Elicitative Psycholinguistic Tasks for EFL/ESL Research: A Literature Review

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Abstract

Research in the fields of applied linguistics including language teaching and translation studies has for long been controversial at least in terms of methodology and instrumentation in particular. For instance, Gass & Mackey (2000-2009) elaborated on stimulated recall methodology, or Ellis & Barkhuizen (2005) discussed their instrumentations and methodologies for analyzing learners' language. The impetus of the current report came from their focus on the methods and instruments in SLA research plus the tasks mentioned in Komatsu (1994) collection of research studies in cognitive psychology. Attempts were made in this article to present a list of applicable psycholinguistic tasks used in SLA. Each task underwent elaboration, and was clarified by mentioning at least one study in which the task had been used. The result of this review may have two benefits: first, many of such tasks are still practical i.e. they can still be used by researchers in linguistic and psycholinguistic fields. Second, the list of psycholinguistic tasks gives a sort of familiarity to those readers or researchers who may be at their beginning way of making their studies and conducting their experiments.

Key Words
Psycholinguistics, SLA Methodology, Elicitation, TBLT

Introduction

Whenever the issue of scientific study is under discussion, two crucial terms must be taken into account: **theory** and **practice**. Theory is the inseparable part of science because nearly all of what has been attained by scholars and researchers may be converted to enigmatic and in vain postulations in the absence of theoretical backgrounds and bases. Furthermore, scientists need to objectify the results of their findings; otherwise, what they achieve may be easily rejectable because of the lack of strengthened foundations.

On the other hand, the scientific study, or the research study the researcher is doing can be impossible if there is little or no practice in it. Practice, in fact, includes the real application of principles or rules created or arbitrated by related theories. It can range from simple observations to complicated experiments that lead researchers to more logical results. However, the question rises here is that how language learners come to practices or, more clearly speaking, experiments that have been done beforehand in order to think about them critically or do their own replications, variations or extensions of them. Textbooks also rarely convey the dispute and attractiveness to be found in the process of formulating research questions and designing, conducting and analysing experiments that address those questions.

Language studies enjoy at least three types of studies: historical, descriptive and finally, experimental studies. The last type of study is more common in psycholinguistic studies as well as research studies in cognitive science. Inasmuch as language programs include traits of both, this paper tries to present the most common tasks used in the experiments made in psycholinguistics and cognitive

studies. Attempts have been made to present a glossary of the tasks in order for the readers to refer to them more easily.

A psycholinguistic task is a practical concept adopted from the core concept of "Task" defined by a number of scholars in the field: Ellis (2003) defines a task "*as a work plan that involves a pragmatic processing of language, using the learners' existing language resources and attention to meaning, and resulting in the completion of an outcome which can be assessed for its communicative function*.". Nunan (2004) discusses two types of tasks: target tasks and pedagogical tasks. Accordingly, targets tasks can be attributed to doing something outside the classroom and in the real world; whereas pedagogical tasks refer to the tasks students perform inside the classroom and in response to target language input or processing. He defines pedagogical task "*as a classroom activity that involves a student to understand and produce the target language while focusing on conveying the meaning and not being too concerned with form*.". On the other hand, Long (1985) defines a task as things people do in everyday life. Finally, according to Ellis (2003), a task has four main characteristics:

- A task involves a primary focus on (pragmatic) meaning.
- A task has some kind of 'gap'. (Prabhu [1987] identified the three main types as information gap, reasoning gap, and opinion gap.)
- The participants choose the linguistic resources needed to complete the task.
- A task has a clearly defined, non-linguistic outcome.

The definitions mentioned can provide a background on what a psycholinguistic task may mean in the psychological aspects of language learning research. They are work-outs in addition to exercises, practices or activities that can help researchers, particularly in field-work studies, achieve more success in eliciting data from their target participants. The next section will provide the psycholinguistic tasks in details.

Psycholinguistic Tasks

TASK 1: The Conditional Reasoning Task

In a conditional reasoning task, the subject decides what conclusions, if any, logically follows certain given conditions. These conditions include a rule of the form "If p, then q," called a conditional rule. This rule must be distinguished from an equivalence rule, which is one of the form "If and only if p, then q"; conditional rules allow some conclusions that equivalent rules do not. The p part of the rule is called the antecedent and the q is called the consequent. A second condition is specified by a statement that either affirms or denies (negates) the antecedent or consequent. Thus the second condition can take one of the four forms: p; not p; q; not q. Typically in a conditional reasoning task, the subject is also given a possible conclusion, a statement that affirms or denies that part of the rule not mentioned in the second condition. The subject then must judge whether the conclusion follows logically, whether it must be true given the two conditions. This task has been used in Wason's and Shapiro's (1971). "Natural and Contrived Experience in a Reasoning Problem" (See Quarterly Journal of Experimental Psychology, 23, 1971, pp. 63-71.)

TASK 2: The Contextual Clues Task

This task is employed in studies, in which there is a need to provide subjects with some basic data. The rationale behind using such a task can be explained based on findings of Moray (1959) and Broadbent's filter theory. According to Broadbent's filter theory, if a part of unattended message is filtered out, a part of knowledge will be missed. However, Moray found that certain important words, including highly emotional terms or the subject's name, were sometimes noticed even when they occurred in the unattended ear. If messages in the unattended ear are filtered out, how can specific words get through? And what does it mean for a word to be "important"? This task has been used in Treisman's

(1960). "Contextual Clues in Selective Listening" (See Quarterly Journal of Experimental Psychology, 12, 1960, pp. 242-284).

TASK 3: The Feature Listing Task

According to Rosch and Mervis (1975), the feature listing task is closely related to a **cue validity** processing model of classification in which the validity of a cue is defined in terms of its total frequency within a category and its proportional frequency in that category relative to contrasting categories. Unfortunately, cue validity has been treated as a model in conflict with a prototype model of category processing where prototypes are operationally defined solely as attribute means (Reed, 1972). If prototypes are defined more broadly-for example, as the abstract representation of a category, or as those category members to which subjects compare items when judging category membership, or as the internal structure of the category defined by subjects' judgements of the degree to which members fit their "idea or image" of the category-then prototypes should coincide rather than conflict with cue validity. This task can be found in Rosch's and Mervis's "Family Resemblances: Studies in the Internal Structure of Categories" (See *Cognitive Psychology*, 7, 1975, pp. 573-605).

TASK 4: The Free Recalls Task

The free recalls task begins with giving a subject a set of words to work with or study without specifically telling the subject to memorise the set. In this task, the subjects are later asked to recall as many words as they can, in any order that they choose. In "Rehearsal Processes in Free Recall: A Procedure for Direct Observation," Rundus and Atkinson (1970) examined their hypothesis directly in an extremely clear and straightforward manner. The experiment makes use of the "talk aloud" method, in which the subject is asked to externalize (verbalize aloud) whatever he or she is doing. Obviously, this is effectively an introspective method that makes the subjects' introspections-or at least, those introspections that are easy to verbalise-available to the experimenter (See Journal of Verbal Learning and Verbal Behaviour, 9, 1970, pp. 99-105).

TASK 5: The Imagery versus Spatial Task

One influential view of imagery, sometimes called the level of perceptual equivalence view, suggests that many of the anatomical structures that are involved in visual imagery are also involved in visual perception (Finke, 1985, 1986). Thus, it is expected (1) that certain visual and imaginal processes would interact with one another, and (2) that many of the phenomena observed with vision will be observed with imagery and vice versa. According to Farah et al, the "what" versus "where" distinction in visual perception is closely related to an ongoing debate in imagery research over whether visual imagery involves the representation and manipulation of **visual** information or **spatial** information. The assumption Farah and her associates make is that the "what" system deals with more purely visual information, whereas the information processed by the "where" system is more spatial in nature. The Spatial task has a number of classifications as follows:

TASK 5-1: Matrix Memory

The task was introduced by Badeley and Leiberman (1980) in which the subject hears the numbers 1 through 8, accompanied by instructions about where each of these numbers should be placed in an imaginary four-by-four matrix. After hearing the sequence of eight such instructions, the subject must recall the path, using the same verbal format.

TASK 5-2: Letter Corner Classification

In this task, a block letter with an asterisk next to the lower left corner is shown to the subject and then removed. The subject's task is to maintain an image of the letter and classify the corners of the letter

according to whether they are on the top or bottom of the letter (in which case the response is 'yes') or whether they are from neither the top nor the bottom (in which case the response is 'no').

TASK 5-3: State Locations

In this task, subjects are given 20 triads of state names and are asked to circle the two states in each triad that are closest to one another. Triads that can be correctly grouped on the basis of verbal associations to regions (e.g., two 'southern' states and a 'northern' state) are not used (See *Cognitive Psychology*, 20, 1988, pp.439-462).

TASK 6: The Memory Span Task

In a memory-span task, a person is given a relatively short series of items, such as seven unrelated words, and is then asked to repeat the items back in the same order. People generally are able to repeat back successfully between five and nine items (Miller, 1956). However, memory span is decreased if the pronunciations of items share the same basic speech sound units-phonemes (Conrad, 1964)-or if people repeat a word or sound over and over while remembering the items, a procedure called articulatory suppression (Levy, 1971; Murray, 1968) (See *Journal of Verbal Learning and Verbal Behaviour*, 14, 1975, pp.575-589).

TASK 7: The Reaction Time Task

The use of results from Reaction Time (RT) experiments to study stages of information processing began about a century ago with a paper, 'On the Speed of Mental Processes,' by F.C. Donders (1868). It was in this paper that Donders introduced the subtraction method-a method for analysing the RT into its components and thereby studying the corresponding stages of processing. There has been a substantial revival in the last few years in the use of RT as a tool for the study of mental processes ranging from perceptual coding to mental arithmetic and problem solving. Sternberg in his discussion has focused on the relationship between short-term and long-term memories, the effect of different kinds of information (for example, faces rather than letters or digits), the determination of where in a memorised list an item is found (what Sternberg calls context) and the difference between recall and recognition of context information have been excluded (See *Cognition and Affect* edited by J.S. Antrobus 1969).

TASK 8: The Reading Task

Ellis, Miller, and Gillian (1983) used reading tasks in their article titled, 'Wernicke's Aphasia and Normal Language Processing: A Case Study in Cognitive Neuropsychology'. They used such techniques in order to show how a case of aphasiac with symptoms can understand a vast majority of written words shown to him. They ask the patient to read aloud words that had been sorted into countries and parts of the body, also, animals and musical instruments. They also asked the patient to read aloud an object name then, with the name removed, point to the appropriate picture in a set of four alternatives. Another version of reading task was to ask the patient to read aloud then sort sentences into 'sense' and 'nonsense'. The task is appropriate since reading is a receptive skill and can best indicate the processing of data in aphasic patients (See *Cognition*, 15, 1983, pp. 111-114).

TASK 9: The Repetition-Priming Task

Graf and his associates (1985) tested their assumption that not all of our knowledge or memories are explicit or conscious, that some of our memories are implicit by looking at patterns of free-recall and repetition-priming tasks-also called direct or perceptual priming tasks. The assumption was that repetition priming taps into processes that remain intact in amnesics because these processes deal with implicit memories, whereas recall tasks tap into processes that amnesics lack. In repetition priming, the likelihood that a word will be retrieved from memory is affected by prior presentation of the same word (See Journal of Experimental Psychology, Learning, Memory and Cognition, 11(2), 1985, pp. 386-396).

TASK 10: The Selection Tasks

Wason and his colleagues in 1970s developed a simple procedure called the selection task for testing whether people actually follow the rules of logic when reasoning with conditionals. In this task, the subject is given a rule and is then presented with four cards; Wason and Shapiro use the rule 'If a card has a D on one side, then it has a 3 on the other side.' On one side of each card is a number and on the other side, a letter. Two of the cards are placed letter-side up-one showing a D, the other a number of other than 3. The subject's task is to select all and only those cards that would test the truth of the rule. The simplicity of the task is deceptive; few get it right (See Quarterly Journal of Experimental Psychology, 23, 1971, pp. 63-71).

TASK 11: The Grammaticality Judgement Task

This task is used to demonstrate aspects of First Language Acquisition or Second Language Acquisition. It can show researchers in language fields how principles and parameters can contribute as the basis of human language competence. Furthermore, it can be used to discuss the logical problem of language acquisition, that is, the mismatch between what the learner knows and how they are acquired. White (1989-1991) employed the task many a time in her studies to show how, for examples, French, German, etc. learners of English language understand or use subjacency, negation or the right-roof constraint in their language. In a grammaticality Judgement task, the students are given a number of sentences and they are asked to determine which sentence is grammatically acceptable and which is not, or they are given pictures to write grammatical sentences about.

TASK 12: The Translation Task

Translation tasks have not been famous as psycholinguistic tasks although they seem to have been used by many scholars and researchers in First or Second language studies. However, in studies on bilingualism or even in contrastive studies and rarely in studies on principles and parameters, translation tasks have played significant roles in providing the researcher with persuasive data about how to process syntactic or semantic or discoursal ideas. The importance of translation tasks lies in the fact that it shows the extent to which a language learner can establish a balance between his competence of the first and his second languages, and whether his first language is of any effect on his second language in terms of parameter resetting.

Conclusion

The literature that was reviewed in this article is by no means a complete list of the tasks in general or psycholinguistic tasks in particular. The presented list may be satisfactory for researchers at least for two reasons: first, many of such tasks are actually part of the history of all tasks and this has been seen by the dates in which they have been used or introduced, however, they are still practical i.e. they can still be used by researchers in linguistic and psycholinguistic fields. Second, the list of psycholinguistic tasks gives a sort of familiarity to those readers or researchers who may be at their beginning way of making their studies and conducting their experiments. In fact, it may take a lot of time for a young researcher to find out how many tasks may exist to be used in a study. In addition, offering a literature review with at least one practical example will open new horizons and mindsets for innovative tasks in the field which results in young researchers' contribution to enrich the content and strengthen the foundations of language research methodology via focusing on the "instrumentation" wing.

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