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Table of Contents

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Learnability and Teachability Hypothesis

JAVAD GHOLAMI AND MARYAM ZEINOLABEDINI

Making the Case

Over the past three decades a large number of studies have indicated that there is a natural order for language acquisition. Language learners naturally go through similar developmental stages. This is the natural order hypothesis proposed by Krashen (1982) as a result of exploration of the acquisition order of grammatical morphemes in English. The issues of a natural sequence in acquisition, and the need to make teaching as compatible as possible with this order, have long been fundamental in second language acquisition (SLA) research and in language-learning pedagogy. The majority of research studies revealed developmental patterns through the journey of acquiring a second language. In this journey, acquisition order and developmental sequence are considered core points. In this regard, two questions are posed by Ellis (1994, p. 73) to illustrate the distinction between them:

1. "Do learners acquire some target language (TL) features before others?" This question pertains to the order of acquisition. As an instance, plural *-s* in English is normally acquired before other features such as third person or possessive *-s*.
2. "How do learners acquire a particular TL feature?" By answering this question, one may find evidence for a developmental sequence of acquisition and come to explain how learners gradually pass through stages to arrive at the TL.

In order to explore these aspects, the *teachability hypothesis* (TH), the *learnability hypothesis* (LH) (Pienemann, 1984, 1989), and the *processability theory* (PT) (Pienemann, 1998, 2005) were developed, all of which are based on a multidimensional model (MM).

Framing the Issue

The origins of TH and LH and of PT are predominantly found in a series of studies (see Meisel, Clahsen, & Pienemann, 1981; Clahsen, Meisel, & Pienemann, 1983). Exploring the development of word order in German as second language (L2), these scholars expanded the notions of *acquisition order* and *developmental sequence* by mixing their fundamental aspects. On the basis of their findings, they developed a model that has two dimensions: developmental and variational.

According to this framework, while developmental aspects of grammatical features emerge in a fixed order, variational aspects do not. Language acquisition can be affected by the learner's variational features—for example, sociopsychological factors, including attitudes or motivation. Variation also takes place over time and in relation to accuracy. One may consider variation as the underlying element in producing target-like output. For instance, a learner may say *I don't* under one set of conditions but *Me? no* under another. In other words, the form of an interlanguage (IL) varies in one and the same learner even during the same day, depending on what linguistic task the learner carries out in what situation. Nevertheless, once a variational feature is produced, it might be teachable.

As mentioned above, it has been argued that grammatical development passes through sequential and predictable stages. Accordingly, SLA might be augmented when the learner is developmentally ready to acquire language in a natural setting. Pienemann asserts that, for most learners, there are two sources of learning: “unguided” natural acquisition and formal instruction. Instruction might have a facilitative influence on SLA, but its efficiency may be confined to the learners' readiness for development. This notion was the basis of Pienemann's (1984) TH.

The TH argues that the acquisition process cannot be just in line with the requirements of teaching. Quite the opposite; formal instruction itself is dependent on some of the confinements that delineate the process of natural acquisition. Consequently, a successful EFL/ESL classroom should be based on the processes that occur naturally outside the classroom and teachers should try to incorporate them into guided teaching. Also, in order for teaching to be effective, features in a syllabus need to be designed and taught following the developmentally learnable order. A case in point is the developmental order in learning German. Investigating German word order acquisition, Meisel et al. (1981) discovered five stages of development, which form an *implicational hierarchy*. According to this hierarchy, both classroom learners and naturalistic learners who reach one stage are believed to have the ability to produce rules at previous stages, and each stage encompasses all the lower stages.

Stage x = canonical order (SVO [subject–verb–object])

Stage $x+1$ = adverb preposing (ADV)

Stage $x+2$ = verb separation (SEP)

Stage $x+3$ = verb second INVERSION (INV)

Stage $x+4$ = verb final (V-END)

Considering these stages, Pienemann (1989) conducted an experiment designed to “beat the natural order” of acquisition. Through hidden recording, interviews, and formal instruction, ten children whose IL ranged between Stages x and $x+2$ were taught a structure found at Stage $x+3$. It was revealed that all learners mastered the items taught in the instruction classes. However, only learners at Stage $x+2$ could produce this knowledge in their speech. Considering the equal instruction, the different results could be attributed to each learner’s developmental stage. In other words, instruction can only enhance acquisition by means of teaching a learnable language at a given time.

What learners can process at one given stage shapes learning and vice versa. It is probable that the more sentences become easier to understand, the more likely are the communicatively redundant forms to be processed (VanPatten, 2004). Analyses of learnability have been grounded mostly on four elements, namely

1. the target grammar,
2. the input,
3. the learning device,
4. the initial state.

As these components illustrate, learnability theory must specify how a learner progresses from an initial state to the target grammar with the help of the input and the learning device.

The MM and, to a lesser extent, the TH have received some criticism (Larsen-Freeman & Long, 1991; Hudson, 1993; Ellis, 1994). These scholars raised concerns over the lack of logical explanation about the workings of the L2 cognitive process required for each stage of language development, over the failure to establish the definition of variational features through theory, and over the uncertainty of the applicability of the MM model to morphology. Moreover, they highlighted some methodological problems on the grounds that many of the research studies have been conducted on a small scale in terms of the number of participants and language items.

Reconceptualizing the previous framework in order to respond to these criticisms, Pienemann (1998, 2005) developed his TH-LH into an explanatory description of the predictable acquisition of L2 grammar in stages. He named it processability theory (PT). This time he could optimally merge cognitive psychology research findings with findings deriving from linguistic theories. According to Pienemann (1998, p. 87), “learners cannot acquire what they cannot process,” owing to the constraints of human cognitive abilities.

PT is more comprehensive than many other theories of L2 grammatical development since it makes falsifiable predictions, explains various grammatical events, and has psychological plausibility for typologically different first languages (L1s). On the basis of PT, learners are only able to generate structures that the language processor can cope with at a given point in time, and processability constrains development.

Pienemann believes that, at any given time, learners can merely function within the boundaries of their hypothesis space, which is confined to the processing

resources they have at their disposal at that time. It is worth mentioning that one's *hypothesis space* undergoes development gradually, on the basis of the following *hierarchy of processing* resources:

1. noun procedure (lemma access) (e.g., producing a simple word such as *yes*),
2. category procedure (e.g., adding a past-tense morpheme to a verb),
3. noun phrase procedure (e.g., matching plurality as in *two kids*),
4. verb phrase procedure (e.g., moving an adverb out of the verb phrase to the front of a sentence: *I went yesterday—yesterday I went*),
5. sentence procedure (e.g., subject–verb agreement),
6. subordinate clause procedure (e.g., *I wonder where he is*).

In the hierarchy of processing, mastering each level is a prerequisite for successful completion of the next level. Practically, learners would gradually become competent at transferring information across elements in a sentence. In essence, the goal of PT is to delineate the sequence in which procedural skills develop among learners. By linking the processability of morphosyntactic structures to linguistic theories, PT can explain stages of acquisition.

Implications

Research on the teachability–learnability and processability of L2s has had ripple effects on diverse areas of SLA and TESOL. The ideas and empirical findings based on this line of inquiry, taken as they are from a plethora of EFL/ESL contexts around the world, have useful implications for syllabus design and material development, teaching, and testing in general and for diagnostic and placement testing in particular. Pienemann and other scholars have applied this model to various developmental events observed in SLA, namely to word order, morphology and syntax, pronunciation, heritage language acquisition, L1 transfer, syllabus construction, speaking abilities, and processes across languages. It is noteworthy that the TH, the LH, and PT do not provide any ready-made, built-in packages for teaching methodology. Instead, they are a set of psycholinguistic bodies of knowledge upon which teaching could be based.

One of the groundbreaking theoretical implications of these interrelated notions is that developmental sequences in the IL of L2 learners are strikingly similar, regardless of these learners' ages, linguistic backgrounds, and experience or lack of formal instruction. Transition across each stage, in succession, seems inevitable. As Ellis (1996, p. 100) stated, trying to break a natural order is like “trying to run before you can walk.”

Another arena where these notions could have significant pedagogical implications is that of curriculum design, syllabus design, and material development. Curriculum and syllabus designers and material developers can rely on the findings of research carried out on the natural sequence of language acquisition and take them into account in their decisions on the order and arrangement of linguistic elements throughout their materials across and within proficiency levels. The

closer they bring their pedagogical syllabi to the learners' built-in syllabi, the more natural and compatible their syllabi will be. This will help pedagogical syllabi to be in harmony with the natural syllabi that are developed inside and outside the class environment.

Similarly, observing the same natural order and developmental stages that learners go through is of vital importance to *classroom interactions*. The TH and PT provide insightful ideas to EFL/ESL teachers by tailoring their methodology in line with the developmental stages their learners pass through. Research findings and the body of knowledge accumulated around these notions can help teachers make much more informed decisions and provide customized instruction to their learners. The decisions they make in selecting the right main or supplementary materials, classroom input, tasks, and assessment means could be optimized through reference to the findings of these hypotheses. If language instructors know when and what morphosyntactic structures can be naturally elicited from language learners at any given stage, it becomes possible for them to help their students learn new grammatical items more effectively. Language instructors' familiarity with all the steps that these students take, from the emergence of a particular form to its mastery, will render them able to match their pedagogy to this pattern of development.

What is more, these instructors can also provide timely feedback that may facilitate language acquisition for learners. As Pienemann (1989) asserted, in the TH, teaching might enhance acquisition as long as the items to be covered approximate their natural acquisition order. On the basis of the TH, one may conclude that teachers need to think twice before offering corrective feedback, as a good number of corrections may tap developmental stages that the learners are about to enter. The same can happen when learners swing naturally across stages, or when there is little need for hypercorrection if they are simply vacillating within their hypothesis space. Thus it is essential to find the acquisition order and developmental sequences in the learner's language in order to deliver the appropriate instruction and give effective feedback in the classroom.

The TH and PT also water down the role of too much instruction and *explicit* language teaching and question the long-term effectiveness of formal practices as far as procedural knowledge development and natural language acquisition are concerned. Pienemann (1984) contends that the TH negatively constrains the possible effect of teaching on acquisition. Understandably, this does not imply that teaching has no effect on acquisition. According to Pienemann (1984, p. 200), instruction can only affect "(a) the speed of acquisition (b) the frequency of rule application and (c) the different contexts in which the rule has to be applied, if the IL development fulfilled the requirements for such an influence." Thus language teachers must be aware that this is the rate of acquisition that is affected by teaching. However, formal intervention is less effective as far as the *sequence* of acquisition is concerned.

Findings of the studies on developmental sequence in SLA could be advantageous in language testing. According to Shohamy (1990), the ratings done on the basis of existing language proficiency tests are open to question. This is mainly

due to the lack of empirical research studies to validate these tests with respect to the assessment of developmental stages. By applying the TH and PT, the order of difficulty of grammar structures could be synchronized with the assessment of learners' production, both in oral and written modes. Thus the examiners' intuitive perception of the difficulty of various structures will not be the only source to rely upon.

Another area in which these notions are useful is that of diagnostic testing. Teachers could design tests to identify the particular developmental stage their learners are at. Placement testing can similarly find the notions involved in the TH and PT practical, in that the items in such tasks can be developed and graded in line with the developmental stages learners go through; thus they can place learners accurately, at the stage where they truly belong. Computer-adaptive language testing, proficiency, and placement tests can assess the competencies learners possess much more accurately than current tests.

It is noteworthy that more research and exploration are warranted on PT and developmental stages in language acquisition. The jury is still out on these matters: a comprehensive picture of acquisition order and developmental sequence is still missing. Furthermore, even the existing body of knowledge on the TH and PT has not been adequately and plainly translated into practice and promoted among EFL/ESL practitioners. There are no workshops on the topic of in-service or pre-service teacher development and professional training programs.

In sum, on the basis of the existing body of research and empirical findings, there is consensus among scholars that there is something fascinating going on, but we have to probe more deeply into these topics to get an intimate, generalizable, and applicable perception of a learner's odyssey of language acquisition. We must also take concrete steps to constantly synchronize our course contents, methodology, and testing practices with the natural development of language acquisition.

SEE ALSO: Developmental Sequences; Natural Approach; Variation in L2 Learner Speech

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