

Language Frames, Cognition and Perception

Hayat Al-Khatib
hkhatib@aou.edu.lb

Abstract

Innovative science education studies are in pursuit of ways in which learning contexts can funnel the content of the learning activities to support information processing and increase the understanding of the learner (Schunk, 2008; Berube, 2008). According to Kant (Guyer, 2005), perception is utilized in the compartmentalization of the physical world. Vygotsky (1978, 1986) maintains that language plays an essential role in mental processes. The use of language to express representation is already innate and essentially formulated in the brain.

Sapir-Whorf hypothesis postulates that the language a person uses reflects how the person perceives and understands the world and consequently behaves in it. However, selected patterns of semiotics exert specific modes of framing and value conferring influences on events. These are manifested in the form of communication packaging, with respect to their meaning and significance.

Whorf (1956) argued, "The world is presented in a kaleidoscopic flux of impressions that has to be organized in our minds". Sapir (1983) proposed that language packaging is toned by metacognitive and pragmatic considerations that may affect intellectual capacities and influence behaviour modes.

This paper proposes that language packaging affects cognition and perception. The dynamics of representation through information packaging become essential to the configuration and the

organization of perceptions and may even regulate specific patterns of behaviour.

Cognitive linguistics identifies areas of perception, attention and framing as essential to cognition and influential in the subsequent patterns of behaviour of the participants (Acheson, MacDonald, and Postle, 2010). From a functional semiotic perspective, Halliday (2004) proposes three layers of value laden language packaging. These are perceived to aid the semantic recording of information and impart specific interpretations. The experiential layer proposes implicit negative or positive associations from the semantic domain of the subject matter. The interpersonal layer frames the stance and attitudes of participants. The textual layer presents connected grammar frames within the selected channel of communication.

The study is based on data collected from educational contexts and specifically training workshops on English language teaching. The selected language packaging was correlated with specific modes of attention in terms of the ascribed values of the referents and their perceived associations. The results of the study propose that language packaging in structured input can influence perception, attention and behaviour and may be utilized in syllabus design.

Evidence from applied contexts confirms that the brain stores associations between structures, organizations and semantic categories that are triggered by specific modes of representation (Wandersee, Mintzes, and Novak, 1994; Braddeley, Eysenck, and Anderson, 2009). An empirical approach is developing that looks into the relationship between the human language, the mind and the representative frames that embody the sociophysical experience.

Key words: information processing, perception, compartmentalization, language packaging, metacognition, pragmatics.

Introduction

Innovative science education studies are in pursuit of ways in which learning contexts can funnel the content of the learning activities to support information processing and increase the understanding of the learner (Schunk, 2008; Berube, 2008). According to Kant (Guyer, 2005), perception is utilized in the compartmentalization of the physical world. Vygotsky (1978, 1986) maintains that language plays an essential role in mental processes. The use of language to express representation is already innate and essentially formulated in the brain. Whorf (1956) argued, “The world is presented in a kaleidoscopic flux of impressions that has to be organized in our minds”. Sapir (1983) proposed that language packaging is toned by metacognitive and pragmatic considerations that may affect intellectual capacities and influence behaviour modes. Evidence from applied contexts confirms that the brain stores associations between structures, organizations and semantic categories that are triggered by specific modes of representation (Wandersee, Mintzes, and Novak, 1994; Braddeley, Eysenck, and Anderson, 2009).

However, selected patterns of semiotics exercise specific modes of framing and value conferring powers on events. These are manifested in the form of communication packaging, with respect to their meaning and significance.

This paper proposes that language packaging affects the forming of specific perceptions that

manifest themselves in the ensuing behaviour. The study is based on data collected from educational contexts and specifically training workshops on English language teaching.

In workshops one, “*Sloobie*” texts were presented to a host of English trainers. Sloobie texts are nonsense texts that are governed only by structural frames. The presentation of nonsense texts that are maintained through morphosyntactic organisations, were observed to trigger cognitive processes, which resulted in acceptable speculation of the relevant semantic categories. The discussion revealed the activation of stored syntagmatic and paradigmatic dimensions of the language. The provided patterns of language packaging led to cognitive processes that correlated the concept and its ascribed values and associations, with its structural positions, to limit potential referents in the signification process.

Workshop one

In a presentation to a host of 45 English language tutors, “the Sloobie experiment” was performed at the Centre for Applied Linguistic Research CALR, the Arab Open University – Lebanon (December 2009).

The experiment required from participants to look at a text which contains nonsense words and use the lexicogrammatical and morphosyntactic frames to guess potential appropriate referents.

The Sloobie Experiment

A sloobie is a brumpting silop which draches in a layod. It okuls from Klooblie, a zert in Fring. In order to ning a sloobie, the layod is larted by a ticfrous layoder.



(CALR, 12 December 2009)

The participants were able to unpack the text into four independent sentences:

A sloobie is a brumpling silop.
It draches in a layod.

It okuls from Klooblie.

Klooblie is a zert in Fring.

Potential referents were provided in the form of listings from the categories of nouns and verbs. Structuring and framing sequences were utilized to interpret the signification processes and guess the abstract proposition of the presented nonsense items. Correlations were drawn between the principles and conditions governing the reference relationship between the proposed noun phrases, the semantic roles of the elements in the set grammatical frames, and the syntactic rules of positioning and movement within the structure *per se*.

The retrieval process, leading to the establishment of the semantic categories “*country, fish, dancing, river, comes, Asia, lives*”, was attributed by the participants to the syntactic frames and the paradigmatic alternatives. The structural frames governing the text supported the retrieval process. Participants reported that their schema of interpretation, as evident in the selection of the potential words and phrases, resulted from their perception of the logical equivalent alternative. In this sense, information processing was related to the macro structures of the text and the available morphosyntactic frames. The morpho-syntactic linguistic frames triggered the ensuing cognitive processes.

Workshop two

In workshop two, a series of news extracts were presented to the participants and they were asked to identify specific language frames in the text and discuss the effect of the lexicogrammatical

selections. The specific compression of ideological and interpersonal frames positioned the readers, through suggesting particular frames of perception, that were based on the selected lexicogrammatical categories.

Extract One

- Cluster bombs affected tens of thousands of lives in south Lebanon.
- After the 2006 war, the international community poured funds into clearing the millions of cluster bombs that dropped in the region.
- Once on the ground, cluster bombs disperse into hundreds of bomblets, making them even more dangerous and vicious than landmines.

(BBC News Online, Middle East, 18 April 2009)

Extract Two

- The shoot out in the northern city of Tripoli has killed and injured a number of people in North Lebanon.
- Troops and gunmen exchanged fire and reports confirm that at least one person has been killed and six injured in the outbreak.

(Lebanon files, 6 December 2009)

The projected frames underlined specific lexical and grammar selections that were used to reflect or construct specific emphasis at three frontiers: in representing the experience; in representing relations, and; in representing the textual layer that holds the linguistic frames.

In opting for a loaded lexis, specific negative or positive connotations are implied and these serve to construct specific frames of reference. The grammar relations of agency and affectedness signified specific relations of accountability and blame. Specific language frames of thematisation and fronting were used to serve specific aspects on primacy of the transacted information. In signifying a specific representation, the transactional actor is

selected as inanimate, i.e. “bombs”, with the relevant implicated liability. The transactional goal is presented as inert or passively receiving the process. The transitive patterns used reflect agentive emphasis on relations and events in the world. Material processes were presented in the transitive processes to give rise to an action related to actors and goals. The agentive emphasis in the role of the doer underlined specific types of relations that have favourable or unfavourable connotative values.

Using ergative verbs reallocated emphasis and blame, e.g. bombs dropped. In the same manner, presenting actions not as verbs but as nouns and noun phrases through nominalization served to construct a specific frame of liability, e.g. the shoot out. Agency is suppressed through nominalization by mentioning the action and omitting mention of those responsible for it and by representing events as naturally flowing.

Language packaging in the form of passive structures, is another grammar strategy which is used to de-emphasize agency. The agent is completely deleted in short passives, e.g. One person (goal) has been killed (process). Such a linguistic frame deflects the reader or listener’s attention from laying responsibility if the action involves negative connotations such as “killing”.

The textual framing predisposes the reader to interpret the text in a particular way. The choice of labels, “*troops and gunmen*” highlights aspect of legitimacy in carrying firearms; the use of “*exchanged*” imply equal fire-power, and so on.

In the above extract, the packaging of information contributed to building or discouraging specific cognitive interpretations that influence the attitudinal stance of the recipients of information. The mental

representation brought about by the lexicogrammatical selections and the positive and negative perceptions associated with the specific choices, triggered a series of schema interpretations within the set reference frames. The selected forms of presentation were found to affect the interpretation of meaning and the creation of specific interpretive approaches and associated responses.

The three layers of language packaging that were used channeled a specific orientation in the semantic recording of information:

1. The experiential layer concerned with the presentation of the experience. The experiential layer proposes implicit negative or positive associations from the semantic domain of the subject matter.
2. The interpersonal layer frames the stance and standing of participants;
3. The textual layer presents the linguistic frames within the selected channel of communication.

The study revealed the influence of the language frames on the formed perceptions and the understanding of the concerned group. Other relevant framing strategies included thematisation or fronting of main proposition in cause and effect relations; non-negotiable standing, e.g. “has killed”; negative adjectival, “dangerous”, “vicious”; asserted predictions, “once on the ground, cluster bombs disperse”

The application yielded the following findings:

1. Framing aids in the processing of information
2. Language users project specific events and realities through using language
3. Language packaging can be manipulated to influence the interpretation of information

Conclusion

The dynamics of representation through information packaging, cognition and behaviour are essential in the configuration of key knowledge, the organization of perceptions, and the regulation of specific patterns of behaviour.

According to Kant (Guyer, 2005), knowledge is utilized in the compartmentalization of the physical world. The use of language is essential in the expression of this representation.

The packaged frames supported the triggering and the retrieval processes and oriented the language recipients to the associations between input and the relevant frames. In addition, the selected structural patterns and the syntagmatic and paradigmatic frames provided specific modes of reference and value conferring influence to the transacted message. These are manifested with respect to meaning and significance.

Vygotsky (1978, 1986) maintains that language plays an essential role in mental processes. The use of language to express representation is already innate and essentially formulated in the brain. However, Whorf (1956) observes, "The world is presented in a kaleidoscopic flux of impressions that has to be organized in our minds". Sapir-Whorf hypothesis postulates that the language a person uses reflects how the person perceives and understands the world and consequently behaves in it. Language anchors thought and the interdependence of thought and speech was argued by Whorf to be in favour of language.

An empirical approach is developing that looks into the relationship between the human language, the mind and the representative frames that embody the sociophysical experience. The processing of information includes the detection of different kinds

of symbols, as well as their categorization according to intrinsic qualities and characteristics. By infusing lexical items with negative or positive connotative values, language packaging can influence cognition and behaviour through stimulating a specific reaction that can result in the formation of associations. The results of the study propose that language packaging in structured input can influence perception, attention and behaviour, and may be utilized in syllable design.

References

- Acheson, D.J., MacDonald, M.C., & Postle, B.R. (2010). The Interaction of Concreteness and Phonological Similarity in Verbal Working Memory. *Journal of Experimental Psychology: Learning, Memory and Cognition*; 36:1, 17-36.
- Braddeley, A., Eysenck, M.W., & Anderson, M.C. (2009). *Memory*. London: Psychology Press. p. 27, 44-59
- Berube, T. (2008) *The Unfinished Quest: The Plight of Progressive Science Education in the Age of Standards*. Charlotte, NC: Information Age, Inc
- Guyer, P., (ed.), 2005, *Notes and Fragments*, Cambridge: Cambridge University Press.
- Halliday, M.A.K. (2004) *Introduction to Functional Grammar*. London: Edward Arnold.
- Hurd, P.D. (1991). Closing the educational gaps between science, technology, and society. *Theory into Practice*, 30, 251–259.
- Lucantoni, P. (2009). The Sloobie Experiment at the Centre for Applied Linguistic Research CALR, Arab Open University, a joint workshop with the British Council in Lebanon.
- Sapir, E. (1983). *Language, Culture and Personality*. Edited by David Mandelbaum. University of California Press.
- Schunk, D. (2008) *Learning Theories*. Prentice Hall.
- Vygotsky, L.S. (1978). *Mind and society: The development of higher mental processes*. Cambridge, MA: Harvard University Press.
- Vygotsky, L. (1986). *Thought and language*. Cambridge, MA: MIT Press.
- Wandersee, J.H., J.J. Mintzes, and J.D. Novak. (1994). Research on alternative conceptions in science, in D. Gabel (Ed.), *Handbook of Research on Science Teaching and Learning*. New York: Macmillan.
- Whorf, B.L. (1956). *Language, thought, and reality: Selected writings of Benjamin Lee Whorf*. Edited by J.B. Carroll. Cambridge, Mass: MIT Press.