyah and Teachers Training, State Islamic University of North Sumatera Medan. Some parts of the preliminary model has been developed by the researcher (Santoso, 2009). The techniques of collecting the data are observation, interview, questionaire, and document. The data of this research is the result of the

observation, interview, questionaire, and document. The data sources are the students of of Mathematics Education Department, English lecturer, and experts in the English material design. The data will be analysed by using Miles and Huberman technique: data reduction, data display, and verification.

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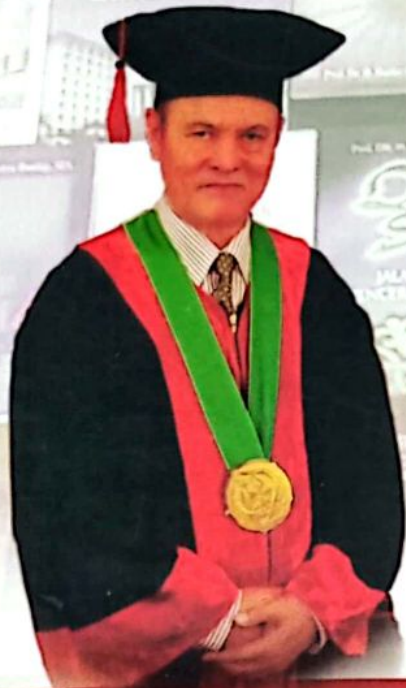
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Setidaknya ada empat makna penting dari penulisan dan penerbitan buku mengiringi masa punabakti Prof. Dr. Haidar Putra Daulay, MA ini. *Pertama,* buku ini merupakan kenang-kenangan sekaligus sebuah penghargaan atas dedikasi yang luar biasa dari seorang pendidik senior di UIN SU. Apalagi kita mengetahui beliau merupakan salah seorang yang berjasa dalam membangun serta mengembangkan IAIN SU– sekarang UIN SU. Apresiasi sederhana ini paling tidak bisa dijadikan kenang-kenangan agar kita bisa terus mengingat jasa-jasa beliau selama ini untuk pengembangan UIN SU. *Kedua,* Prof. Dr. Haidar Putra Daulay, MA merupakan guru besar Sejarah Pendidikan Islam Fakultas Ilmu Tarbiyah dan Keguruan UIN SU. Tentu melalui penulisan dan penerbitan buku ini bisa dikatakan sebagai bagian dari kepedulian terhadap sejarah itu sendiri. *Ketiga,* melalui penulisan dan penerbitan buku ini, kita jadikan tradisi tulis yang baik. Tulisan adalah bagian dari sebuah tradisi ulama klasik yang diwariskan kepada kita saat ini, karenanya hadirnya buku ini sekaligus merupakan upaya untuk mengubah tradisi lisan ke tulisan. *Keempat,* penulisan dan penerbitan buku ini diharapkan untuk menjamin keberlangsungan kehadiran seorang akademisi di tengah-tengah komunitasnya. Meskipun telah memasuki masa purnabakti, diharapkan masih berkontribusi untuk pengembangan UIN SU. Sekaligus kita berharap munculnya akademisi-akademisi handal sebagai cerminan dari Prof. Dr. Haidar Putra Daulay, MA di masa depan.