

# Chapter 7

## Semantics and Pragmatics in Mathematical Events: A Linguistics View

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### ABSTRACT

*The current chapter throws light on mathematical semantics and pragmatics. Believing that the mathematics has its own language and hence linguistics principles, the chapter tries to have an in-depth insight on how learner makes a meaning from an even simple event, while it takes place, and how these finally are assimilated by the learner. As learning is also experiential in nature, the contextual values, relationship, rapport, trust, confidence, in addition to simple interaction and plain interaction between learners and facilitators, play a vital and significant role in conceptual semantics and pragmatics of events and understanding of underlying mathematics. Context and situation are capable enough of changing perception-based mathematical meaning and meaning-making process, based on linguistics, associated with even the similar simple events. Hence, the context and situations must be created, associated and exploited up to the optimum level for enhanced conceptual teaching and learning of mathematics at par the daily life experiences for a better meaning-making process.*

### INTRODUCTION

Mathematics, generally, is popularly understood to be a straightforward subject, associated with direct conceptual understanding of some peculiar facts and operations. But, while it comes to the underneath conceptual understanding, the situations which seem to be very simple, in fact, are very complex in nature.

Semantics, basically, is study of meaning associated with a language (Syafrinaldi, 2012, p. 88). This meaning may be conceptual meaning, connotative meaning, social/contextual meaning, emotive meaning, reflected meaning, collocative meaning and thematic meaning. Here, we are more concerned with contextual meaning and emotive meaning. In mathematics, we can grasp semantics as mathematical

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meaning associated with events. Semantics can also be understood as a practical discipline: systematic and methodical (Pettit, 1977, p. 26). Mathematics is not merely a systematic discipline, but has a proper guided method too. According to Kisno (2012, p.2), semantics is study of meanings that can be expressed. It simply is an explanation of semantics as an overt and observable concept. The output which can be expressed with the help of language: words and sentences. An event can not only be understood and observed but also can be expressed with the help of language and resulting acts. The subject matter of semantics is meaning (Rajimwale, 2006, p. 197). Though concerned with the meaning but not constrained only to text, it also connects itself to objects and events. Synchronic semantics tries to establish and deals with the relationships between the referents and the objects or events (p. 198).

While semantics is associated with the meaning, pragmatics is associated with the use (Rajimwale, 2006, p. 200). Though semantics and pragmatics can deal with the same event, but there is a basic difference between the two. Pragmatics deals with the rules guiding the implications of things (Rubinstein, 2012, p. 189), while semantics with the meaning associated with the things. Pragmatics sees the world with an image, not merely a text (Doam, 2001). Pragmatics deals with the intent of communication or speaker meaning (Leech, 1983; Sperber & Wilson, 1986a; Sperber & Wilson, 1986b). It is another issue that whether having vague knowledge about something: an object or an event is totally useless. Is the vague knowledge is entirely false? Vague knowledge is not always false (Rowland, 2005), it also plays a vital role in meaning making process and perception. In mathematics, semantics may be seen as meaning making of an event and the pragmatics as relationship between events and the people.

## **BACKGROUND**

Linguistics inherits simplicity in complexity and complexity in simplicity, and so is the mathematics. This common nature of linguistics and mathematics, by and large, results into a bridge between the two. Semantics and pragmatics are at the core of the two, and hence, the semantics and pragmatics associated with mathematical concepts are affected. Semantics, basically, is study of meaning associated with a language (Syafinaldi, 2012, p. 88). Pragmatics deals with the rules guiding the implications of things (Rubinstein, 2012, p. 189), while semantics with the meaning associated with the things. Pragmatics sees the world with an image, not merely a text (Doam, 2001). Pragmatics deals with the intent of communication or speaker meaning (Leech, 1983; Sperber & Wilson, 1986a; Sperber & Wilson, 1986b).

Just like knowing the language only is not knowing all about the linguistics, likewise just knowing the numbers is not knowing all about the mathematics. The current paper, with the help of two typical, though layman's events, endeavors to throw light on mathematical semantics and pragmatics as these moves on. Believing that the mathematics has its own language and hence linguistics principles, the current paper endeavors to have an in-depth insight on how learner makes a meaning from an even simple event, while it takes place, and how these finally are assimilated by the learner. It tries to examine whether just the net quantitative output always have a significant effect over the mathematical understanding of a learner through the language of mathematics. Driven by semantics and pragmatics, inherited by mathematics, the current paper makes an effort to understand how the linguistics of 'events' affects the meaning making process.

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