

## Chapter 69

# Understanding Children's Private Speech and Self- Regulation Learning in Web 2.0: Updates of Vygotsky through Piaget and Future Recommendations

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### ABSTRACT

*Web 2.0 offers the Zeitgeist to update seminal research concerning children's Private Speech (PS) and Self-Regulation Learning (SRL) for application in social networks. Contemporary literature holds a body of research from the Vygotsky through Piaget to constructive theories that can be applied to theoretical foundations of Web 3.0 designs. Specifically, the purpose of the present chapter is to be present an index based on valuable and effective research concerning the subject matter in which a historical overview of both PS and SRL have demonstrated significant complexities and the most significant critiques that exist in the literature. The chapter does not mean to include detailed research methodology and results but, instead, to be used as an indexing review of PS and SRL for possible theoretical foundations in applications in the expanding world of social media. Finally, the conclusion provides a reflection on the future of our children's PS and SRL and what we should do next to enhance these concepts.*

DOI: 10.4018/978-1-4666-8111-8.ch069

## **INTRODUCTION**

By and large, the research of children's Private Speech (PS) and Self-Regulation Learning (SRL) remains one of the noblest researches in the literature given the fact that it is about a century since the seminal research of the children's behavioral regulation started by Vygotsky in 1920s, followed by Piaget in 1950s and still continues so far by the subsequent researches. Accordingly, the current researchers must realize the fact that children nowadays are completely different compared with the previous generations and the fact that the computer and social networks, in all terms, was not definitely as nowadays given the scientific fact that embedding the powerful of both mathematics and Artificial Intelligent (AI) through the sophisticated programming languages may come with different and novel criteria and measurements for both PS and SRL.

Remarkably, during your navigation in the literature, you will be most probably wondering why the research of PS and SRL remains one of the noblest researches, what the previous and subsequent researches did, and what might be expected to happen for both PS and SRL in terms of modern research. Thus, the present chapter was aimed to gather the most valuable and effective researches associated with most complexities and latest findings with the most significant critiques concerning PS and SRL. However, the present chapter does mean to include the detailed information and results of those studies but, instead, to be used as a review of the literature and simultaneously as an index to the most effective and valuable studies in the literature so far.

## **PRIVATE SPEECH (PS)**

### **Historical Overview**

The seminal research regarding the contemporary inner speech investigations was began in 1920s

with the early work of the Russian psychologist Lev Semenovich Vygotsky and his colleagues Luria, Leontiev, and Levina. Vygotsky et al. (1929) conducted a series of experiments on the egocentric speech of children and found that egocentric speech was a function that directly connected to thought and problem solving. Stated differently, in Vygotsky's view, private speech represents a stage in the gradual internalization of interpersonal linguistic exchanges whose final ontogenetic destination is inner speech, or verbal thought (Fernyhough & Fradley, 2005).

Piaget (1959) stated the basic observations of children's egocentric speech and this research has been integrated by Luria (1959, 1961), which conducted a number of experiments that based on involving a bulb-squeezing tasks for children aged 1.5 and 5.5 young and her studies found that children aged between 3-5.5 young were perfectly able to complete the tasks when the number of squeezes matched the number of words in the verbalization and the situation is opposite when there was inequality between the number of squeezes and words (for instance, the two statements 'Squeeze two times' and 'Squeeze twice' make the child to squeeze three and tow times respectively that means one squeezing for each word).

In the 1960s, the findings of Luria have been replicated by other researchers who used the same tasks to test the coordination of the speech-action of young children (Lovaas, 1961, 1964; Birch, 1966; Meichenbaum & Goodman, 1969a, 1969b). In sum, those studies emphasized that shifting from motoric to semantic aspects of speech is being functional occurring at almost the same time and this is matching as the Vygotskyian's hypothesis (Vygotsky, 1987) that the internalization of private speech from other to self, from overt (i.e., aloud to self and that is what currently known as self-talk) to covert (i.e., quiet with lip movements that is what currently known as thinking aloud).

In the 1970s and 1980s, Vygotsky (1978, 1986, 1987) in his subsequent research argued that private speech is a form of thinking, problem-solving,

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