A Glimpse at the Future: Exploring the Prospects of Processing Instruction and Implicational Universals for TEFLIN

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Abstract: This paper highlights two of the implications of language acquisition research, namely, Processing Instruction, and Implicational Universals, and explores their potentials for English language teaching in the 21st century. Through the discussion on these two ideas, it is expected that the paper can serve to prod language educators and teaching practitioners to find a clearer direction for their step forward.

Key words: processing instructions, implicational universals

In the meantime, research in second language acquisition is growing in intensity, turning out a few results which may offer prospective solutions to problems that have been challenging English language teaching scholars. This paper highlights two of the implications of language acquisition research, namely, Processing Instruction, and Implicational Universals, and explores their potentials for English language teaching in the 21st century. Through the discussion on these two ideas, it is expected that the paper can serve to prod language educators and teaching practitioners to find a clearer direction for their step forward.

"The Development of TEFL In Indonesia". This was the running theme of anational seminar organized by the English Education Department of IKIP Malang in 1995. One quick question was raised: what is actually 'developing' in the realm of English language teaching, if what we have been witnessing is merely a pendulum swinging back and forth from a structure-oriented approach to a more communicative approach? Clearly

the area of English language teaching, especially in Indonesia, has missed a sense of progressing forward as far as English teaching approaches are concerned. Structural drills were used quite intensively in EFL classes during theheyday of audiolingualism; soon it came to be questioned and severely criticized for its mechanistic patterns and tedious learning atmosphere, and was finally replaced with asupposedly more communicative approach. The latter approach gave birth to a host ofteaching techniques that prompted the learners to produce English utterances in amanner appropriate to the social situation they are engaged in. Soon another flaw appeared: learners became more conversant yet with marked ignorance on their grammatical and pronunciation accuracies. A "me understand you, you understand me, no problem *lah*" attitude grew to a level alarming enough for language educators to switch back to the audiolingualism era. Thus, Intensive Courses and Matriculation Courses quickly sprung up in various institutions in an attempt to circumvent this baffling problem (Djiwandono, 1999). At the level of secondary school, the structural-oriented curriculum was geared to a communicative-oriented approach in 1984, and then modified into a thematic approach in 1994 (Markus, 1997) with the apparent intention to integrate the mastery of discrete language elements with the four major language skills (Young, 1997). Celce-Murcia, Dornyei and Thurrell (1997) note that while Communicative Language Teaching (CLT) criticized the earlier approaches for the their allegedly excessive focus on grammatical aspects, the CLT itself went allegedly so far that it neglects these formal properties of the language for the sake of communicative fluency. In response, some experts have reconsidered putting the focus back on the awareness of grammatical aspects through some relatively new concepts, such as "consciousness-raising" (Rutherford and Sharwood Smith, 1985), "input enhancement", and "focus on form".

PROCESSING INSTRUCTION

Language learning takes place when input from the learning environment is received by the learners, converted into intake that is used to improve the learners' developing system, and ultimately enables the learners to produce some output in the target language. In a simplified form, the process can be visually represented by the following diagram:

input → intake → learner's developing system → output
(taken from VanPatten and Cadierno, 1993:226)

To grasp a clear understanding of processing instruction, it is necessary to consider first the traditional teaching of grammar. Typically, a grammar instruction of this kind starts with the teacher's presentation of the features to be learned, followed by the learners' practice of the features, and finally concludes with the learners' producing the features in their language performance. The teacher usually attends to the learners' practice and usually takes pains to ensure that they produce the grammatically correct output. The teacher's error corrections are directed to the learners' output in the hope that the learners will notice these corrections and modify their interlanguage system. Briefly put, the traditional technique of teaching grammar is heavily focused on the learners' output.

In contrast, the processing instruction is based on the notion that, as Figure 1 depicts above, any attempt to change the output should start with the elements to *left* of the output rather than to the *right* of it. A change in the way input is processed will, as the direction of the arrows indicate, affect subsequentially the next phase to its right, and finally culminates in the output (notice the direction of the arrows in Figure 1). Learners will be greatly aided by a manipulation in their processing of language input into intake, which in turn will have a greater positive impact on their developing system; the refined system will eventually promote production of grammatically correct output. Thus, rather than focus on the output by giving corrective feedback, this method directs the learners to engage in certain processing mechanisms of the input they receive. In the light of this foregoing discussion, the figure can now be modified to show the input-processing method:

input → intake → learner's developing system → output →
processing mechanisms

Figure 1. Input-processing Method

(taken from VanPatten and Cadierno, 1993:226)

At least one study by VanPatten and Cadierno (1993) has showed that processing instruction results in a better comprehension and production ability than a traditional instruction. In their study, they divided a group of English-speaking students learning Spanish into three groups:

one group was given no instruction, the second one received processing instruction, and the third one received traditional instruction. In the traditional instruction, the learners were taught certain grammatical patterns so that they would be able to *produce* them correctly in their sentences. They were asked to move along a series of drills that finally culminated in an open-ended communicative practice. In the processing instruction, the learners were guided to notice the grammatical patterns, and to comprehend sentences or utterances containing these grammatical patterns. Exercises that followed this presentation consisted of (1) listening to utterances and selecting the appropriate responses, and (2) reading short texts and translating some highlighted sentences featuring the grammatical patterns. Thus, as opposed to the traditional instruction, the processing instruction *never asked the learners to produce the target language with the grammatical patterns being learned.*

Subsequent post-tests of interpretation and written production tasks were given to the three groups of learners. Results showed that the learners receiving processing instruction outperformed the two other groups in the interpretation task. The group receiving traditional instruc-tion only gained a little in the production task, yet their performances, despite the production practice they had done, failed to exceed those of the group receiving processing instruction. In short, the two researchers concluded that the processing instruction affects the way input is processed, which in turn improves the learners' comprehension ability and production ability.

PROCESSING INSTRUCTION AND LANGUAGE ACQUISITION PRINCIPLES

Processing Instruction runs parallel to some recent ideas derived from language acquisition research, notably Krashen's input hypothesis, the notion of delayed production, and silent period. All of these share something in common with processing instruction in that they do not "push" the learners to produce target language utterances at an early stage in their learning. Rather, they allow the learners to take as much input as possible, process them in their mind, convert them into intake and use them to restructure their existing interlanguage system.

Krashen's input hypothesis posits that language acquisition takes place when the learners understand the message in the input they receive.

Unlike processing instruction, however, it does not elaborate the mechanisms that the learners virtually employ to process the input and restructure their developing target language system. A teaching activity that rests on the principle of comprehensible input stops with shaping and delivering the language input in such a way so as to enable the learners to understand the messages, while that based on processing instruction would make an attempt to first of all bring the learners' attention to the language properties being focused on, and then have the learners silently notice and process these properties in the language stimulus they are exposed to in order to accomplish a given receptive task. Cook (2001:95) refers to this internal process as parsing,, i.e. working out the grammatical pattern of a given construction and understand its meaning. Both the processing instruction and the input hypothesis boil down at the notion of delayed production and silent period, whereby the learners are allowed a considerable length of time during which they do not have to speak or write target language sentences and are allowed instead to restructure their internal language system by processing the input.

SOME EXAMPLES OF PROCESSING INSTRUCTION EXERCISES

Some exercises for reading and listening are presented below in order to give a clearer examples of how processing instruction is put into classroom practice. The target grammar point is passive construction. Note that the stages are ordered in increasing degree of complexity. Also, some modifications of the sentences in the original text may have to be made so as to weed out any unnecessary difficulties that may frustrate the learners:

Reading

Stage 1 : *Learners read individual sentences and choose the correct translation from several Indonesian sentences*

Fats and oils differ in the proportions in which various elements are combined.

(a) berbagai elemen menggabung
(b) berbagai elemen digabung

Stage 2 : *Learners read individual sentences, choose the ones written in passive voice, and translate them independently of the teacher's assistance:*

(a) Energy for animals is supplied by carbohydrates
(b) Oils in some feeding stuff cause animals to lay down soft fat.

Translation: _____

Stage 3 : *Learners read a part of a text to find passive sentences and translate them:*

Minerals also form an important part of an animal's diet since they play a vital role in a very large number of the body's normal functions. Those minerals which are required in comparatively large quantities are known as essential minerals. (Mineral-mineral itu yang diperlukan dalam jumlah banyak dikenal sebagai mineral esensial).

Listening

Stage 1: *The teacher reads some sentences, while the learners listen and put a check mark next to each number on their sheet if they hear utterances using passive construction:*

The teacher says:	The learners' response:
1. Article no. 1 was written during the Dutch colonial period.	1. V
2. The country established a new juridical system	2.
3. The traditional laws were divided further	3. V

Stage 2: *The teacher reads another set of sentences, while the learners listen and translate the ones using passive construction.*

Stage 3: *The teacher plays an extended spoken discourse (whose speed of delivery may have to be adjusted to suit the learners' current level of proficiency). The learners listen and translate the utterances in passive construction.*

IMPLICATIONAL UNIVERSAL

In the field of language teaching, the most obvious task a teacher or a textbook writer has to deal with is how to organize the materials. This involves selecting and ordering the lessons according to a given organizing principle, be it the structural patterns, the topics, or some more function-oriented aspects such as greeting, offering, apologizing, and the like (White, 1988). Whatever it is, this task virtually implies gradation, which as van Els et al. (1984) state, is the ordering of the materials from the easiest to the most challenging ones. Normally, teaching practitioners do this gradation phase by following their intuition, experience, or even taking for granted the entire table of contents in a language textbook. As White (1988:59) states, it is the tradition, rather than empirical evidence, that has determined the basis for selection and grading of vocabulary and structures in syllabus design. In other words, grading language items in the order of difficulty has been rarely approached from a sound basis of psycholinguistics which take into account the learners' mind as it processes linguistic elements.

Recent studies in second language acquisition (henceforth SLA) have explored the realm of accessibility hierarchy of relative clauses, which then leads to an interesting hypothesis, the so called implicational universals of language (Cook 1993:138). This notion stems from studies on the acquisition of Relative Clauses in English, most notably by Eckmann, Bell, and Nelson (1988). They show that once learners have acquired the maximum point of the relative clause hierarchy (i.e. the most difficult patterns of Relative Clauses), they can acquire the lower points (i.e. the less complex patterns) easier. In Zobl's (cited in Ellis, 1990:159) term, the mechanism which gives rise to this ability is called *projection device.* This device enables the acquisition of one rule (which is notably more marked) to trigger the acquisition of all the other less marked rules related to it (Ellis 1990:159). This leads to a fascinating implication for language teaching, namely that "students should be taught the most difficult of a set of structures *first* rather than last" (Cook 1993:144). With regard to gradation, this suggests that the materials should be ordered from the most difficult items down to the least difficult ones!

Another theory specifically pertinent to the acquisition of relative clauses is The Accessibility Hierarchy (Keenan and Comrie, 1977). It

claims that an implicational relationship exists among the types of relative clauses. That is, if a given language has the lowest type of relative clause in the hierarchy, namely the relativization of object of comparison as in no.(6) below, it will also have the relativization of genitive (sentence no. 5), which in turn implies the presence of prepositional object relativization (no. 4). This goes on to the higher types in the hierarchy, such that pattern no. (4) allows the relativization of indirect objects in no. (3), of object in no.(2), and of subject in no.(1).

(1) The actress who played in "Red Lantern" was Gong Li.
(2) The school that I like best is Victoria University .
(3) The man they offered the cigarette was my teacher.
(4) The car that she is interested in is a Porsche sport.
(5) The boy whose car you bought has gone abroad.
(6) The car which the BMW is longer than is a Volkswagen.

What has been demonstrated above reflect the phenomenon of implicational universals, in which the presence of one linguistic pattern implies other linguistic features related to it. Not only does this apply to languages in the world, but also to interlanguage as the manifestation of a second language acquisition (Eckmann et al.1987). Second language learners who have acquired a given linguistic structure in the hierarchy will also automatically acquire other easier, or less marked linguistic patterns related to it. More specifically, if they have been taught relative clause type no. (6), they will be able to understand all the types above it. Again, this goes in line with the projection device explained briefly in the preceding section.

With respect to markedness theory, it should be clear now that the hierarchy of relative clauses above exists on the basis of markedness: the pattern on the bottom of the hierarchy is the most marked of all, and as such it implies other patterns above it which are less marked. In other words, the relative clauses are ordered according to the degree of markedness: the lower one goes down the hierarchy, the more marked the patterns are.

In the light of the foregoing discussion, the relativization of object of preposition as in (4) is regarded as more marked than the relativization of indirect object in (3), of object in (2), and of subject in (1). From here, a distinction has to be made between these four marked patterns and the supposedly unmarked reduced relative clause such as in sentence no. (1b)

below:

(1b) The actress *playing* in "Red Lantern" was Gong Li.

From a superficial observation, one would say that producing sentence no.(1) should be more cognitively demanding than producing no. (1b). Indonesian learners of English, in producing no. (1) at least have to decide on the correct relative pronoun (*who/that* vs *which*), by which they can connect the two propositions *"the actress played in 'Red Lantern'"* and *"the actress was Gong Li"*. On the other hand, they would logically have less complicated task in producing no. (1b), which requires only the present participle *"playing"* to convey the same idea as *"who/that played"*. Therefore, the distinction established here is that sentences no. (1), (2), (3), and (4) are more marked than no. (1b), which was not taught but tested in the form of grammatical judgment.

To date, to the writer's knowledge there have not been a substantial number of studies on the effect of this implicational properties on language learning. In an attempt to ascertain whether the knowledge of subject and object relative clause will implicate the knowledge of reduced relative clause, the writer conducted a simple experiment in which the writer explicitly taught the learners the patterns (1), (2), (3), (4) above through sentence combining exercises, and tested their knowledge of pattern (1b) through a grammatical judgment test (see Djiwandono, 1998). The result indicated that the learners who were more able in combining sentences did not necessarily judge the reduced relative clause as correct. In the light of the narrow scope of the study and its methodological limitations, it is suggested that a more rigorous methodology be used to investigate the same area. More studies of this kind should generate a conclusive result in this area.

The writer also explored the interesting possibility of whether teaching the supposedly difficult W/H interrogative sentence may result in the learners' mastering the simpler constructions of Yes/No interrogative sentence, which in turn may implicate the SVO pattern. Thus, a research may be set up to determine if the teaching of *Where did you go last night?* Enables the learners to automatically learn *Did you go to the party last night?* And its further implicated structure of *You went to the party last night*. Again, this should be seen as an exploration into the fertile areas of how grammatical properties are handled by the mind.

Recent theories on language processing puts forward some stages of language learning. Besides the natural order of acquisition (Dulay, Burt, and Krashen, 1982), Cook (2001:29-31) mentions multidimensional model and Pienneman's processability model. While these models rely heavily on movement of elements within a sentential construction, the writer conjectures that the complexity of sentence production and comprehension hinges upon some other factors: (1) the number of the linguistic element, (2) the frequency of the linguistic element, and (3) the number of inflectional changes that has to be executed for concordance. Thus, as far as the grammatical constructions above are concerned, the following cline may be proposed to visualize the degree of complexity (note that the underlined elements require more processing by the learners' mind):

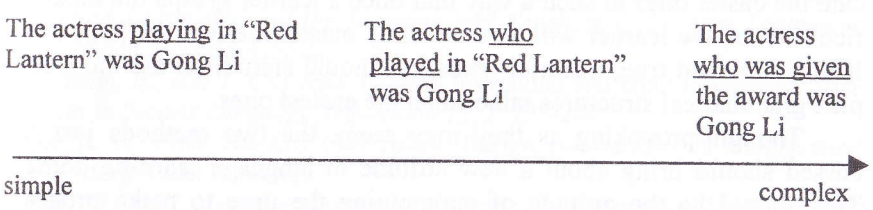

Figure 2. Degree of Complexity

The hypothesis modeled in the above figure is undoubtedly in need of verification. Yet, if it is borne out by empirical data, one can conceive of a lesson which starts with the rightmost grammatical construction and by so doing implicates the less cognitively demanding constructions on its left.

CONCLUSION

The paper starts by addressing the relatively stagnant development in the area of English language teaching in Indonesia and then sets out to highlight a methodological breakthrough that second language acquisition domain has been offering. Two of the corollaries of many findings in this area are particularly relevant to language teaching. The first, processing instruction, seeks to enhance the input processing in the learner's mind which then successively refines the next processing stages and ultimately results in a better output. In practice, this method teaches the learners how

to understand a given grammatical structure and has them do exercises that merely require them to process and understand utterances or sentences containing the grammatical point. At least a study has shown that learners exposed to a processing instruction excel in a comprehension task and do well in a production task, while those receiving traditional instruction only perform well in the production task. Relying on the principle of delaying the learner's language production and allowing some silent restructuring of the target language rules, processing instruction accords with the notions of silent period and input hypothesis.

The other potential breakthrough is offered by implicational universal. This hypothesis predicts that there is an increasing order of difficulty of linguistic items. The more difficult, or the more marked items, implicate the easier ones in such a way that once a learner grasps the most difficult items, the learner will automatically master the less difficult items. If this is indeed true, material gradation should start from the most complex grammatical structures rather than the easiest ones.

Thought-provoking as they may seem, the two methods just discussed should bring about a new attitude in language learning domain. This should be the attitude of maintaining the urge to make progress, which in turn will induce the eagerness to explore new venues for learning, work on some prospective approaches, and sketch out a better future.

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