Second Language Teaching Research: The Priming Methods Perspective

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Abstract

The aim of this paper is to examine the use of priming method in second language (L_2) research. The study adopts a descriptive approach for analysis of data. Our intention is to subject this method (priming) of L_2 research to analysis, and see how it is applied. Our data-base is drawn from a lot of illustrative texts. Priming method of L_2 research strengthens learners' abilities to understand particular linguistic activities with ease. People are more likely to describe an agentive than non-agentive events when explaining a particular causal event, especially the one they have recently encountered. That is to say agentive events are more accurately described by people than non-agentive ones. In everyday conversation, priming clearly influences our linguistic choices through the use of agentive and non-agentive event descriptions respectively. We discover that priming involves visual linguistic activities, and also involves diversifying of utterances for clarity purpose. It is further discovered that agentive and non-agentive causal event descriptions can be primed linguistically.

1.0   Introduction

The quest, gusto or desire for knowledge is as old as Man. The ancient philosophers like Socrates, Aristotle, Plato etc, in their days made search for knowledge a daily routine. They always desired to painstakingly approach issues and happenings in their society with doggedness. Research, therefore, is a problem solving endeavour through a systematic and objective approach. There are many areas of research, but the scope of this study revolves around second language research, where priming method is emphasized

A second language is a language learnt under a formal situation e.g., the English language is a second language in Nigeria. It functions as an official national language used politically, commercially, administratively, diplomatically, socially etc. Its usage has a lot to do with economic and political considerations. It is usually the language that does not belong to any of the ethnic groups of the country in question. The question, therefore, is, how do we acquire this language.

What quickly comes to mind for many people when they hear the pronouncement "second language acquisition" is the experience they had as students in school during their engagement in the study of a foreign language. But second language acquisition appears in other forms in schools today. Bilingual education, for instance, has been adopted in many parts of the world over the years. There are, therefore, several models for bilingual education planners, but they generally exist for the purpose of helping students to maintain their mother tongue or to keep on growing in their mother tongue even as they acquire a second language (L_2) (Larsen-Freeman and Long, 1991).

One thing worthy of note is, there is a gap between the first language (L_1) and the second language (L_2) learning. And there are some differences that constitute the gap between their learning thus:

(1) First language involves an attempt to communicate. It is, therefore, provoked by a powerful motivational force. L_2 has no such motivation because the adult has already satisfied this in L_1 with which he can express his ego. The need for communication has already been taken care of; there must be another motivation to enhance L_2 learning.

(2) The child has the benefit of reinforcement in L_2.

(3) The input to L_1 is fragmented in the sense that nobody organizes what a child should learn in L_1. A child does not learn this from the text-books, but an adult does. That is to say that the input for L_2 is well organized by human being.

(4) The child is free from worries while the adult is usually occupied with responsibilities.

(5) The adult is more cognitive and mature than the child. The adult can therefore, think faster than the child, whose thinking ability is still limited and which slows down his pace of learning.

(6) The adult has a longer attention span contrary to a child whose attention span is short lived.

(7) The first language leaner has more exposure to the language than the second language learner.

(8) Second language learning involves superimposition of the previous language (L_1) over the target language (L_2). This imposition, therefore, leads to interference.

It is on this ground that we want to examine priming methods in L_2 research. Priming occurs when a process is facilitated by a preceding stimulus (Foster, 1999). This facilitation appears to be process-specific, that is, the critical factor in this method (priming) is whether the previous processing was relevant to the next task.

2.0   Literature Review

Considerable research has been conducted on priming effects of L_2 acquisition in writing, reading and spelling. Writing consists of many interacting and simultaneous tasks, all of which demand some of the writer's limited cognitive resources (Graham, 1999a, 1999b).

> Some of these tasks can be thought of as lower-level tasks such as recollecting and forming letters, spelling words correctly, and spacing words in a sentence. Other, higher-level tasks such as planning, content generation for audience, and revising, occur at the same time. These higher-level tasks require significant processing resources and cannot become automatized (Hudson, Lane and Mercer, 2005: 477).

Graham et al (1997) observe that handwriting speed account for 66% of the variance in primary aged children's compositional fluency. Graham et al also put forward that throughout elementary school, the contribution of transcription stills account for more variance then working memory. They also say that spelling achievement accounts for 41% of the variance in compositional fluency at the primary and intermediate grades. How well handwriting and spelling automaticities are developed is the best predicator of the amount of written composition in the elementary grades (Hudson et al, 2005).

Graham and Weintraub (1996) explain the difficulties in composing experience by slow writers. Their slow rate of handwriting, say Graham and Weintraub, may not be fast enough to keep up with their thought, causing children to forget what they intended to write. The need to shift attention from content generation to the mechanical demands of writing may also cause writers to forget already developed ideas or may interfere with the planning process leading to less complex and incoherent content. Graham and Weintraub (1996) in Hudson et al. (2005) also say that handwriting problems can cause struggling writers to develop negative fillings about writing because it is so laborious. According to Forster (1999), the most common interpretation of priming is that the neural representations of prime and target are interconnected or overlapped in the brain such that activating the prime automatically activates the target.

In reading, evidence of priming effects is found when there is an increase in the speed of identification of a target word as a function of a recent experience with the word itself or with a related word (Ruekl, Mikoliski, Raveh and Miner, 1997). Relationships between a prime and target may be semantic (e.g., nurse/doctor), repetitive (e.g., attitude/attitude), phonological (e.g, bed/said), orthographic (e.g., bead/head), or morphological (e.g, buy/bought).

In spelling, on the other hand, priming can be seen in how similar 'nonword' spelling is to the prime that was produced before the task. For example, a priming effect would be shown by a student spelling "zop" as "zope" after the prime "roap" (Campbell, 1983, 1985, Nation and Hulme, 1996). The effect in literacy activities is robust, especially for repetition, morphological, and phonological priming. However, the effects of different types of priming information on writing connected text have not be established (Hudson, et al, 2005).

2.1 Second Language Acquisition Research Methodology

Research, as we earlier put forward, is a systematic approach to finding answer or solutions to questions or problems. It is systematic because of its well-planned and ordered design. In the past, say in the 1960s, much of the research comparing language teaching methods was considered inadequate and "thus unable to quell methodological disputes" (Larsen-Freeman and Long, 1991:10). At the same time a debate, according to Larsen-Freeman and Long, was also engulfing or ensuing between cognitive psychologists and behaviourists as the attribute of human learning. Things were no longer the same in linguistics, which was itself in an upheaval due to the Chomskian revolution. It, therefore, became increasingly obvious to certain European and North African researchers that they could no longer rely on other disciplines for theoretical orientations, but would have to research second Language Acquisition (SLA) directly and empirically themselves (Stern, 1983).

In the recent time, it is fair and accurate to say that SLA has varied inventory of methodologies with which to deal with questions, "although the methodologies are by no means universally endorsed" (Larsen-Freeman and Long, 1991:10). There is always a clash between researchers who favour quantitative methodologies and those who favour quantitative methodologies in the field of SLA research. The prototypical qualitative methodology is an ethnographic study in which the researchers do not set out to test hypotheses, but rather to observe what is present with their focus, and consequently the data, free to very during the course of the observation. A quantitative study, on the other hand, is best typified by an experiment designed to test a hypothesis via the use of objective instruments and appropriate statistical analyses.

According to Romaine (1981:47) in Agbedo (2001:58) …"there has been a great deal of discussion of the so-called unity of method doctrine among philosophers of science and social science…." Popper (1961) in Agbedo (2001), for example, advocates the unity of method doctrine. He says that all the theoretical or generalizing sciences unanimously make use of the same method.

> The method of science as Popper observes, consists in offering deductive causal explanation and treating them by way of predictions i.e, the hypothetical-deductive method. Explanation, predictions, and testing are thus the jobs of all science which is theoretical and empirical

science backs up its explanations and predictions (Agbedo, 2001:58).
The unification of methods of research in sciences may not be adequately possible in Humanities generally and linguistics particularly because researchers are becoming more creative in the ways they see answers to questions in their unique field of specialization.

3.0   Priming Methods in L_2 Research

The priming method in L_2 research adopts appropriate aspects of the other methods that conform to the principle of the approach. However, three methods developed in recent years figure, prominently, in the delivery mode of programs guided by the prime approach. Two of these methods are; Active Learning Model which is guided by the following principles-silence is necessary, students progress through errors, diversity is valued and incorporated in program activities, a safe and comfortable environment is essential, an accepting and predicative environment fosters motivation, students must be involved; and Project-Based Learning which is guided by the following principles-builds on previous work, integrates observing, speaking, listening, reading, and writing skills, incorporates collaborative team work, problem solving, negotiating and other interpersonal skills, requires learners to engage in independent work, challenges learners to use L_2 in new and different contexts outside the class, involves learners in choosing, the focus of the project and in the planning process, engages learners in inquiring new information that is important to them, leads to clear out comes and finally, incorporates self-evaluation, peer evaluation, and facilitator evaluation (Wikipedia).

The prime method is, therefore, distinguished by the high degree of active participation by the students in initiating the process of acquisition (largely through development of their own content), individually or collaboratively directing their own process of learning, having the confidence and the tools to control their conversations, to monitor, and evaluate their progress. "The method follows on the heels of the most recent research into second language acquisition" (Wikipedia).

Previous research, according to Fausey, Snider and Boroditsky (2011), has suggested that the form of an utterance is influenced by the form of a previous utterance. For example, people are more likely to describe an event using the passive voice if they have recently heard an active description (e.g., Bock, 1986; Sankoff and Lanberge, 1978). Research has also shown that the production of active versus passive transitive (e.g., Bock 1986, Sankoff and Lanberge, 1978), prepositional versus object datives (e.g., Scheepers, 2003) may be primed.

One may examine linguistic priming from at least two perspectives. First, it is advisable to put into consideration a particular kind of language use-such as causal verbs that may appear in both agentive and non-agentive expressions-and analyze patterns in language use. Second, it is also important to consider the perspective that people might take on causal events-such as attending to causal agents or not-and use language production as one behaviorial indicator of a particular perspective (Fausey and Boroditsky 2007).

3.1 Causal Languages in Lab as Experimented by Fausey, Similar and Boroditsky (2011)

In the words of Fausey, Snider and Boroditsky (2011), how people describe causal events during natural language use appears to rely on the local linguistic environment. They say that a particular causal event description is more likely to match the form of previous causal event description than to change forms with respect to agentive and non-agentive forms. According to their corpus analysis, agentive and non-agentive descriptions of causal events can be linguistically primed. In natural language corpora, however, each target description can only be primed by either an agentive prime description or a non-agentive prime description. It is, therefore, impossible to manipulate the prime status for any given target description.

In their study, participants viewed a pair of pictures depicting the beginning and the end states of a causal event-either paint-splattering or vase-breaking-and then they described the event. Fausey, Snider and Boroditsky (2011) hypothesize that people's language descriptions of the causal event would match the form of an unrelated prime sentence that they had read prior to viewing the event depiction. Assuming people's language production is related to how they construe the beginning and end states picture of the evident, this paradigm may reveal one way in which local linguistic context shapes causal event construal.

Their corpus analyses suggest that an implicit priming mechanism may operate during natural language use of agentive and non-agentive expressions. Can the production of these expressions be linguistically primed even when participants describe the very same causal event? This question can be answered through the following priming research analysis.

Participants

Let us say 233 students at the University of Nigeria, Nsukka participated for course credit.

Materials

Linguistic Primes: Participants read one prime sentence, drawn from a set of eight sentences. The full set consists of an agentive and non-agentive description of four events (see table 1).
Visually-Depicted Events: Participants described a pair of pictures depicting either a paint splattering event or a

vase-breaking event. Each visual depiction consists of a beginning-state frame and an end-state frame (see figure 1).

Design
After reading either an agentive or a non-agentive prime sentence, participants viewed a pair of pictures and described the visually-depicted event. Primes and pictured events ere fully crossed.

Table 1. Linguistic Prime Stimuli

Agentive primes	Non-agentive primes
He popped the balloon	The balloon propped
He opened the umbrella	The umbrella opened
He unfastened the necklace	The necklace unfastened
He blew out the match	The match blew out.

The dependent measure was either people described the pictured event using agentive or non-agentive language. In addition to the influence of the agentive states of the prime, item effects of the four prime sentences and two pictured events were also analyzed.

Procedure
Participants completed a two-sided survey that was presented among several other unrelated surveys. On the front side of the page, participants read one sentence and were asked to "please continue the story for another sentence or two" on blank lines that appeared below the prime sentence. This encouraged them to actually process the prime sentence. On the back side of the page, participants saw the beginning and end of a causal event and were asked to "please describe this event".
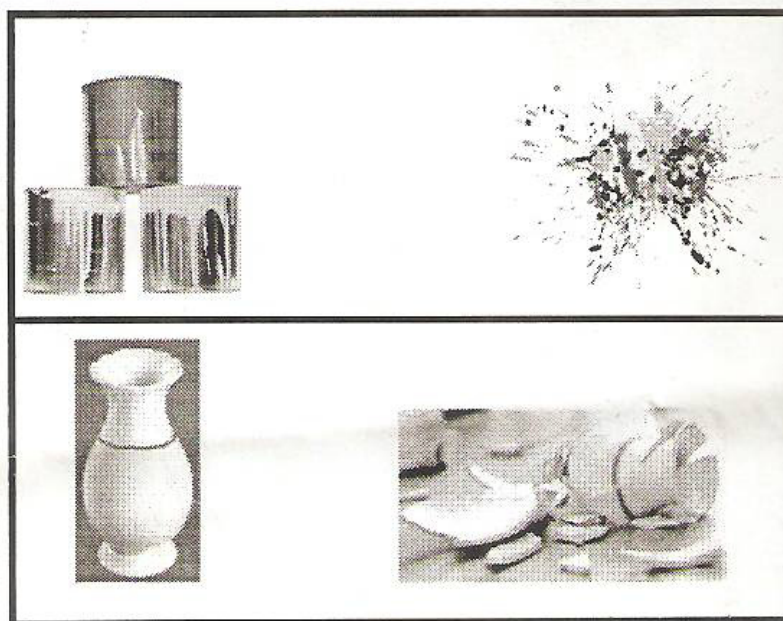

Figure 2: Pictured events.

Results
Coding: Each event description was coded as agentive or non-agentive. Transitive sentences, both active (71%) and passive (29%), were coded as agentive intransitive sentences were coded as non-agentive. All sentences ere coded by the first author and by an independent coder, with high reliability (k=87) (see table 2. for agentive and non-agentive responses).
Analyses: Data were submitted to a chi-square analysis. As predicated, people were more likely to describe an event using agentive language following an agentive prime (n=53), and to describe an event using non-agentive language following a non-agentive prime
(n=67) than following an agentive prime (n=40, x^2 (1) = 9.79, P =002 (see figure 2a).

Table 2: Examples of Causal Event Descriptions Agentive Responses

Somebody broke the vase.

The vase was on a table until someone knocked it down.

Someone took the paint and splattered it on the wall.

Somebody knocked the paint over and made a mess.

Non-agentive Responses

The vase broke.

The pretty antique vase broke and shattered into pieces Paint cans exploded.

The paint was in the buckets then it spilled out the wall

The effect of agentive and non-agentive primes held for both the vase-breaking and the paint-spilling events, though it is clear that English speaker had different overall biases with respect to agentivity in describing these events (Fausey, et al, 2011). As depicted in panels (b) and (c) of figure 2, English speakers preferred to describe the paint-splattering event using agentive language, and the vase-breaking event using non-agentive language. However, the effect of an agentive or a non-agentive prime was in the same direction for both events, marginally significant for paint-splattering (x^2 (1) = 2. 90, P= 089) and significant for vase-breaking (x^2 (1) = 6.71, P= 01). Furthermore, all four prime sentences influenced causal event descriptions in the same way. Only one prime-event stimulus combination deviated from the reported effects: following the umbrella prime sentence, only three of 28 people described the paint-splattering event using non-agentive language.

Figure 2 Primed Descriptions of Causal Events; (a) Overall, (b) Paint-Splattering, (c) Vase-Breaking
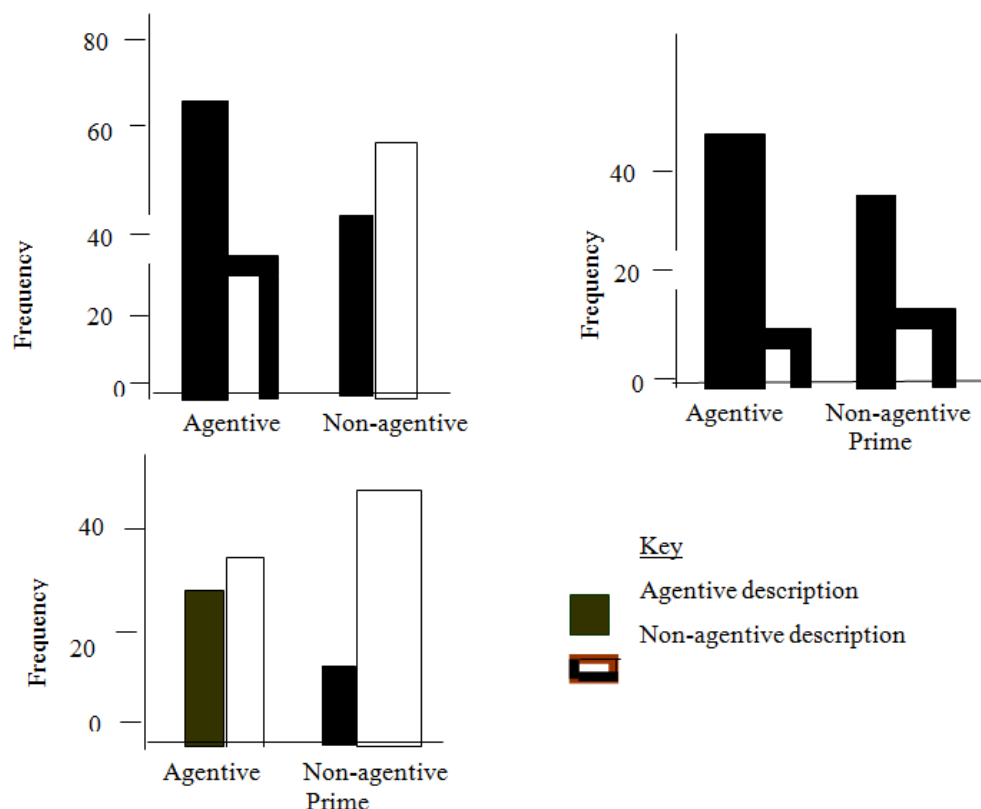
People are more likely to talk about the agent of a causal event in the presence of an unrelated event description that is agentive rather than non-agentive in a controlled experimental setting. Description of very the same visual stimulus depends on the local linguistic context (Fausey, et al, 2011).

4.0 Summary and Conclusion

We have, in this work, been able to examine priming methods in L_2 research. Priming method, as we observed, deals with reinforcement (repetition of utterances or events) so as to strengthen learners' knowledge of particular linguistic events. It also involves the use of visual activities and varying of utterances, as we can see in table 1 and 2; figure 1 and 2 respectively.

It is also evident, form our study, that agentive and non-agentive causal event descriptions can be primed. In both experimental settings and in natural dialogue, people are more likely to mention an agent when describing a

causal event which they have recently encountered. They can describe an agentive event more accurately than describing a non-agentive event. Priming clearly influences linguistic choices in everyday conversation using agentive and non-agentive event decryptions, and other researchers like Fuasey and Boroditsky (2007) aver that priming expressions impact further reasoning about causal events. Priming, therefore, could be a mechanism by which linguistic experience influences reasoning more generally.

In conclusion, priming method of L_2 research, owing to its practical nature, is a good one. When utterances or events are primed linguistically, learners (students) become more encouraged and stand a chance of learning fast.

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