CHOMSKY AND THE TURNING POINT OF AUDIO-LINGUAL METHOD

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ABSTRACT

Three factors becoming the backbone of audio-lingual method as a flourishing language learning method were the emergence of United States as the new international power, the flourishing of Structural Linguistics and Behaviorist Psychology. Meanwhile the decline of audio-lingual method was caused by the attacks on its theoretical background and critics on its practical results.

Key words: audio-lingual method, behaviorism, Chomsky, transformational grammar.

INTRODUCTION

Many researchers, linguists and psychologists have done a series of research to find out the nature of learning, especially language learning. They have devoted their times to reveal the processes of second language learning. As a result, a lot of methodologies of second language learning have emerged.

Either theory of language learning or theory of linguistics or both could underlay development of a language teaching method. Theory of language learning gives foundation on the natures of human learning (is how they get knowledge) and theory of linguistics gives foundation on how languages should be learnt.

Audio-lingual method (ALM) was developed on two prominent theories: behaviorism and structuralism. Behaviorism explained that human behavior could have been developed through reinforcement. Thus ALM believed that to learn second language, a learner had to be given a sequence of stimulus, response, and reinforcement. Meanwhile, structuralism argued that sentences consisted of the arrangement of sequence grammatical part of speeches. Thus, ALM brought these to its class are applied it in a series of drills.

BEHAVIORISM

Behaviorism views learning as an overt and observable behavior change. The core of this view of learning is an idea of principle of contiguity, the idea that whenever two events occur together over and over again, they will become associated, so at another time, when only one of the events occurs, the association will persist. Through association, the two events will be connected each other, that when only one event is present, the missing event will be remembered also (Parson, Hinson, Sardo-Brown, 2001: 210).

There are two prominent behaviorist explanations of how people learn, namely classical conditioning and operant conditioning.

Classical conditioning

Ivan Pavlov, the Russian Physiologist, is well known as most famous representation of classical conditioning. He conducted an experiment that brought him to unconditioned stimulus, unconditioned response, conditioned stimulus, and conditioned response (Parson, Hinson, Sardo-Brown, 2001: 210-17).

Furthermore, Parson, Hinson, and Sardo-Brown explain these stimulus and response through Pavlov's study. Pavlov had been investigating dog's behavior. In his investigation, he and his colleagues conditioned a dog to salivate to the sound of a bell; the sound of the

bell was associated with the presentation of meat. It is common for a dog to salivate in responding the presentation of meat. In this study, Pavlov searched that "meat–sali-vation" was natural or 'unconditio-nal'; it was automatic or not having been learned voluntarily. The meat, then, was identified as unconditioned stimulus, stimulus that automatically evokes an emotional or physiological response. Further, the salivation was an automatic emotional or physiological response to an unconditioned stimulus–for instance the presentation of the meat–and thus was termed as unconditioned response.

The unconditioned stimulus, e.g. meat, paired with dissimilar stimuli that did not elicit a salivation response automatically, e.g. the sound of bell, through repetition; the two stimuli would become associated and share the characteristic of eliciting salivation. For normal condition, a dog will not salivate when it hears the sound of a bell. Pavlov paired the meat and the sound of the bell often enough that every time there was the sound of the bell, there would be meat there. These two stimuli were so associated that when the bell was presented alone, the dog salivated to its sound. In this situation, the sound of the bell became a learned or conditioned stimulus (CS), a stimulus which evoked a different emotional or physiological response after conditioning, and that stimulus would create a conditioned res-ponse, an emotional or physiological response to a conditioned stimulus after learning.

Parson, Hinson, and Sardo-Brown then explain that someone may generalize stimulus. Stimulus generalization happens when someone responds emotionally or physiologically not only to the conditioned stimulus but also to stimuli that resemble the conditioned stimulus.

J.B. Watson and Rosalie Rayner did an experiment to a little kid. They invited a young mother and her toddler son, Albert, into their lab. In this experiment, they paired a white rat and a loud noise. Through associations of the rat and noise, Little Albert learned to

fear the planned CS, the rat. In fact, that was not the only finding. They also discovered that Albert also began to fear multiple conditioned stimuli or things that resembled the direct CS. He learned to fear white hamster, a white toy bunny, a white coat, etc.

Another example of stimulus generalization happens in Indonesian school classes. It may be in some of them because the writer has no enough data to generalize it. When the writer was in the elementary school, the class was always conditioned to keep silent in order to focus on the subject, on the teacher explanation. The classes – for instance: seat setting, teaching methods, etc – were designed to support this stimulus. It was teacher-center classes. The stimulus, then, created quiet class; the class became quite as long as there was a teacher there. This repeated stimulus, unexpectedly, created stimulus generalization; the students did not just keep silent when the teacher explained his subject but it also happened when the teacher asked their opinions about a problem or simply when the teacher asked whether they understand the subject. The students learned to give the similar response to other class activities. The same classes also took place in the next level of educations. It may become a simple explanation why some Indonesian college' students get difficulties to express their opinions or suffer from 'silent fever'.

Operant Conditioning

The prominent proponent of operant conditioning is B.F. Skinner. This term refers to behaviorist learning in which voluntary behaviors are controlled by the manipulation of follow-up stimuli; it is also called "r-s pattern learning". A successful learning can be gained through carefully program of step-by step reinforcement. Reinforcement is *anything* that increases the frequency of behavior that has led to it (Parson, Hinson, Sardo-Brown, 2001:217).

Children's behavior may reflect this type of learning. There is a child who wants a candy. Because it is not good for her teeth, the

mother does not allow her to have it. The child insists on having the candy and cries. Looking at her crying child, the mother gives up; she, then, gives a candy to her daughter. Next time the child wants a bar of chocolate and cries, the mother comes and gives it. The child, then, begins to cry more frequently and the mother begins to give everything the child wants. The child's behavior explains that the mother's behavior is reinforcement because it increases the behavior of the child.

The above story follows Thorndikes' *law of exercise* and *law of effect*. Law of exercise is Thorndike's rule that repetitions strengthen learned association and law of effect is rule that any act that produces a satisfying effect will be repeated.

Considering the problems of educating children, Skinner suggested teachers as "behavioral engineering". As the behavioral engineering, the teachers observe the students behavior and follow up stimuli and then use the information to design treatments, which can be in the form of positive or negative reinforcement. As the positive reinforces, the teachers add follow–up stimuli to strengthen a behavior. As the negative reinforces, the teachers withdraw follow-up stimuli to strengthen a behavior (Parson, Hinson, Sardo-Brown, 2001).

Let's take the above example to clear these two reinforcements. When the child's behavior begins to annoy the mother, she may think to find another stimulus to change her child's behavior. She may think that her follow-up stimuli – give what the child wants when she begins to cry – were wrong. She needs to have *negative reinforcement*; she needs to withdraw the follow-up stimuli. She may be will not always give anything to the crying child.

Negative reinforcements will not be appropriate to all behaviors of the child, the child will also needs positive reinforcement. When the child is afraid of taking a bath unless the mother brings her toys to her bathroom, the mother, then, often brings the toys as the follow-up stimuli and the mother's stimuli are called positive reinforcement.
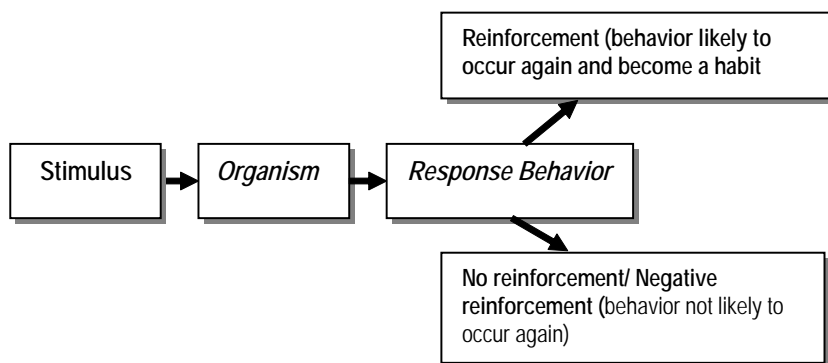
AUDIO-LINGUAL METHOD (ALM)

The emergence of Audio-Lingual Method (ALM) can be related to three backgrounds: the emergence of United States as the new international power, the flourishing of Structural Linguistics and Behaviorist Psychology. After World War II, U.S. had emerged as a major inter-national power. Richards (1998: 45) shows that this condition encouraged thousands of foreign students entered the United States to study in the universities, and many of them required training in English before they could begin their studies. These factors led to the emergence of the American approach to ESL, which by the mid-fifties had become Audiolingualism.

In the 1950s American linguists – linguistics took its flourishing position as an academic discipline in U.S. – developed *structural linguistics* as a reaction to traditional grammar. This linguistic school, then, became the backbone of Audio-lingual method. Structural linguists such as Fries argued that word classes or phrase arranged sentences; sentences consisted of the arrangement of sequence grammatical part of speeches. Thus the arrangements of *noun + verb + adverb phrase* could yield a large number of sentences such as *water freezes under 0° Celsius* or *sun rises in the morning,* by substituting members of the same grammatical class. Drilling technique in Audiolingualism reflected this substitution.

Audio-lingual method also incorporated Behaviorist psychology, which was the dominant school of psychology in America for most of the first half of the twentieth century (Steinberg, 2001: 200). Pavlov, Classical behaviorist of the Russian Psychologist, conducting a series experiment in which he trained a dog resulted stimulus and response theory, which was called *classical conditioning*. For him, the process of learning consisted of the formation of asso-ciation between stimuli and reflexive responses; a learner will be given a stimuli and the learner will give a certain response. B.F. Skinner (1938) who published his *Behavior of Organism* expanded this theory. He argued that Pavlov's classical

conditioning was a typical form of learning utilized mainly by animals and slightly applicable to account for human learning. He, then, created a new concept called *operant conditioning.* It is a mechanistic approach to learning; external forces select stimuli and reinforce responses until desired behavior is conditioned to occur. Given the proper reinforcement, behavior will change. In simple terms, the theory says that learning occurs in the following manner: the learner responds to a stimulus. The respond must be active. The connection between the stimulus and the response is conditioned by reinforcement (Fauziati, 2004: 17-19). A *stimulus* serves to elicit behavior, a *response* triggered by a stimulus, and reinforcement serves to mark the response as being appropriate or inappropriate and encourages repetition. A representation of this can be seen in following figure (Richards, 1998: 50):

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                                        ┌─────────────────────────────┐
                                        │ Reinforcement (behavior likely to
                                        │ occur again and become a habit │
                                        └─────────────────────────────┘
                                                    ↗
┌───────────┐   ┌───────────┐   ┌───────────────────┐
│ Stimulus  │ → │ Organism  │ → │ Response Behavior  │
└───────────┘   └───────────┘   └───────────────────┘
                                                    ↘
                                        ┌─────────────────────────────┐
                                        │ No reinforcement/ Negative   │
                                        │ reinforcement (behavior not likely to
                                        │ occur again)                 │
                                        └─────────────────────────────┘
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Features of ALM

The focus of ALM is oral in the early stages and other skills are all related to development of oral fluency. Brooks (1964: 107-113 in Richards, 1998: 52) distinguishes between short-range and long-range objectives of an audio-lingual program. There are three immediate programs including training in listening comprehension, accurate pronunciation, recognition of speech symbols as graphic signs on the printed page, an ability to reproduce these symbols in writing. Long-

range objectives "must be language as the native speaker uses it … there must be some knowledge of second language as it is possessed by a true bilingualist"

Dialogues and drills form the basis of audio-lingual classroom practices. Brooks (1964: 156-61 in Richards, 1998: 54 and Fauziati, 2004: 21-24) presents various types of the following drills:

1. *Repetition.* The students repeat an utterance as loud as he has heard it. He does this without looking at prin-ted text. The utterance must be brief enough to be retained by ear. Sound is as important as form and order.

   Example

   This is the seventh month – this is the seventh month

   After a student has repeated an utterance, he may repeat it again and add a few words, then repeat that whole utterance and add more words.

   Examples

   I used to know him – I used to know him

   I used to know him *years ago* – I used to know him *years ago when we were in school…*

2. *Inflection.* One word in an utterance appears in another form when repeated.

   Examples

   I bought the *ticket* – I bought the *tickets*

   He bought the candy – *She* bought the candy

   I called the young *man* – I called the young *men…*

3. *Replacement.* One word in an utterance is replaced by another.

   Examples

   He bought *this house* cheap – He bought *it* cheap

   Helen left early – *She* left early

They gave their *boss* a watch – they gave *him* a watch …

4. *Restatement.* The student rephrases an utterance and addresses it to someone else, according to instructions.

   Examples

   Tell him to wait for you – Wait for me

   Ask her how old she is – How old are you?

   Ask John when he began – John, when did you begin?…

5. *Completion.* The student hears an utterance that is complete except for one word, then repeats the utterance in completed form.

   Examples

   I'll go my way and you go … - I'll go my way and you go *yours.*

   We al have … own troubles. – We all have *our* own troubles

6. *Transposition.* A change in word order is necessary when a word is added

   Examples

   I'm hungry (so) – So *am* I.

   I'll never do it again. (neither). – Neither *will* I …

7. *Expansion.* When a word is added it takes a certain place in the sequence.

   Examples

   I know him. (hardly). – I *hardly* know him

   I know him. (well). – I know him *well* …

8. *Contraction.* A single word stands for a phrase or clause

   Examples

   Put your hand *on the table* – Put your hand *there*

   They believe *that the earth is flat* – They believe *it*…

9. *Transformation.* A sentence is transformed by being made negative or interrogative or through changes in tense, mood, voice, aspect, or modality.

Examples

He knows my address.

He doesn't know my address

Does he know my address?

He used to know my address

If he had known my address

10. *Integration*. Two separate utterances are integrated into one

Examples

They must be honest. This is important. – It is important that they be honest.

I know that man. He is looking for you. – I know the man who is looking for you …

11. *Rejoinder*. The student makes an appropriate rejoinder to a given utterance. He is told in advance to respond in one of the following ways:

Be polite.

Answer the question.

Agree

Agree emphatically

Express surprise

Express regret

Disagree

Disagree emphatically

Question what is said

Fail to understand

BE POLITE.   EXAMPLES

Thank you. – You're welcome

May I take one? – Certainly

ANSWER THE QUESTION.   EXAMPLES

What is your name? – My name is Smith

Where did it happen? – In the middle of the street

AGREE.   EXAMPLES

He's following us. – I think you're right

This is good coffee. – It's very good …

12. *Restoration*. The student is given a sequence of words that have been called from a sentence but still bear its basic meaning. He uses these words with a minimum of changes and additions to restore the sentence to its original form. He may be told whether the time is present, past, or future.

Examples

Students/waiting/bus – The students are waiting for the bus

Boys/build/house/tree – the boys built a house in a tree …

ALM is a teacher-dominated method; teacher takes central and active role. The teacher models the target language, controls the direction and pace of learning, and monitors and corrects the learner's performance. The teacher gives stimulus and the learner responds to it. They are not encouraged to initiate interaction because it may lead to mis-takes.

ALM lesson typically has the following procedures (Richards, 1998: 58-59):

1. Students first hear a model dialogue (either read by the teacher or on tape) containing the key structures that are the focus of the lesson. They repeat each line of the dialogue, individually or in chorus. The teacher pays attention to pronunciation, intonation, and fluency. Correction of mistakes of pronunciation or grammar is direct and immediate. The dialogue is memorized gradually, line-by-line. A line may be broken down into several phrases if necessary. The dialogue is read aloud in chorus one half saying one speaker's part and the other half responding. The students do not consult their book throughout this phase.

2. The dialogue is adapted to the students' interest or situation, through changing certain key words or phrases. This is acted by the students.

3. Certain key structures from the dialogue are selected and used as the basis for pattern drills of different kinds. These are first practiced in chorus and then individually. Some grammatical explanation may be offered at this point, but this is kept to an absolute minimum.

4. The students may refer to their text-book, and follow-up reading, writing, or vocabulary activities based on the dialogue may be introduced. At the beginning level, writing is purely imitative and consists of little more than copying out sentences that have been practiced. As proficiency increases, students may write short composition on given topics with the help of framing questions, which will guide their use of the language.

5. Follow up activities may take place in the language laboratory, where further dialogue and drill work is carried out.

ALM AND DIRECT METHOD

ALM had similar method to direct method, namely, planned situations, graded materials, and such techniques as pattern drills and dialogue memorization (Brook, 1964 in Steinberg, 2001: 200). Different from direct method, the Audio-lingual Method almost entirely dropped the use of natural situations and spontaneous speech and there is a tendency to reduce the meaningfulness of the speech that was taught.

ALM AND AVRAM NOAM CHOMSKY

The attacks on its theoretical background and critics on its practical results began the decline of Audiolingualism. It was Chomsky in 1950s and 1960s that opposed *structural linguistics* and *behavioristic psychology.* Sampson (1980) shows that Chomsky is commonly said to have brought
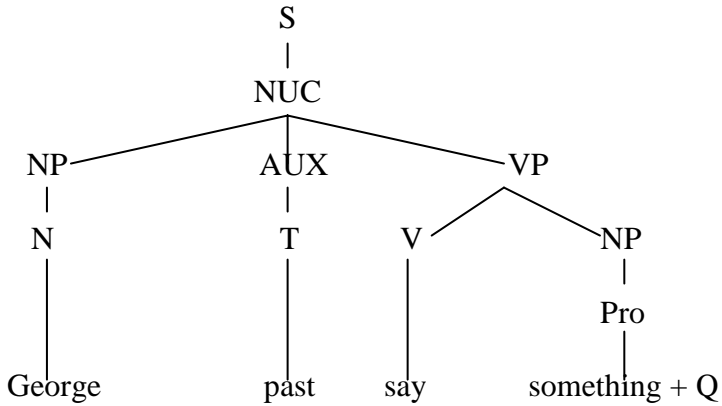
about a 'revolution' in linguistics and it becomes new angle for today's linguists.

The revolution is in the nature of language, which is different from the view of structural linguistics. He said, "Language is not a habit structure. Ordinary linguistic behavior characteristically involves innovation, formation of new sentences and patterns in accordance with rules of great abstractness and intricacy" (Chomsky, 1966: 153 in Richards, 1998: 59). For him, linguistic theory is mentalistic. It is not just substituting members of the same grammatical class (see paragraph 2 of ALM, this substitution may also create ungrammatical sentence: * Oranges was crying under the tree). "Hence in the technical sense, linguistic theory is mentalistic, since it is concerned with discovering a mental reality underlying actual behavior" (Chomsky, 1965: 4). Further more, Chomsky argues that *performance* (the actual use of language in concrete situations) is reflection of speaker's *competence* (the speaker-hearer's knowledge of his language).

Chomsky argues that grammars of languages are composed of two major types of rules, *phrase structure rules* and *transformation.* The phrase structure rules explain that the words in a sentence group together in phrases but the rules are not sufficient to describe human language. Human language also requires transformation (Riemsdijk, 1986). Chomsky's transformational grammar proposed that the fundamental properties of language derive from innate aspects of the mind and from how humans process experience through language (Richards, 1998). In creating an interrogative sentence, for instance, human requires mental processes to transform a statement into an interrogative sentence.

In the analysis, Chomskyans do an effort to reveal the *deep structure* from an utterance (*surface structure)* and explain how it operates.

(1) What did Geo
(2) rge say? (Murcia, 1983)

```
                        S
                        |
                       NUC
            _____/|_____
          NP          AUX            VP
          |            |           _/ \_
          N            T          V      NP
                                          |
                                         Pro

       George        past       say   something + Q
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(S: sentence, NUC: nucleus, NP: Noun Phrase, AUX: auxiliary, VP: Verb Phrase, T: tense, Pro: pronoun, Q: question)

Output of base: George   past   say   something + Q

Wh-replacement: George   past   say   what

    In English there is a general condition on wh-questions which tells us that the wh-word must be moved to initial position – if it is not already in that position. Thus the next rule we apply to the derivation is wh-fronting.

Wh-fronting: What George past

    Another general condition on English wh-questions requires that we invert the subject and the first auxiliary if we moved a wh-word to initial position. Recall that the first tensed auxiliary verb, if there is one, also moves with the tense. Thus our next rule is subject/auxiliary inversion:

Subject/auxiliary inversion: What   past   George say

    Since there was no auxiliary verb present, the tense marker has been stranded without a verb to attach itself to, thus requiring the addition of DO:

DO support: What past DO George say

Now only the following rules are needed to derive this question:

Affix attachment (1X): what DO + past George say

Morphological rules: **What did George say?**

The above operation is a process of *transformational-generative.* The process explains how a wh-question (*surface structure) What did George say?* is formed from (*deep structure) George said something.*

Chomsky also proposed an alternative theory of language learning to that of the behaviorists. Different from behaviorism, which regard that language can be learnt through stimulus, response, and reinforcement, Chomsky argued that sentences are 'generated' from learner's competence.

Language, then, cannot be learnt through imitation but it is created anew from underlying knowledge of abstract rules (Richards, 1998).

The other critic was on the expected results. Practitioners found that learners got difficulties to transfer skills acquired through Audiolingualism to real communication. They also found that audiolingualism procedures were boring and unsatisfying (Richards, 1998).

CONCLUSION

Operant theory, which argued that a successful learning can be gained through carefully program of step-by step reinforcement and structuralists who believed that sentences were an arrangement of words or phrases and new sentence could have been formed by substituting members of the same grammatical class inspired the emergence of audio-lingual method. Those theories resulted language-learning classes, which taught second language through habit, the learners were drilled in order to master the language.

Chomsky who believes that language learning is not a matter of habit but it is creative process brought down the foundation of audio-lingual method. Chomsky argued that substitution members of the same grammatical class could create ungrammatical sentences.

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