

## Methodological Background in Teacher Discourse

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### Abstract

*This article aimed at investigating the relationship between teacher discourse and learners' achievement in higher education using teaching methodology. We found out that most teachers used action verbs which were related to concrete end of the taxonomy regardless of the students' level of proficiency and their cognitive state. The findings of this study made it clear that in observed classes: a) there was little congruency between teachers' discourse and students' proficiency level; b) teacher discourse was so limited cognitively and was incapable to target higher-level thinking processes which are placed in more abstract parts in Bloom's taxonomy; and c) higher-level thinking processes were to a great extent dependent on teachers' knowledge.*

**Keywords:** teacher discourse, teaching methodology, paradigm.

### 1. Introduction

Teachers' discourse and learner success are really interrelated domains (Brown, 2001). Teachers' discourse is a matter which has debated for a long time (Ellis, 2008). How teachers behave in the class, the methods they use, and many different procedures teachers use can help teachers to teach effectively and successfully. The corridor to the concept of teachers' discourse is a long way which has passed through different eras and has developed by many linguists and scientists till it nourished and shaped in the mid-20<sup>th</sup> Century. As a matter of fact, for a better comprehension of the concept of teachers' discourse, a brief historical path in teacher discourse will be examined till the mid-20<sup>th</sup> century and Cognitivism era.

Teaching and teacher discourse are indeed of the most dynamic processes in the history (Brown, 2007). Teaching is a multidisciplinary skill which requires knowledge of linguistics, cognition, and socio-affective factors that render the task a complicated issue. Celce-Murcia stated the idea of chaos-complexity theory through which she was trying to mention that each individual has his/her own way of learning a language and one cannot predict a specific route toward language learning but there is variety of ways to learning a second language (Brunner, 1968). Cognitive psychology has used this theory to justify investigation of individual differences to find out the idiosyncratic dialects or the approximative systems each learner utilizes to reach mastery of L2. Therefore, they believed that teacher discourse should be as varied as possible to target different needs of the learners. Each

century and recently each decade has named for a kind of teaching processes (Freire, 1970). The cause for the new methods are mostly has a definite reason: trying to cover up previous deficits and making more complete methods for teaching. There are many different theories about how children learn to talk and understand language, and many debates persist to this day. People have been trying to understand teacher discourse and its relation to learner success for over 2000 years (Hammond, 2001). Greek philosophers were the first pioneers of teaching theorist. Socrates (469 –399 B.C.), Plato (427 – 347 B.C.), and Aristotle (384 – 322 B.C). They were always trying to put different viewpoint about purposes of education, methods of learning and how to promote learning via empowering teacher discourse. As a matter of fact, teacher discourse was the main concerns of many of these philosophers.

The importance of thinking and thinking processes (which is argued by Bloom too) can be found out by taking this fact into consideration that many authors and thinkers up to now have discussed and elaborated on the importance of thought in teachers' interactions (Bloom, 1956). Bloom tried to show that thinking is the underlying feature of every human activity and believed that teaching is at the heart of and the pick human activities. Descartes mentioned that 'I think so I am'. Here thinking is equated with *being a human*.

Plato, as a rationalist, believed that knowledge and truth can be discovered by self-reflection. On the contrary Aristotle, the empiricist, used his senses to look for truth and knowledge in the world outside of him. From his

empirical base Aristotle developed a scientific method of gathering data to study the world around him. Socrates developed the dialectic method of discovering truth through conversations with fellow citizens (Monroe, 1925).

This dialectic method is now applicable to second language teaching and to discourse analysis. Vygotsky proposed the idea of Zone of Proximal Development (Vygotsky, 1962) and mentioned that each individual has particular hidden abilities which can be activated in a social interaction. It means that a child can perform tasks which is not able to do by alone. The point here is that through dialogue and a rich quality of discourse, it is possible to increase human potential and this is what many thinkers have endorsed (Bandler & Grinder, 1982; Oakes & Lipton, 1999).

Greek philosophers' thoughts were prominent in the following centuries. Rene Descartes (1596 – 1650) revived the Platonic concept of innate knowledge. Descartes believed that ideas existed within human beings prior to experience and that God was an example of an innate idea. He believed that mind was separate and free from the body. Descartes' first description of reflex action was influential in psychology for over 300 years. While these findings supported the work of behavioral psychologists seeking to understand the genesis of behaviors, his focus on the mind also supported the work of later cognitive scientists who sought to understand the thinking process itself. That is to say that reflection and thinking were emphasized in this period. In the next years John Locke (1632 - 1704) revived Aristotle's empiricism with the concept that the child's mind is a blank tablet (*tabula rasa*) that gets shaped and formed by his/her own experiences. He believed the mind becomes what it experiences from the outside world. Kant (1724 – 1804) refined and modernized Plato's rationalist theory and he believed the role of experience or *a priori* on learning. Kant was the first to recognize the cognitive processes of the mind, the idea that the mind was a part of the thinking process and capable of contributing to the thoughts that it developed (Hammond, 2001). Darwin's theory of evolution and the publication of Darwin's "Origin of Species" in 1859 is another important occurrence which helps constructing different theories of learning (French, 2004). It was Charles Darwin who said, "It's not the strongest species that survive, nor the most intelligent, but the most responsive to change".

The nineteenth century was the inception in scientific study of learning. Working from the thoughts of Descartes and Kant, and especially the influence of Charles Darwin, as stated in the previous paragraph direct psychologists for conducting objective tests to study how people learn, and to discover the best approach to teaching. In that time, most of the ideas of scholars traced back to Aristotle, whose essay "Memory" focused on association being made between events such as lightning and thunder. Other philosophers that followed

Aristotle's thoughts are Hobbs (1650), Hume (1740), Brown (1820), Bain (1855), Ebbinghouse (1885) (Black, 1995), Pavlov, Watson, Thorndike and Skinner.

Edward Thorndike (1874 – 1949) is considered by many to be the first modern education psychologist who sought to bring a scientific approach to the study of learning. Thorndike believed that learning was growing and that people learned through a trial-and- error approach. His behaviorist theories of learning did not consider that learning took place as a result of mental constructs. Instead, he described how mental connections are formed through positive responses to particular stimuli. For Thorndike, learning was based on an association between sense impressions and an impulse to action. Thorndike favored students' active learning and sought to structure the environment to ensure certain stimuli that would 'produce' learning (Brookfield, 1995; Hilgard & Bower, 1975).

## 2. Teaching Methodology Paradigms

### 2.1. Behaviorists

The father of modern behaviorism, B. F. Skinner (1904 – 1990), further extended Thorndike's Stimulus-Response learning theory. Skinner's responsibility was developing programmed learning which was based on his stimulus response research on rats and pigeons in experiments that provided positive reinforcement for "correct" responses. He considered learning to be the production of desired behaviors, and denied any influence of mental processes. Programmed learning gave proper reinforcement to the student, emphasized reward over punishment, moved the student by small steps through discrete skills and allowed the student to move at their own speed. Skinner believed that there are certain questions which have to be answered in turning to the study of any new organism. What behavior is to be set up? What reinforcers are at hand? What responses are available in embarking upon a program of progressive approximation that will lead to the final form of the behavior? How can reinforcements be most effectively scheduled to maintain the behavior in strength? These questions are all relevant in considering the problem of the child in the lower grades." (Hergenhahn, 1976; McMillan, 2004; Skinner, as cited in Hilgard, & Bower, 1975).

Structural or descriptive linguistics holds the point that languages are not similar to each other and refused the idea of UG, hence the idea of Contrastive Analysis (CA) came into vogue (p. 9). CA means the comparison of the linguistic systems of two languages, for instance the sound system or the grammatical system in order to determine which areas in first language cause interference in the process of second language learning (Richards & Schmidt, 2002).

Behaviorism flourished primarily in the US and this cognitive revolution in psychology re-opened

communication with some distinguished psychologists abroad. In Cambridge, UK, Sir Frederic Bartlett's work on memory and thinking had remained unaffected by behaviorism. In Geneva, Jean Piaget's insights into the minds of children had inspired a small army of followers. And in Moscow, A.R. Luria was one of the first to see the brain and mind as a whole. None of these three spent time at the Center but we knew their work well. Whenever we doubted ourselves we thought of such people and took courage from their accomplishments (Miller, 2003).

Behaviorist learning theory became influential and had substantial influence on learning and education. It has proved useful for the development of some types of skills – especially those that can be learned substantially by rote through reinforcement and practice. Behaviorists believed that mental events are not observable and focused on observable behaviors. However, evidence has accrued that tasks requiring more complex thinking and higher mental processes are not generally well-learned through behaviorist methods and require more attention to how people perceive, process, and make sense of what they are experiencing (Hammond, 2001).

Behaviorist's shortcomings soon became clear. It's neglecting of the mental processes and applying rote learning through practice and reinforcement, and establishing factual evidence about the process and mechanics of learning placed the researcher in the position of observer, measurer and analyst, standing back from the subject under investigation to look for general patterns of behavior (Stewart, 2004). Behaviorists' view of mind as a blank template which comes from Aristotle's empiricism views soon have questioned by some scholar and these denial of behaviorism led to the new stages in the branch of psychology and methodology which afterward became known as "Cognitive Revolution".

## 2.2. Innatists (Chomsky)

One of the scholars which questioned the ideas of behaviorism was Noam Chomsky. In 1959, two years after publishing "Verbal Behavior" by Skinner (which was based on a theoretical analysis of how environmental events and conditions could explain language acquisition and usage) Noam Chomsky published a highly critical review that emphasized "the poverty of the stimulus", the gap between the linguistic environments that a child is exposed to and the linguistic ability they acquire.

Chomsky believed Children show an incredibly rapid acquisition of words throughout their early years, with the ability to construct grammatical sentences appearing at about age 4. Once grammar has been acquired children quickly develop the capacity to produce highly novel sentences; that is, sentences that they have not heard before, and hence which have not been subject to reinforcement (Chomsky, 1959). He states "children are born with a Language Acquisition Device (LAD) that allows

them to infer the grammatical rules of their linguistic environment and which limits the number of grammatical constructions that are permissible". Chomsky remarked, defining psychology as the science of behavior was like defining physics as the science of meter reading. Therefore in the mid-1950 decade Chomsky brought back mentalism and mentalistic views again in the foreground.

One of Noam Chomsky's great contributions in the study of language is the poverty of stimulus argument. This argument demonstrates that kids are not given enough language samples for them to have the level of language acquisition they show. This argument is the main justification for debating that language is innate. For instance, if a child wants to express that he drank a cup of water, he might say that he "drinked" a cup of water instead. Language acquisition device (LAD) includes of four innate linguistic features: a) the ability to distinguish speech sounds, b) the ability to organize linguistic data, c) knowledge of linguistic system, and d) the ability to evaluate the developing linguistic system. Knowledge of register is more to do with social properties of language (Brown, 2007, p. 28).

He also elaborated that if kids didn't have the innate ability to process language, they would formulate the simplest and most natural response when changing a sentence's meaning. There is no way that somebody taught him that sentence before, because it is grammatically not a correct sentence. In English we do add *-ed* for the past tense and *-s* for plurals. However, we have exceptions to that rule, called irregular verbs or nouns. When children make this type of grammatical error they are showing that they have learned a pattern, but they are applying it to words that don't follow that pattern. This process of acting as if irregular words follow the regular rules is called *over-regularization*. Children are creating these words from their own understanding of grammar, and Chomsky believes that the basic principles of grammar are innate. Children are processing it in their minds and creating a past tense that made sense to them. They do not have enough information from exposure to the language to make that mistake.

So Chomsky believes that there are basic language principles that are hardwired in the brain, similar to the basic principles that underlie the operation of the hard drive of your computer. Just as your computer's hard drive can run many different types of software, the language structures in your brain can process the specific characteristics of many different languages.

The efforts Chomsky has made and the critical views he provided scientifically and theoretically like LAD (Language Acquisition Device) and Innateness Hypothesis paved the way for changing direction toward developing theories of mind based on complex representations and computational procedures.

## 2.3. Cognitivists

Up to now, there have been many approaches and

methods toward analysis of second/foreign language learning and each of them has expanded and improved the previous sessions while keeping some good points of previous paradigms. Among the first and earliest theories of SLA, one can refer to grammar translation method as a framework to exercise the mind. GTM advocates argued that by doing hard works one can improve his/her mental power and language was a useful tool in this case. Faculty psychology has this aim in particular. Language was a tool to provide mental gymnastics. Though there are some similarities between GTM and other new versions of paradigms in SLA, the underlying rationale behind GTM was attacked by other new paradigms. GTM was not able to take account for many unresolved issues in language learning such as the creativity of language and the communicative ability of learners.

Experimentalism and behavioral psychology were the successors of GTM who tries to approach language learning dilemma from a different perspective. They argued for a stimulus-response relationship and a cause-and-effect relationship among the observable phenomena. Therefore, any attempt to relate language learning to mind and other hidden aspects were severely unacceptable. Language learning was believed to be like many other learning such as learning to type fast which requires practice and automatization. By automatization it means that no rule for cognition and mind but there should be a process by which reinforcement take place and learning will be shaped. Description of a phenomenon was the role of most practitioners in behaviorism (Ausubel, 1964). A learner was to describe how he worked effectively under pressure or how to handle a challenge? Errors were to be avoided by all means since making errors was a way toward fossilization of linguistic impairments. Cognitive psychologists believed that fossilization has a pessimistic view toward language learning and they proposed stabilization to take account for cognitive development and variability in learner interlanguage or learner language.

Cognitive psychology, as a successor of behaviorism, put emphasis on underlying processes of mind and the formation of hypothesis within the mind of learners (Moon, 2008). The rationale behind cognitive paradigm is that one cannot learn a language by repetition or by rote memorization but there should be a process of long-term learning by establishing a relationship between previous knowledge and newly learned information. Cognitive pruning takes place in this situation. By the advent of cognitive theories to SLA, the concept of individual differences came to vogue which advocated the variability within each learner due to his/her different cognitive abilities. Therefore, in this era, thinking processes gained importance and many researchers tried to find out and measure this underlying thinking.

As it is mentioned by Piaget and neo-Piagetian scholars, child development take place in a sequence of stages or levels. The first and earlier stage which extends from 18 months to 7 years of age (Muñoz, 2007) is referred to as “concrete operations” which is divided into preconceptual and intuitive thinking (Piaget, 1970). According to developmental cognitive point of view, during the concrete operational period, learners are self-conscious and as a result, critical self-evaluations enhance which are likely to reduce self-esteem (Muñoz, 2007). Thus, children are sensitive to the environment and they may get upset or irritated when their sense of self-esteem is at danger. Less-proficient learners are generally exposed to destructive affective feedback from the teacher which may have negative effects on their self-esteem and their cognitive processes. In some studies, children cognitive characteristics were analyzed and six major levels were found. The most common features are: *classroom participation, learnability aspects, interfering factors, practicing, facilitative factors, and managing input.*

Ferdinand de Saussure (1916) claimed that there was a difference between parole and langue. *Langue* is the underlying system or competence but *parole* is the speech or what Chomsky called performance. Descriptive linguists chose largely to ignore langue and to study parole. Therefore, parole is NOT a domain of inquiry in generative-transformational theory (Brown, 2007, p. 11).

## Conclusion

The planned discourse implies less automaticity, and therefore requires the learner to call upon a certain category of learner language rules, while the unplanned discourse, more automatic production, predisposes the learner to dip into another set of rules. Therefore, teachers should use more planned discourse to educate students.

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