REVIEW ARTICLE

UNDERSTANDING CONCEPTS OF ACQUISITION OF ENGLISH AS A SECOND LANGUAGE

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INTRODUCTION

Education in English language arts borrows its theories from a range of disciplines and numerous theorists. These theories can be mainly classified into three groups on the basis of three prominent views - the behaviourist view, the innatist view and the interactionist view This section analyses these three views. The behaviourist view of language acquisition is simplistic and general. According to this view, language learning, like other kinds of learning, occurs as a result of the environment shaping an individual with a given 1Q. They hold that an individual is reinforced positively or negatively for responses to various stimuli. One can make sure that behaviour will recur by administering positive reinforcement, when a desired behaviour occurs and by administering negative reinforcement when an undesired behaviour occurs. This view of language learning maintains that when a child grows older, reinforcement becomes progressively more contingent on how nearly the child's language matches the adults.

At a glance this view is very persuasive. Over the past several decades, scholars have given richer insights into the complexity and creativity of human language, the language learner and the processes of language acquisition. These insights have raised crucial questions that the behaviourist view finds difficult to answer. It is difficult for this view to account for the uniformity of language acquisition throughout the human species. The behaviourist's heavy reliance on stimulus-response reinforcement learning poses serious problems. In the natural communicative interaction that forms the basis for the child's language learning, he is very rarely reinforced positively or negatively for the forms he uses. It is difficult to accept the behaviourist notion of general intelligence capacity as the only mental ability accountable for language acquisition, at early stage in children's lives, during which they acquire so much of a complex linguistic system (Lindfors, 1991, Mukulel, 1998) The inability of the behaviourist view of language acquisition in answering certain crucial questions is very clear from the above observation

THE INNATIST VIEW

Partly in response to the apparent inadequacies in the behaviourist view, the innatist view of language acquisition gained ground. It gives increased importance to innate factors in language acquisition. The earliest spokesman for the innatist view was Noam Chomsky, who asserted that humans have a special innate capacity for human language called Language Acquisition Device (LAD). He maintained that every child is born with universals of linguistic structure or "universal grammar'[1]. Chomsky (1957) argued that the special innate capacity was the content; that is, a body of unconscious knowledge of language universals. When a child was exposed to the language of his community, this "language acquisition device" would be triggered and child becomes a speaker of that language. But accumulating data from direct and intensive observation of children learning language suggests an active, figuring out child than a triggered language acquisition device. The special capacity of children may be special processing abilities for figuring out how language works. This strong version of the nnatist position received support from biologically based research relating to language •development. Lenneberg (1964) drew attention to some important ways in which anguage acquisition is more akin to genetically determined skills (such as walking) than to culturally transmitted ones, which are the results of training His work links language acquisition to biological maturation. According to him, humans have a specific predisposition for language acquisition and exposure in the environment is a necessary condition for language acquisition. Our species is specifically adopted to produce and process sequences of distinct speech sounds, both automatically and neurologically Biological evidence strongly supports the notion of an innate capacity for language in human being.

Behaviourist and innatist views of language acquisition focus on cognitive aspects of the learner and his language learning activity The innatist view especially, in its process version, sees the language-learning child as a cognitive activist. The role of environment is seen as shaping language learning through the reinforcement of selected responses, as "triggering" the child's language acquisition device or as providing data from which the child can discern

underlying rules. The child is indeed a cognitive being, making sense out of his/her world, including the world of language, But the child is also a social being and learning of language reflects and uses his/her social self

THE INTERACTIONIST VIEW

Observations of children's language in natural setting, have forced to locate language acquisition within a social framework. The interactionist view brings into sharper focus the social nature of the learning of the language (Lindfors, 1991, pp.565-Piaget <1973) was concerned with general questions about the nature of knowledge and of human intellectual development His theories are linked with language education programmes involving process or activity rather than product of content According to Piaget, human beings progress through a series of fixed stages at variable ratio. As we grow we both assimilate (incorporate new information within an existing framework) and accommodate (adapt our behaviour to the environment). Piaget concedes that language becomes increasingly important as intelligence develops, but he does not view language as the source of thought Vygotsky (1978) paid tribute to Piaget, but differed from him in two ways. First, he had a great interest in interrelationship between instruction and development, He viewed learning as a cooperation between adult and child. Second, his focus was on child egocentricity. Vygotsky considered speech as communication and as a social event. To him "Meaning is socially constructed, hence learning and cognitive development are affected by the interactions that an individual has with another"(p.97). Vygotsky's notion is captured in terms like "collaboration[11], "collective activity" and "cooperation". He identifies a "zone of proximal development"(ZPD), which is the potential of the individual to learn. It is the point at which the child can solve problems in collaboration with others. Interaction then becomes crucial by providing the child with the assistance he needs. "Learning awakens a variety of internal development processes that are able to operate only when the child is interacting with people in his environment and in cooperation with his peers" (Vygotsky, 1978, p. I 11). Interaction supports children's sense making by (a) providing an encounter with a new idea or observation, (b) providing cognitive conflict, and (c) providing assistance or support Vygotsky (1978) claims, "Internal speech and reflective thought arise from the interactions between the child and persons in her environment" (p 134) He emphasises "Scaffolding interaction".

The study of children learning language in different contexts and setting provides us with some assumptions about language acquisition. They are as follows: (a) the child is the active party in the learning process. The child, as a member of the human species, is well endowed for learning human language; (b) the child is a cognitive being and the language learning involves active sense making, that is, the building of a deep level system relating expression and prepositional meaning; (c) the child is a social being and his/her learning involves his/her active observation of and participations in interaction with others, from which experience he constructs a system relating expression and social meaning; and (d) the environment in which language is learned is purposeful. The child encounters language in use for various purposes and in various specific contexts (Lindfors, 1991).

In this study the researcher adopts an eclectic view of language learning, which incorporates innatist and interactionist approaches The interactive approach model utilized in this study is based on the cognitive information processing view of human thought and action that considers the learner as an active cognitive being involved in active sense making with his environment through various strategies. The strategies are cognitive skills that can be made use of by the learner so as to promote interaction between his/her cognition and learning material.

COGNITIVE THEORY OF SECOND LANGUAGE LEARNING THEORETICAL BACKGROUND

In this section, the theoretical background in second language acquisition is developed The theoretical efforts attempt to describe language proficiency and the influence of cognition on second language acquisition.

Cummins (1984) describes language proficiency in terms of two continua - task difficulties and the context in which language occurs. Difficulty may vary from cognitively undemanding tasks to cognitively demanding tasks. The context for language use may vary from contents that are embedded or enriched with linguistic or paralinguistic cues for meaning to contexts that are reduced or absent of such cues to meaning. Academic tasks tend to be cognitively demanding and tasks outside classroom are often cognitively undemanding. The task difficulty dimension based on the cognitive demands of the task has not been used by Cummins to describe the potential role of cognitive processes in enhancing learning.

Tikunoff (1985) in a model, which describes student's functional proficiency in academic settings, extended the fundamental context of language competence expressed by Cummins. He added three intersecting concepts: interactional, academic and participative competence. For example, successful participation in a classroom setting requires that a student: (a) observe classroom social rules of discourse, (b) function at increasingly complex cognitive levels and (c) be competent in the procedural rules of the class. He failed to elaborate the role of cognitive process in enhancing student comprehension or learning.

Canale and Swain (1980) proposed a theoretical framework in which communicative competence has three major components: grammatical competence, sociolinguistic competence and strategic competence. In this model, the strategic component refers to the communication strategies, which can be differentiated from learning strategies by the intent of the strategy use

Studies have assisted in identifying the role of cognition in second language acquisition. Bialystok (1978), identified four categories of learning strategies in her model of second language learning: inferencing, monitoring, formal practicing and functional practicing. In this model, learning strategies are defined as "optimal means for exploiting available information to improve competence in a second language"(p.69). A type of strategy used by the learner depends on the type of knowledge required for a given task He discussed three types of knowledge: explicit linguistic knowledge, implicit linguistic knowledge and general knowledge of the world Bialystok's model can be contrasted to Krashen's Monitor Model (1982), which includes two types of knowledge processes: "acquisition" and "learning", Krashen describes "acquisition" as occurring in spontaneous language contexts, subconscious, and leading to conversational fluency. Learning" is equated with conscious knowledge of the rules of language derived from formal and traditional instruction in grammar. The "Monitor" is a highly deliberate and conscious process in which the learner applies grammatical rules to language production. In Krashen's view, "learning" does not lead to "acquisition", because the only function of learning is to act as a monitor or editor of the learner's output. So the conclusion of this model is that conscious use of learning strategies will make little contribution to the development of language competence.

Fillmore and Swain (1984) integrated linguistics with affective and cognitive components of learning. Learning strategies and cognitive processes were said to be the principal influences on the rate and level of second language acquisition. But the role that the strategies claim with regard to mental processes in second language learning was not identified.

McLaughlin, Rossman and McLeod (1983) suggested a more cognitive view of second language acquisition. The learner is viewed as an active organiser of incoming information, with processing limitations and capabilities. Motivation is considered as an important element in language learning and the learner's cognitive system is central to prccessing. The learner is able to store and retrieve information depending on the degree to which the information was processed One implication of information processing for second language acquisition is that learners actively impose cognitive schemata on incoming data in order to organise the information The learners may achieve

automaticity in second language acquisition by using either a top-down approach (knowledge-governed system), which makes use of internal schemata, or a bottom-up approach (an input-governed system), which makes use of external input In either case, cognition is involved, but the degree of cognitive involvement is set by the interaction between the task, the knowledge and the mental processes undertaken by the learner.

Spolsky (1985) proposed a model of second language acquisition based on preference rules in which cognitive processes play an important role. In his view, three types of condition apply to second language leaning: necessary conditions, gradient conditions and typicality conditions Spolsky's model of second language acquisition :ontains two clusters of interrelated conditions representing these three types of conditions The first cluster contains social context conditions, such as the learning setting and opportunities. The second cluster consists of learner factors such as capability, prior knowledge and motivation, The learner makes use of these latter conditions to interact with the social context of learning and it leads to the amount of language learning that takes place. In Spolsky's model, learning strategies would be part of the capabilities and prior learning experiences that the learner brings to the task.

A precise role of strategic processing in second language acquisition is missing fiom these theories of second language acquisition, The manner in which the influence of cognitive processes is exerted with respect to other mental processes or with respect to language tasks; is not described by these theories.

LANGUAGE AS A COGNITIVE SKILL

Second language acquisition is better understood with a description of the interaction between language and cognition. The theory described in this section is based on a cognitive information processing view of human thought and action and this **theory'** forms the basis of this study. In cognitive theory, individuals are said to process information, and thoughts involved in this cognitive activity are referred to as "mental processes" Learning strategies are special ways of processing information that snhance comprehension and learning. The theory used here describes how second 'anguages are learned and what role learning strategies play in the language acquisition process

Anderson (1983, 1985) has described cognitive skill acquisition as a "three- stage process" This framework is useful in the current context as it helps to identify and test the existence and applicability of specific learning strategies that are appropriate at various stages in the skill acquisition process

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Anderson distinguishes between what "we know about" or static information in memory and what we know ' how to do" or "dynamic" information in memory. All the things we know about constitute declarative knowledge, and the things we know how to do are procedural knowledge Declarative knowledge is maintained in long-term memory in terms of meaning or propositional representation Our ability to understand and generate language or to apply our knowledge of rules to solve a problem would be examples of procedural knowledge. Declarative knowledge or factual information may be acquired quickly; procedural knowledge such as language acquisition is acquired gradually and only with extensive opportunities for practice.

STAGES OF SKILL ACQUISITION

Anderson (1983) described three stages of skill acquisition; the cognitive, associative and autonomous stages. These are the stages through which one proceeds from the rule-bound declarative knowledge used in performance of a complex scale to the more automatic proceduralised stage. During the cognitive stage, the learners are instructed how to do the task and it involves conscious activity on the part of the learner. The acquired knowledge at this stage is typically declarative and can be described verbally by the learner. During the second stage the errors in the original declaiative representation of the stored information are gradually detected and eliminated. The connections among the various elements or components of the skill are strengthened at this stage Though one becomes a fluent speaker, one remembers the mles of grammar. During the autonomous stage the performance becomes increasingly fine-tuned, automatic and errors disappear. There is much less demand on working memory or consciouThis three-stage theory of skill acquisition assumes that individuals will learn the rules underlying performance of a complex skill as a precursor to competent and automatic skill execution. This process of skill acquisition is referred to as knowledge compilation and contains two basic components: proceduralization and composition (Gagne, 1985). In proceduralization, the learner generates a propositional representation of a sequence of actions and converts this propositional representation into production systems. Composition consists of combining several productions that have already become automatic into a single production and serves to overcome the limitations of short-term memory. Two other important aspects of this theory are "controlled" and "automatic processes". Cognitive task may be conceived of as involving controlled processes, which require the attention of the learner, and automatic processes that do not require the attention of the learner. A complex skill can be performed without conscious efforts if it is processed automatically. There are three basic difficulties with Anderson's description of the stage wise acquisition of complex cogn tive skills - the rule bound nature of learning, the insistence of a unitary process of learning

complex cognitive skills and the possibility of inefficient system of instruction.

LANGUAGE COMPREHENSION

In cognitive theory language comprehension is viewed as consisting of active and complex processes in which individual constructs meaning from aural or written information. Anderson (1983) differentiates comprehension into three interrelated processes: perceptual processing, parsing and utilization. Comprehension is an active instructive prDcess that applies equally to listening or to reading. At each of the stages, complex processing and strategic analysis take place and it assists the individual in detecting or inferring meanings and in relating the information to existing knowledge. The various ways in which the existing knowledge is stored, whether as real world knowledge or linguistic knowledge, will be used to interpret text meaning. When individuals rely upon meaning based representations of real world schematic knowledge to analyse and predict the content of text, they are using top-down processing, and while they use or rely upon individual word meanings or grammatical characteristics, they are using bottom-up processing, Cognitive theories suggest that effective processing of text requires the use of both top-down and bottom-up processing (Howard, 1985).

LANGUAGE PRODUCTION

In cognitive theory language production is seen as an active process of meaning, instruction and expression. Anderson (1985) indicates that language production can be divided into three stages. They are construction (selects communication goals and identifies appropriate meanings), transformation (language rules are applied to transfoim intended meanings) into the form of the message and execution (the message is expressed in its audible or observable form), These three stages can be recursive c.fter the initial communication goal is established.

In construction, an individual decides what to say This decision is based on the Loals the speaker or writer has for language production. In transformation, the second stage of language production, the speaker or writer converts the information into nieaniiu-ful sentences. During the execution stage these mental representation will be v/ritten Jown In sum, cognitive theory views language generation as an active and meaning based process that applies to both speaking and writing. The generation process consists of three stages analogous to the stages of language comprehension, but with important differences Both cognitive and second language theorists indicate that language producers move back and forth between the planning or construction stage and articulation or transformation stage as

they actively develop the meaning they wish to express through speech or writing.

The cognitive theory gives a descriptive view of language comprehension and production. The theory indicates that comprehension of both oral and written text is an active and constructive process. Language production is also seen as involving selection and organizational processes to express meaning.

SCHEMA THEORY

Anderson's cognitive theory was relied on, for discussing second language acquisition as a complex cognitive skill. But it was found necessary to augment portions of the theory with newer concepts of memory processes expressed by Rumelhart (1980) in his schema theory He described schemata as the building blocks of cognition and emphasized that within each schema are elaborated networks of interconnected ideas Schemata have three major characteristics. First, each is composed of variables whose content is determined by the person's past experience. Second, each schema is typically embedded within another larger schema and in a similar way has other schemata embedded in it. Third, schema and information within each schema vary in degree of abstraction. This characteristic has special meaning for both teaching and learning The emphasis the teacher places on the level of the schema influences student learning behaviours.

There are two types of schemata, namely the descriptive schemata that help us organize our knowledge about a body of knowledge and the procedural schemata that guide our actions and help us perform in an effective manner. Procedural schemata are especially important in the areas of problem solving and skill learning, where the particular schema determines the actions of the problem solver. Two other related characteristics of schemata are that schemata are active processes and are constantly being re-evaluated in terms of their fit and utility. The process of learning can be thought of as the development of schemata that allow individuals to understand and function in their world.

When the learner encounters new information, three qualitatively different modes of learning occur, accretion, tuning and restructuring. Accretion is the simplest jf this process and involves the incorporation of new facts or instances to an existing schema. Tuning involves modification of a schema to accommodate new information. Restructuring involves the creation of new schemata to make sense of situations that cannot be interpreted with existing schemata, even after some tuning Meaningful learning occurs when the ideas in a new schema are connected not only to each other but also to previously established schemata in a logical manner. The major

task facing the teacher is encouraging and requiring students to actively think about the new material to be learned, and helping them to find relationships not only within the new content itself, but also with content previously learned.

Accretion seems characteristic of Anderson's cognitive stage of learning and applies more to declarative than to procedural knowledge. Tuning is parallel to Anderson's shift from the associative to the autonomous stage or proceduralisation. Restructuring can be represented in Anderson's theory as one of the processes involved in acquiring or transferring declarative knowledge.

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