An Exploration of Language Learning Theories from Linguistic and Psychological: Focusing on Universal Grammar and Interactionist Theory

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Abstract: This paper explores language learning theories from linguistic and psychological perspectives, with a focus on Universal Grammar (UG) and Interactionist Theory. It elaborates on their core constructs: UG involves innate principles and adjustable parameters, while Interactionist Theory centers on input, output, interaction, recast, and attention. The study also analyzes their pedagogical implications, such as proper use of mother tongue and authentic context setting for UG, and modified input and meaning negotiation for Interactionist Theory, along with practical applications. It aims to provide comprehensive insights to optimize foreign language teaching methodologies.

Keywords: language learning theory, Universal Grammar, Interactionist Theory.

1. Introduction

Language learning theory serves as the foundational discipline for delving into the essence and dynamics of how humans acquire language, encompassing diverse viewpoints. It sheds light on pivotal elements influencing language learning, including environmental cues, cognitive elaboration, and sociocultural dynamics, thereby offering invaluable directives for foreign language teaching methodologies[1]. The theory underscores the significance of individual variability, interactive exchanges, and the depth and breadth of language exposure, fostering autonomy in learning and nurturing cross-cultural communication abilities. As research progresses, the theory of language learning has flourished, introducing fresh perspectives and avenues to language pedagogy. This paper delves into language learning theory from linguistic and psychological angles, selecting a representative theory from each domain for elaboration.

2. Linguistic perspective

The linguistic perspective sees language learning as learning linguistic knowledge. The main aim of linguistic theory is twofold: first, to characterize what human languages are like (descriptive adequacy), and second, to explain why they are that way (explanatory adequacy). Its aims are to describe the language produced by second language learners, and to explain why the language they produce is the way it is.

From a linguistic standpoint, learning theories often encompass Universal Grammar, Autonomous Induction Theory, and the Concept-Oriented Approach.[1] Both Universal Grammar and Autonomous Induction Theory primarily concentrate on the inherent linguistic mechanisms at play. They can potentially serve as a foundation for organizing grammatical structures within a curriculum tailored to individual learners. Researchers adhering to Universal Grammar emphasize the linguistic dimension of second language learning (SLL), viewing language as a discrete mental module, separate from other cognitive faculties. Meanwhile, the Concept-Oriented Approach directs attention towards the linguistic mechanisms that forge connections between form and meaning, potentially underpinning the sequencing of form-function mappings in personalized learning contexts.

I will explain Universal Grammar in detail and its application in foreign language learning.

2.1 Universal Grammar Theory

2.1.1 Introduction to Universal Grammar

Universal Grammar(UG) was proposed by American linguist Noam Chomsky. And it was proposed in the context of the intersection of multiple fields including linguistics, philosophy, and natural sciences. It refers to a unique language knowledge system that exists in the human brain.[2]

There are three basic hypotheses: Innateness Hypothesis, Language acquisition device and Universal Grammar. And Universal Grammar inherits and develops the first two hypotheses.

The characteristic of UG :The basic grammar laws are the same for all languages, and people have already acquired the basic structure of language and a set of universal language principles and parameters at birth.[3]

The goals of Universal Grammar are to answer these three questions: ①What constitutes knowledge of human language? ②How is knowledge of language acquired by children? ③How is knowledge of language put to use in communication?

The importance of universal grammar in second language acquisition is reflected in these three aspects:①It provides a theoretical framework for understanding second language acquisition;②It helps to reveal the commonalities and differences in second language acquisition; ③It also provides predictions on the difficulty and order of second language acquisition.

2.1.2 Constructs

The theory suggests that linguistic ability manifests itself without being taught, and that there are properties that all natural human languages share. It is a matter of observation and experimentation to determine precisely what abilities are innate and what properties are shared by all languages.Universal Grammar (UG) approach claims that there is a universal set of principles and parameters that control the shape of human language. Principles are structural features that are common to all natural languages; hence, they are part of the child's native endowment.

Construct one: Principles and Parameters Theory. This theory holds that universal grammar consists of a fixed set of principles and variable parameters. Principles are common to all languages, while parameters can vary from language to language[3]. For example, subject-verb agreement is a principle, and whether the subject must appear at the beginning of the sentence is a parameter.

Construct two: Principles. These are grammatical rules that are universal in all human languages, such as the subject-predicate agreement principle, the case marking principle, and so on.

Construct three: Parameters. Parameters are variables that can be set to different values in different languages[3]. For example, some languages require that the subject of a sentence must appear at the beginning of the sentence, while others allow the subject to be in a different position in the sentence. By being exposed to linguistic input, children gradually adjust these parameters to match the language they are learning.

2.1.3 Pedagogical implication

For teaching strategies: Proper use of mother tongue in classroom teaching. According to Chomsky's UG, all languages are alike in respect to principle. Mother tongue can be applied as the highly valued resources and proper L1 assistance in FLT is pivotal especially for those learners who just step into the path of foreign language learning as well as for the contents to meet particular teaching aims. Furthermore, setting-providing in FLT: As Chomsky put, the principles consisting of UG are innate, predetermined and genetic make-up.[4] Therefore, during the whole teaching process, properly setting the authentic context is an indispensable and effective way for learners to learn the language.

For learning strategies: Denying the stimulus-response learning model by behaviorism in FLT. UG attaches much importance to learners'initiative being opposed to the mechanical imitation endorsed by behaviorism in language learning. In this regard, UG projects considerable influence on current FLT for its prominence on learners'own cognition and creation.

2.1.4 Application of learning strategies

Practical case:Suppose a native Chinese speaker is learning English:

Subject-verb agreement: There is no obvious rule of subject-verb agreement in Chinese, but subject-verb agreement is very important in English. Through UG theory, teachers can explain to students why subject-verb agreement is needed in

English and provide plenty of example sentences to help students understand this. For example, students of "The cat runs." and "The cats run." can understand subject-verb agreement in English by analogy with the concept of plural in Chinese.

Sentence structure: English tends to use the subject-predicate-object (SVO) structure, while Chinese sometimes uses the subject-object-predicate (SOV) structure. Teachers can help students understand sentence structure rules in English by comparing sentence structure in two languages. For example, "I saw him." (Chinese: I he saw) and the English "I saw him."

3. Psychological perspective

From psychological perspective, language learning is regarded as a cognitive skill.

Psychological researchers put more emphasis on the learning component of second language learning, that is, they are interested in transition theories. They view SLL as just one instantiation of learning among many others, and they believe that we can understand the second language acquisition process better by first understanding how the human brain processes and learns new information.[5] The focus here is still very much on the learner as an individual, but unlike Universal Grammar theorists who draw their hypotheses from the study of linguistic systems, the hypotheses they are investigating come from the field of cognitive psychology and neurology, and from what we know about the acquisition of complex procedural skills in general. Psychological perspective usually contains three important theories. Processability Theory focuses on the psycholinguistic processes for comprehension and production, and it may provide a basis for sequencing the teaching of grammatical structures in individualized learning. Input Processing Theory focuses on the psycholinguistic mechanisms for making and learning form-meaning mappings, and it provides a basis for suggesting the format of instructional materials to draw learners' attention to target form-meaning mappings. Interactionist Theory focuses on the psycholinguistic processes for language learning through noticing language during meaning-oriented tasks, and it provides a basis for suggesting meaning-oriented activities that engage learners' attention to form. I will choose Interactionist Theory to introduce here.

3.1 Interactionist Theory

3.1.1 Introduction

Interaction, simply put, refers to the conversations that learners participate in. Interactions are important because it is in this context that learners receive information about the correctness and, more important, about the incorrectness of their utterances.[6]

The Interaction Hypothesis,proposed by Professor Michael Long as an extention of Krashen's original Input Hypothesis,is a type of theory claiming that one of most effective methods of learning a new language is through personal and direct interaction.

This theory is applied specifically to the acquisition of a foreign or a second language. It accounts for learning through input (exposure to language), production of language (output), and feedback that comes as a result of interaction.[6] The Interaction Hypothesis includes elements of a hypothesis (an idea that needs to be tested about a single phenomenon), elements of a model (a description of processes or a set of processes of a phenomenon), as well as elements of a theory (a set of statements about natural phenomena that explains why these phenomena occur the way they do).

Interactionist usually refers to a theory or viewpoint that language learning is achieved through interaction and engagement with others.

Interactionist learning theory emphasizes the joint contributions of the linguistic environment and the learner's internal mechanisms in language development.[6] Learning results from an interaction between the learner's mental abilities and the linguistic input. The interactionist research focuses directly on the role of environmental language in promoting SL, in the shape of second language input received by the language learner, second language output produced by the learner, second language interaction between the learner and some other conversational partner.

3.1.2 Constructs

Its core constructs include: input, output, interaction, recast, attention.

Input ≠ Intake. Input is the language that a learner is exposed to. Corder offered the definition of input which refers to what is available to the learner. According to Corder, intake refers to what is actually internalized by the learner. Intake is defined as the linguistic data actually processed from the input and held in working memory for further processing.[7] The

input can be converted into intake after certain processing. As such, IP attempts to explain how learners get form from input and how they parse sentences during the act of comprehension while their primary attention is one meaning. Input can be divided into three categories: baseline input, premodified input and interactionally modified input. Baseline input: the kind of input native speakers hears when listening to other native speakers. Premodified input: premodified input is the input that has been modified, or simplified, in some way before the learner sees or hears it. Interactionally modified input: input that has been modified as a result of meaning negotiation.[7]

Output refers to the language that learners produce during communicative interactions or for the purpose of expressing a message.[8] Swain's observations about the importance of output emerged from her research that took place in the context of immersion programs in Canada. Swain observed that children who had spent years in immersion programs still had a level of competence in the L2 that fell significantly short of native-like abilities. She hypothesized that what was lacking was sufficient opportunities for language use.

Interaction refers to exchanges in which there is some indication that an utterance has not been entirely understood[8]. Interactions are important because it is in this context that learners receive information about the correctness and, more important, about the incorrectness of their utterances. (Gass) Interaction involves a number of components including negotiation, recasts, and feedback. (Gass) Negotiation for meaning can be divided into three categories: Confirmation Checks, Comprehension Checks and Clarification Requests.

Recast refers to the utterances that rephrase a learner's utterance"by changing one or more sentence components (subject, verb or object) while still referring to its central meanings. Attention is believed to be one of the mechanisms that mediates between input and learning. It is widely agreed that L2 learners are exposed to more input than they can process, and that some mechanism is needed to help learners "sort through" the massive amounts of input they receive. As Gass, Svetics, and Lemelin explain, "language processing is like other kinds of processing: Humans are constantly exposed to and often overwhelmed by various sorts of external stimuli and are able to, through attentional devices, "tune in" some stimuli and "tune out" others".[8]

Attention, broadly conceptualized, may be regarded as the mechanism that allows learners to "tune in" to a portion of the input they receive. Schmidt claims that learning cannot take place without awareness, since the learner has to be aware of linguistic input in order for it to be internalized, implying that awareness and learning cannot be separated. Long's characterizations of the interaction hypothesis argues that interaction 'connects input, internal learner capacities, particularly selective attention and output in productive ways' .[8]

3.1.3 Pedagogical Implications

Implication 1 covers two aspects of modified input: premodified input and interactive correction of language input. For premodified input: ①When providing audio-visual materials, teachers should choose those slightly above students' current level, avoiding overly difficult or easy ones; intensive reading materials and teaching content should progress from easy to difficult. ②Extensive reading materials need authenticity, universality, knowledge, understandability, relevance to intensive reading materials, and should foster students' interest.[8] For interactive correction: ①Teachers should strengthen interaction, adjusting language based on student feedback to ensure comprehensibility. ②Speak slower for lower-grade students to aid understanding.

Implication 2: Negotiation for meaning

In the interaction between teachers and students in Chinese foreign language classroom, it should be a process of meaning negotiation rather than a simple way of asking and answering.

Implication 3: Feedback

Teachers should choose appropriate feedback strategies according to students'cognitive level and error types. Specific examples are as follows:

Table 3-1 Examples of the feedback strategies

Feedback strategies	Characteristics	Examples
explicit correction	Point out the students' language errors directly and tell them the correct form.	S: I made some salads last night. T: Not"salads", salad please.
metalinguistic cue	Provide students with metalinguistic knowledge so that they can recognize their mistakes.	S: We clean up the park next weekend. T: "next weekend" is a time that represents the future.
restatement	The teacher tells the students' wrong sentences in a correct way.	S: I think Erin should tell her friend not pack so many clothes. T: Oh, yes. Erin should tell her friend not to pack so many clothes.
clarification request	When the students' expression deviates, the teacher asks the students to re-express.	S: I very like the Summer Palace in Beijing. T: Oh, what did you say? Say it again, please.
repetition	The teacher uses the rising intonation to repeat the mistakes in the students' speech and attract the students' attention.	S: He have a sister and two brothers. T: He have ?
induction	The teacher induced the students to express the correct sentences by asking questions.	S: When the girl was shopping, the alien got out. T: What happened while the girl was shopping?

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