A VYGOTSKYAN EDUCATIONAL PSYCHO-SEMIOTIC PERSPECTIVE OF INTERPSYCHOLOGY IN CLASSROOM TEACHING AND TEACHER SOCIALIZATION: THEORIES, INSTRUMENT, AND INTERPRETIVE ANALYSES

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To

Professor Kevin Marjoribanks,

My professor and mentor

It all began in that wallless room,
where you sat at the other side of the table and listened.

Today, as people have done for thousands of years,
I burn these pages.

The reply from you will be the most awesome of all.
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ABSTRACT

This study reviewed and dialogued with Vygotsky’s epistemology and developmental psycho-semiotics, where development results from the dialectic connections between phylogeny and ontogeny, consciousness and unconsciousness, society and individuality, all of which are mediated in the relationship between language and thinking. Based on Vygotsky’s developmental psycho-semiotics and contemporary psychoanalytic theories, this study discussed an educational psycho-semiotics, concerning the mediational mechanism of teaching as the environment of learning. ‘How does teaching influence learning in a mediational way’, and particularly, ‘how is the dialectic speech-thinking relationship reflected in teaching and teacher socialization’ were the core problems. To the core problems, this study provided a tentative, three-fold response, involving a theoretical, an instrumental, and an interpretive analytical component.

Theoretically, it argued that while the simultaneity of interpersonal infusion and intrapersonal integration underlies individual development, the simultaneity or synchronicity of intrapsychological and interpsychological communications defines the quality of teacher-initiated educational relationship and socialization. An acausal, apperceptive cycle, teachers’ intrapsychology – interpsychology – students’ intrapsychology was identified as the fundamental educational mechanism. Reflecting this fundamental mechanism were four structural principles in the higher (i.e., mediated) forms of teaching and teacher socialization. These were the structure of task and
participation, functional systematicity in conceptual teaching, interpsychological encounter between teacher and students, and the internal order of interaction.

As the study was conducted in the discipline of English as an Additional Language (EAL), Vygotsky’s developmental theory on language and thinking and its particular implications for L2 education were also considered. For better understanding of teachers’ psychological operations, the notion of scientific concepts was reinterpreted. Four features of scientific conceptual functionality were described, which corresponded with the structural principles of mediated teaching.

In the second component of the study, a tentative instrument was established, with four dimensions (structural, conceptual, social conceptual, and historical) and each at external and internal levels, for the interpretation of teachers’ intrapsychology as the precondition for teacher-student interpsychology.

The final component responded to the central question of mediated teaching and teacher socialization with interpretive analyses of classroom data collected from three senior secondary ESL teachers at three Adelaide schools. Episodes of teaching and teacher-student conversations were interpreted from the four dimensions at external and internal levels so as to shed light on the acausal, apperceptive mechanism that originates from teachers’ intrapsychology to teacher-student interpsychology. Overall, despite surface differences in curriculum contents, tasks, semantics of teachers’ speech, and student clienteles, analyses showed that the mechanism of teacher intrapsychology – interpsychology – student intrapsychology could be used in understanding teaching and teacher socialization across school and classroom settings.
In replying to the central problem of the research, i.e., how does teaching influence learning in a mediational way, or how is speech-thinking relationship reflected in teaching and teacher socialization, the theoretical, instrumental, and analytical components of the study did not proceed in a temporal sequence. All three components interacted and mutually facilitated one another. This research methodology was likened to an equation between two unknowns and could be described as the heuristic inquiry. A heuristic inquiry was necessary because of the study’s conceptualization of the research problem, i.e., teaching and teacher socialization, not as causal, but as the acausal and apperceptive origins of learning. With regards to the distinctive research methodology, this study did not present a final, conclusive answer to the problem, but a cohesive platform on which future research can be built.
DECLARATION

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CHAPTER ONE
EPISTEMOLOGICAL CONTEXTS OF RESEARCH

To understand the interpsychological mechanism of teaching and teacher socialization as classroom learning environment, the relationships between speech and thinking and between consciousness and unconsciousness are fundamental questions. On these fundamental epistemological questions, controversies are plenty. As a result, research on teaching and teacher socialization as learning environment varies entirely in its nature and process. In terms of conceptualization of research problem, methodology, instrument, as well as analyses, this study was characterized by fundamental differences from mainstream research on teaching and teacher socialization as learning environment.

In this initial chapter, the epistemological contentions in the context of the research are discussed. Such contentions concern such issues as: the relationship between speech and thinking, consciousness and unconsciousness in learning, consciousness and unconsciousness in speech, as well as the conceptualization of the social environment for learning.

1.1 SPEECH AND THINKING

The psychology of language in the development of thinking is pivotal for understanding the social interaction that constitutes learning environment. Conceptualizations of the relationship between speech and thinking involve two opposite views. On the one hand are popular constructivist theories, which claim a direct, causal influence of language on learning. Criticizing this position, Fox (2001, p. 28) is correct in arguing that a causal, exclusive

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1 Parts of this chapter were published in Liu & Matthews, 2005.
speech-thinking relationship denies the roles of the sensori-motor and various implicit
channels of learning.

Another variant of this extreme socialization theory is to argue that all knowledge is
based on language and on linguistic representation, or perhaps on semiotic systems more
generally. Human minds are said to be ‘shaped’ by language, although it is not clear why this
one form of experience is held to exclude others (viz perceptual experience, practical trial and
error and non-verbal emotion). If held literally, this view denies any knowledge to infants in
their pre-linguistic phase (all of Piaget’s sensori-motor intelligence) and tends to imply that
animals cannot know anything. It also ignores all the implicit knowledge we have of the
world which we have never put into words (Fox, 2001, pp. 29-30).

However, in opposition, Fox goes to the other extreme and questions how language can
become “the material out of which most constructivists seem to want to build knowledge”, for
it is “built out of brute physical sounds or visual marks, or similar alternatives”. Liu and
Matthews (2005) observe that constructivism and its extreme criticisms in fact do not differ in
epistemological root; both originate from a separatist paradigm of the external and the internal,
and the social and the individual.

Defended in this psycho-semiotic study is a dialectic monist perspective (cf. Robbins,
2001), where language integrates with thinking and functions as a symbolic system and a
psychological tool. In the psychological, symbolic system, language and thinking form an
irreducible whole that is qualitatively different from the external linguistics or the unmediated
thinking process in independence. In this unified whole of language and thinking, the basic,
meaningful unit is not word nor thinking alone, but word meaning, the psychological
integration of the two. Vygotsky describes word meaning as the smallest living, organic cell
in the bigger ecological system of human language. It is the dialectic unity of the external
reality and imaginative thinking. One cannot reduce beyond word meaning without great loss
in understanding in the same way one cannot genuinely comprehend the property of water by
reducing its molecules to separate hydrogen and oxygen (Vygotsky, 1987). In this holistic
view of language-mediated thinking and development, research revolves essentially around language as ‘a verbal act of thought’ (Vygotsky, 1987, p.47), or verbal thinking.

In verbal thinking, reality is reflected in a radically different way from immediate, sensori-motor perceptions. Also,

\[\text{… the dialectical leap is not only a transition from matter that is incapable of sensation to matter that is capable of sensation, but a transition from sensation to thought. This implies that reality is reflected in consciousness in a qualitatively different way in thinking than it is in immediate sensation. This qualitative difference is primarily a function of a generalized reflection of reality. …} \]

\text{At the same time, however, meaning is an inseparable part of the word; it belongs not only to the domain of thought but to the domain of speech (Vygotsky, 1987, p. 47, italics original).}

Summarizing, in a monist, holistic paradigm, the development of word meaning and thinking are two aspects of the same unified process. Language and thinking operate as a dialectic unity in the psychological, symbolic system. Language-mediated thinking represents a revolutionary leap from direct sensory-motor perceptions. This departs from the separatist paradigm, in which opposing schools hold either an absolutist, causal stance or a view of the indifference between language and thinking. Despite surface variations, however, language and thinking are fundamentally independent and mutually exclusive at both ends of the opposition.

### 1.2 UNCONSCIOUSNESS IN ACTIVE LEARNING\(^1\)

\begin{itemize}
  \item NOTE: Section 1.2 is included on pages 3-12 of the print copy of the thesis held in the University of Adelaide Library.
\end{itemize}

\(\text{\footnotesize 2Another version of this section is to be published in Matthews & Liu (in print).}\)
1.3 CONSCIOUSNESS AND UNCONSCIOUSNESS IN SPEECH

From a social semiotic perspective, Hasan (1992, p.502) argues that “the Vygotsky-Luria framework for the socio-genesis of mind calls not only for a more sophisticated theory of language as suggested by Wertsch; it also needs a sophisticated theory of social organization”. Essentially, she is not calling for a theory of language as well as a theory of social organization. What is in fact postulated is a theory of language in correspondence with, or more precisely, subordinated to a theory of social organization. In a social semiotic perspective, language itself is not an active process; it serves the needs and purposes of class ideology.

At the base of a social class-language theory is typically the view of language as unconscious operations. For example, “[Systemic Functional linguists] view language as a large network of interrelated options, from which speakers unconsciously select when speaking” (Martin, 2001, p.153). Also, not only language, but life in general is seen as governed by unconscious choices.

[Social semioticians are] interested in the unconscious forces that shape our lives (Martin, 2001, p.149).

[Linguists and sociologists’] job is to discover the unconscious rules which govern our behaviour and to make them explicit – to make the invisible visible in other words. In order to do this they develop models for organizing these social facts and theories about the best way to build these models” (Martin, 2001, p.150).

And,

“There is no escaping [interpersonal power], however nice we try to be about it. … Renovation is hard work as we all know, and however democratic our ideals, there always seems to be some residue of power, and maybe more, around” (Martin, 2001, p.153).

In a social semiotic position, researchers of language use must catch speakers or writers in their unconscious, and so most ‘authentic’, moments.
... we might explore approaches to learning theory that are based on consideration of language. In other words, we might interpret learning as something that is inherently a semiotic process. And this in my opinion imposes certain constraints. One is that the theory would be based on natural data rather than experimental data: that is, on language that is unconscious, not self-monitored; in context, not in a vacuum; observed, not elicited. The reason for this is that, of all forms of human activity, language is perhaps the one that is most perturbed by being performed under attention – not surprisingly, because all other learning depends on the learner not having constantly to attend to the way experience is being construed (Halliday, 1993, p.94).

The conception of human psychology as unconscious and inactive essentially means that psychological factors must be excluded from the interpretation and analysis of language use. A social semiotic study examines changes in meaning-making brought about by alterations in linguistic and semantic features. Underlying this school of thinking is a fundamental paradox. On one hand, active psychological processes are discounted and isolated from language; on the other, language, in itself, is expected to account for the whole of psychology. The understanding of individual psychology in language is based on meanings that are conventionally and ideologically coded. Language and meaning / thinking thus considered form a causal, one-to-one relationship.

Vygotsky’s developmental psycho-semiotics (cf. Robbins, 2003), by contrast, perceives language not as the external representation of thinking; it is not identical to thinking. Language and psychology as heterogeneous processes interact with one another to lead to further development of thinking. Language mediates but does not equate to thinking; both language and thinking are perceived as ongoing processes. Language, of an internal-external dual nature, is the psychological tool mediating inter- and intra-psychological socializations. Language and psychology do not coincide; they unite dialectically and functionally in developmental motion.

*In studying language as social relations, authenticity of language data is not defined by natural, unmediated and unconscious use, but by language’s active role in mediating*
intrapsychological reflection and thinking. Authenticity is defined by the simultaneity or synchronicity of interpersonal and intrapersonal communications. Language does not communicate only with linguistic and semantic features, be it words, clauses or texts. More importantly, language communicates with the psychological semiotic relationships and organization in-between meaning units (detailed discussions in Chapter Three).

With the presence of an observer, individuals’ manipulations of speech performance are likely to change surface tenor and mode (Halliday, 1994) of language, but not likely to readily alter the nature and structure of verbal thinking. In verbal thinking, the conscious awareness required is an entirely different level of awareness from self-consciousness. The understanding of social relationship is not rooted in linguistic structures and choice of words, but in the reflective tension and psychological dynamics between meaning units (Chapter Three).

The view of unconsciousness held in social semiotics is inherited from Freud’s early conception of the unconscious as the dark, shadowy, undesirable counterpart of consciousness. Being the deterrent of consciousness and rationality, education must achieve the suppression, eradication, and replacement of unconsciousness with consciousness. One such educational theory postulated is ‘explicit teaching’, which argues for ‘systematic’, ‘explicit’, and ‘direct’ instructions of skills to ‘decipher’ and ‘decode’, of phonics, vocabulary, grammar, text comprehension, and literacies (e.g., ACER, 2006). The explicit teaching movement is a combat for the unaware teaching largely due to teachers’ own lack of equipment with linguistic rules and reading strategies. Teachers’ knowledge is a necessary but not a sufficient condition for ‘effective teaching’. Emphasis for direct transmission of hard-and-fact rules, principles and ‘strategies’ goes to the other extreme of non-teaching. It postulates the causal
dictation of learning and effectively does away with the thinking element that is at the heart of language and literacy.

In contrast to the view of the unconscious as the undesirable origin of the ‘unknown’, the stance defended here concerns the historical, phylogenetic resources for psychological structural development. Psychological structural development is enabled by consciousness-unconsciousness, interfunctional dynamics. This internal course of development must be called to life in teaching. The teacher’s work and creativity are not manifested in the correct use of language and the precise prescription of learning. He/she uses language to interact intrapsychologically as well as interpsychologically. Meaning and thinking are introduced from within the teacher, mediated in the psychological operation of teacher’s speech and activity. Thus, instruction invites and inspires but does not cause learning like casting a shadow. In both the process and the result of teaching, from beginning to end, language functions as psychological tools, incurring interfunctional connections and psychological reorganizations. Both the mechanism and result of teaching differ from those in the postulation of language operating as social power. In the latter, language forms and features operate at the conscious, rational, social external level; whereas in the former, language operates at the interpsychological space, in an intrapsychological-interpsychological-intrapsychological cycle (Chapter Three). In the latter, teaching and learning result in the ability to decode and encode language according to social denotations and connotations so that change can be brought about in the external world composed of individuals other than oneself. In the former, language becomes the tool for self-regulation and conscious awareness based on intrapsychological communications. Change in the social space must occur from inside out. The two schools of thinking differ fundamentally in epistemologies, whereas
social semiotics practices in the here and now, psycho-semiotics functions in the encounter between history and presence, consciousness and the unknown of the self, and between intra- and inter-psychology.

1.4 THE PROBLEM OF THE ENVIRONMENT

Controversies in fundamental issues discussed above, including relationships between speech and thinking, consciousness and unconsciousness in learning, and consciousness and unconsciousness in speech have meant disagreements on the conceptualization of social environment for learning. The role of the environment in Vygotsky’s theories is understood by some as the deterministic influences society has on individuals. The interpretation of the environmental superstructure and the individual fatuity gives the basis for Vygotsky to be held responsible for the origin of social constructivism. This view is held by particularly those not affiliated with the school of thinking. Critiques go on to make charges of a “blinkered social consensualism” (Fox, 2001) and epistemological social relativism implied in Vygotsky’s theories of learning environment.

On the other hand, some other scholars are discontented with Vygotsky’s notion of the environment because it is not “social” enough. In postulating a situated learning theory, Lave and Wenger (1991) disapproved of the concepts of ‘internalisation’, ‘generalization’, and ‘scientific concepts’ in Vygotsky’s theories. They contended that the environment for Vygotsky contains only “a small ‘aura’ of socialness that provides input for the process of internalisation, viewed as individualistic acquisition of the cultural given” (Lave & Wenger, 1991, p. 47). From a sociological semiotic perspective, Hasan (1992) makes a more serious accusation, arguing such notions of Vygotsky’s as ‘higher mental functions’ and ‘scientific
concepts’ prescribe specific and decontextualized use of language, leading to politically incorrect elitism.

In order to be able to intellectualize the social situatedness of the varieties of verbal interaction, what we need is a theory of social context. In Vygotsky’s work this necessary element of the theory of language is virtually absent (Hasan, 1992, p.502).

... The “process of reflecting on decontextualized meanings” has to be seen as a specific kind of social process, a particular kind of language use, as for example in certain cases of classroom discourse (Butt 1989a,b), or in explaining the steps in problem solving. The results of my research in Australia (Hasan 1989; 1991; 1992a; 1992b; Hasan and Cloran 1990) indicate that engagement in this kind of language use is the prerogative of a speaker’s privileged socio-economic position in the wider community (Hasan, 1992, p.502).

Based on this positively and peripherally projected interpretation, a Don Quixote’s ideological charge is launched.

In the context of such complex communities as the capitalist democracies of today, it becomes problematic then to even relate this social process directly to the ‘socio-cultural history’ of a speech community as a whole. What would it mean to say that the socio-cultural history of the working class mother in Australia is less evolved than that of the middle class mother? That this explains why the working class mother’s higher mental functions, her consciousness, are less evolved by comparison with the middle class mother? It seems to me that the Vygotsky-Luria framework for the socio-genesis of mind calls not only for a more sophisticated theory of language as suggested by Wertsch; it also needs a sophisticated theory of social organization (Hasan, 1992, p.502).

Generally, in different interpretations, social environment in Vygotsky is understood as ‘too social’; ‘not social enough’; or ‘not social at all’. Situated on both ends of the individual-social antimony and separatism (Cole & Wertsch, 2004), popular stereotypes are, more often than not, projections of intra-psyche disjuncture on theories rooted in an alien paradigm.

Indeed, Vygotsky’s theories are entrenched in a different paradigm altogether from separatism (Liu & Matthews, 2005), one that Robbins (2001) regards as historical-dialect-monism. Indeed, it is the opinion of this researcher that Vygotsky’s psychology of language and thinking development transcends social class, simply because of the dialectic and acausal relationships and mechanisms that underlie all educational considerations and developmental
issues, between teaching and learning, between scientific conceptual learning and
development, and between speech and thinking, to name a few.

In the midst of popular misconceptions and critical post-structuralists’ finger-pointing,
environment in Vygotsky is neither non-existent nor an abstract, overarching superstructure. Contrary to being a general backdrop or an external imposition, Vygotsky explicitly defines environment as *interpsychological relationship*. This is highlighted in his best-known quote:

> Any function in the child’s cultural development appears twice, or on two planes. First it appears on the social plane, and then on the psychological plane. First it appears between people as an interpsychological category, and then within the child as an intrapsychological category (Vygotsky in Wertsch, 1985a, p.60).

Environment defined as interpsychological relationship penetrates the very texture of individual social psychological experience. It represents not just the context but more fundamentally the source of development (Vygotsky, 1994b). In relation, interpersonal socialization involves the totality of psycho-semiotic interactions, beyond surface, semantic exchanges. As well, environment as interpsychological relationship is not composed of the sum total of separate, independent individuals, but their psychological connectivity, which is a qualitatively different and larger functionality (Liu & Matthews, 2004).

In contrast to the perpetual and varied ways of oscillating between the social environment and the individual as two separate entities, Vygotsky’s environment is a dialectic and functional unity of individuals. As a ‘humanistic’, in contrast with the ‘scientific’, psychology (Kozulin, 1996), Vygotsky’s perceives culture as the very fabric of individual behaviour, instead of a superstructure. As Kozulin observes, the humanistic represents a pivotal reorientation away from the scientific school of psychology.

The pivotal moment in psychology’s reorientation toward humanities occurs when it changes its stance toward the categories of nature and culture. Scientific psychology sometimes explicitly, but more often tacitly, assumes that culture is a superstructure of a human existence whose foundations are of a biological character. Culture therefore can be included in the
scientific psychological equation as a form of human environment or an external requirement imposed on human behavior. To understand behavior or cognition scientifically means to be able to “bracket” the multiplicity of culturally dependent appearances and identify underlying natural mechanisms. Only when this has been achieved can one begin the discussion about the so-called ecological validity of the obtained data.

In contrast, in a psychology that is patterned after the humanities, culture is considered to be the very fabric of human experience. It is presumed that the transition from biological evolution to human history has radically changed the psychological equation, so that culture became the true “nature” of the human world. From this point of view the authentic form of human existence is “being in culture”. Accordingly, human activity aimed at the creation and interpretation of culturally significant phenomena is accepted as paradigmatic (Geertz, 1973; cited in Kozulin, 1996, p.146).

In summary, on such issues as the relationships between speech and thinking, consciousness and unconsciousness in learning, and consciousness and unconsciousness in speech, the contemporary literature is not short of controversies. Also, contrary to many popular interpretations of the learning environment in Vygotsky’s theories, this notion is defined as interpsychological relationships. Fundamentally, contributing to all contentions and misrepresentations is often a paradigmatic distinction. Due to irreconcilable differences in essential, epistemological questions and in paradigmatic stance, the problem of the interpsychology in learning environment must be reconsidered based on a dialectic and holistic paradigm. The current study presented one such effort in comprehending and systematically extrapolating the interpsychological mechanism in teaching and teacher socialization as the learning environment.
CHAPTER TWO
RESEARCH PROBLEM, METHODOLOGY, AND METHODS

2.1 THE PROBLEM AND QUESTIONS OF RESEARCH

2.1.1 Research problem and questions

Learning and teaching are two heterogeneous components of a dialectic whole; although the psychology of learning has great significance for the psychology of teaching, the difference between the two is not collapsible. Whilst Vygotsky focused mainly on learning and development, proposing that speech mediation of thinking is the mechanism of intrapsychological development, he left large spaces for exploration on the matter of interpsychological transaction in teaching. Based on reflective review and dialogue with Vygotsky’s developmental psycho-semiotics, this study arrived at a view of educational psycho-semiotics, which concerns the mediational mechanism of teaching as the social environment of learning. ‘How does teaching influence learning in a mediational way’, and particularly, ‘How is the dialectic speech-thinking relationship reflected in teaching and teacher socialization’ were the core problems. Around these central problems, the study endeavoured to give a tentative, three-fold reply.

First, the study sought to explore theoretically, in light of Vygotsky’s language-mediated psychology of learning and development, a language-mediated psychology of teaching and teacher socialization with students. In fulfilling this goal, it asked what some of the structural principles of the higher forms of teaching are. Second, the study attempted to generate a tentative, systematic applicative instrument for future research and practitioner reflections. In this task, the goal was to identify key dimensions and specific meaning units
that depict the mediated nature of teaching and teacher socialization. The main challenge that was held in mind in fulfilling this goal was the reservation of the integrative whole of speech-thinking in the extrapolated and distinguished factors. Finally, the study also attempted analytical interpretations of classroom data. In analyzing transcriptions of teacher activities and speech in different classrooms and schools, the core of the mediated speech-thinking relationship was connected with the daily microgenetic processes and manifestations of teaching and teacher socialization. The three components, involving theoretical exploration, establishment of an applicative instrument, and interpretative analyses did not occur in a temporal sequence; rather, they continually facilitated, shed light on, and modified one another throughout the entire process of the study.

The research was conducted in the subject area of English as a Second Language. The psycho-semiotic theories on the relationship between speech and thinking have particular significance for additional language education, where classroom social interaction is postulated to foster inter-langue symbolic development (Chapter Three).

Specifically, in pursuing the three-fold purpose of the study, the following questions were asked:

1. Theoretically, based on Vygotsky’s holistic and dialectic developmental psycho-semiotics and contemporary psychoanalytic theories, what are some of the key mechanisms in which teaching and teacher socialization influence learning? What are some of the structural principles of the higher forms of teaching and classroom social relationship?

2. In the applicative instrument, what are some of the common and essential dimensions depicting teaching and teacher socialization of a mediated nature? How is the holistic
psychology of mediation, involving the synchronicity of the heterogeneous inner and external processes, manifested in distinguished factors? And,

3. In the diverse, messy, ever-changing, and multifaceted classroom occurrences, how is the core mechanism of teacher intrapsychological mediation, involving the key dimensions and the inner-external levels indicated?

2.1.2 What the study did not do

Of the dialectic unity of teaching and learning, Vygotsky mainly studied the latter component; this study, extending Vygotsky’s legacies, focused on the former. The study was concerned with understanding the mediational mechanism of teaching and teacher-initiated socialization as classroom environment, but it did not study learning and development as consequences or results of teaching and teacher socialization. Although teaching and learning are two aspects of an organic whole, the influence of teaching on learning cannot be readily and causally presumed. As far as learning is a mediated process, teaching is also. Teaching and learning are advocated to be resonating psychological operations. Because the path from teaching to learning is not a direct but a zigzagging one and because teaching hardly ever exerts instantaneous effects on individual integrated development, the study focused only on establishing the active part that classroom education could play in students’ psychological development.

In close relation to the first point, the study was exploratory and interpretive of conducive educational mechanisms but should not be taken as proving or demonstrating actual educational effectiveness. In the process of research, the formations of the three (the theoretical, instrumental, and analytical) components interacted and merged with each other in order to establish a comprehensive and systematic educational psycho-semiotic account. For
this reason, the component of the interpretive analysis, for example, should not be read as a conclusive evaluation of teachers’ practices. Rather, it was a built-in aspect, explicating meanings and patterns of occurrences laid out in the other two components.

Thirdly, the study did not generate a pedagogic manual, prescribing hard and fast rules of thumb for teachers’ practices. Neither did it attempt to find teaching practices that could or could not stand up to the scrutiny according to ‘the perfect’ or universal pedagogy. Instead, this researcher would like to think of the study as descriptive of psychological and reflective mechanisms that are held dear for teaching. The question of pedagogy is one that is left to individual teachers’ creativity arising from their integrated reflection.

Lastly, the study was interested in classroom micro-genesis of interpsychological processes. It did not attempt to capture the complete profiles of teachers and students’ classroom experiences nor of their school environments. It analysed episodes of relatively complete classroom conceptual activities and interaction. Because of the limited scope of the study, it excluded non-conceptual dealings in the classroom, for example, behavioural regulations, as well as school environmental factors.

2.1.3 Significance of the study

Among the plethora of research on teaching and teacher-initiated socialization, firstly, this study embraced a distinctive view of its research problem. In its three-fold pursuits, this study presented a comprehensive and systematic endeavour at a holistic and dialectic psycho-semiotics of teaching and teacher socialization. This endeavour was made as an extension of Vygotsky’s developmental psycho-semiotics concerning speech and thinking in the psychology of learning. In its theoretical, instrumental, and analytical components, the study uniformly depicted teaching and teacher socialization as unity of history and presence.
(phylogeny and ontogeny); consciousness and unconsciousness; and society and individuality. This study answered to the question of ‘How’ in teaching-learning relationship as a complex, non-linear, synchronic and dynamic whole, in contrast with the studies which assume the causal and deterministic effects of teaching and teacher socialization.

Secondly, this study approached its data in a way different from mainstream discourse studies. In its conceptualization of discursive data, this study stood as a shift towards the paradigm of dialectic monism. Following a departure from cognitivist, universal conception of language to a post-structuralist, localized conception of language use in social contexts, a Vygotskyan approach to language or discourse analysis involves yet another shift from the localized conception of discourse to a holistic, dynamic, and connected view of the fundamental relationships between inner development and social discursive environmental offerings. In this perspective, discursive contexts lose the sense of local idiosyncrasy in post-structuralist views, and acquire a deep significance as living ecological systems which interact and at the same time are united with individual inner processes. Rather than being rooted in an emic perspective about various educational contexts, this study lays an emphasis on a transpired vision of the fundamentally connected, but not the identical.

Thirdly, this study challenged the traditional role of the researcher in orthodox methodologies. In the theoretical, instrumental, and analytical components, the study delineated a researcher’s psychological labour as apperceptive, rather than perceptive, of what he/she observes. In understanding the various dimensions (structural, conceptual, social conceptual, and historical – Chapters Three, Five, and Six) of teaching and teacher socialization, this researcher presented an appreciation and consideration of not just the readily observable occurrences or surface semantic messages in communication, but of the
psychological and conceptual organization which governs behaviour and semantics. The apperceptive research makes the distinctive requirement for the researcher’s full immersion and active integration with his/her data (for discussions of apperception, see 3.2.1). The researcher’s mind is required to encounter that of the research participant in a structurally meaningful way. In this aspect, the apperceptive differs from the perceptive research. Typically, the perceptive research requires either that the researcher faithfully reproduces observations and experiences without the interference of his/her theoretical training or that the researcher evaluates the data relying *entirely* on his/her theoretical training. Both the research methods have been argued from the ‘scientific and objective’ perspective, where, in the pursuit of objectivity, the researcher’s self is kept at bay. On the other hand, the apperceptive research essentially takes as precondition the researcher’s integrative self-transformation in and through contact with participants and data.

In terms of conceptual theories, methods and methodology, as far as the researcher was concerned, the study did not provide a final, conclusive account of classroom social mechanism, but it presented the beginning of a lifetime research pathway.

### 2.2 METHODOLOGY

#### 2.2.1 An equation between two unknowns

In Vygotsky’s research of the cultural (mediated) development of children, he departed from S-R as the principal mechanism in orthodox psychological research and by contrast, envisaged S-X-R as the higher developmental mechanism. This changed entirely the nature of development as the research problem and, in relation, the demand for the research method. As Vygotsky argues, the nature of the problem and of the method must go hand in hand; for
this reason, it was necessary to research not just one but two unknown factors, i.e., both the experimental method and the findings.

The material and method of research are closely related. For this reason, research acquires a completely different form and course when it is linked to finding a new method suitable to the new problem; in that case, it differs radically from those forms in which the study simply applies developed and established scientific methods to new areas (Vygotsky, 1997c, p.27).

Similarly, the research methodology adopted in this study could be likened to an equation between two unknowns. First, this study differed from the mainstream in the conceptualization of teaching and teacher socialization. Contrary to orthodox conceptualization of teaching and socialization as causal origins of learning, this study maintained an acausal and apperceptive understanding of the research problem. It was held that educational influences originate from teacher’s intrapsychology, which is then mediated in teacher-student interpsychology before being internalized in students’ intrapsychology (Chapter 2). The object of examination was thus not the external semantics and behaviour, but the totality of external and internal levels as an interactive and collaborative whole.

The nature of the problem went hand-in-hand with the research instrument, which could not be located in the literature at the time of research. The devised instrument examined speech and thinking, and external and internal levels in teaching and teacher socialization as heterogeneous, rather than homogeneous, processes in mutual interaction and complementariness. It was also different from a social-semiotic study in which the meaning of language in educational environment corresponded with the overarching culture / ideology. The instrument, with four dimensions and two levels, was established to distinguish between a direct and causal stimulus-response mechanism and an acausal, mediated, stimulus-X-response organization which governed teaching activity and speech. An acausal and mediated organization of teaching activity and speech represents teachers’ active participation in their
relationship with the environment and ‘an operation that would have sense, would be a real escape from a situation’ (Vygotsky, 1997c, p.47). In brief, teaching and teacher socialization were interpreted in accordance with the deep texture of psychological processes rather than decoded in alignment with an external system or superstructure.

During the research, the theoretical, instrumental, and interpretive analytical components of the study proceeded not in a sequential order but simultaneously; each relied on one other in every step of mutual progress. The theories, instrument, and interpretive analyses were all simultaneously prerequisites and products of the research. In this report, the description of the theories and instrument appear in chapters prior to the analyses only for the benefit of the systematic exposition of the final findings.

2.2.2 Heuristic research

In a number of aspects, the methodology of researching between two unknowns is similar to what has been referred to as ‘heuristic research’ (Moustakas, 1990, 2001). At the beginning, heuristic research does not proceed from a specifically articulated and clearly delineated question; instead, it starts from an internal ‘encompassing puzzlement’ over ‘a question that is strongly connected to one’s own identity and selfhood’ (Moustakas, 1990, p.40). The question concerns the essence and the fundamental meaning of a researcher’s own and others’ experiences.

It is customary today to represent the process of scientific inquiry as the setting up of a hypothesis followed by its subsequent testing. I cannot accept these terms. All true scientific research starts with hitting on a deep and promising problem, and this is half the discovery (Polanyi, 1969, p.118; cited in Moustakas, 1990, p.40).

In the origin of this study, the problems of ‘How’ interpersonal contacts influence intrapersonal processes and, specifically, how teaching and teacher socialization speech and behaviour affect students’ intrapsychological processes had been the personal preoccupation
of the researcher. Answers to the problems presented themselves as the ‘ultimate’ understanding of authentic and influential human socializations. Thus, in a sense, the research question had chosen the researcher, not the other way round (Hiles, 2001).

However, except for the very general problems, this study did not begin with carefully laid out hypotheses and assumptions. Thus, in the ensuing explorations of the fundamental problems, more specific and concrete questions had to be formed. It was crucial that such specific questions be stated clearly, simply, and vividly, which, in itself, posed great challenge and difficulty for the researcher. In the search for the specific, manageable questions, the heuristic researcher has to undergo numerous organizations and reorganizations of psychological connections until the thematic questions emerge in fullness and systematicity. In this study, the four specific dimensions of teaching and teacher socialization as classroom environment, uniformly reflected in the theories, instrument, and interpretive analyses, were formulated as results of exactly this long and strenuous reflective search. From reading and integrating existing literature, and immersing in and synthesizing classroom videos and transcriptions, the dimensions altered, time and time again, in number, orientations, and descriptions and definitions.

Clearly, heuristic research does not begin with concretely articulated questions and then proceed to their reply with experimental or field data. In the seven phases listed by Moustakas (1990, 2001), including initial engagement, immersion, incubation, illumination, explication, creative synthesis, and validation, the formulation of the questions, the methods of discovery, and the finding of meaning are inter-reliant components of the research. In order to generate the final results produced in this report, the same was the case.
Additionally, as in a heuristic study, the self of the researcher was the ultimate guide. “From the beginning, and throughout an investigation, heuristic research involves self-search, self-dialogue, and self-discovery; the research question and the methodology flow out of inner awareness, meaning, and inspiration” (Moustakas, 1990, p.11). This researcher had an intimate relationship with the research problem or questions so that phenomena and reflections in life and personal experiences presented themselves as facets of a connected and unified system. Daily activities, experiences, casual conversations, leisure readings and exposures to the media came to bear universal significances. Moreover, the intimate relationship that a researcher has with the research problem must allow him / her, at all times of the research, to have an open and honest mind as to the process and findings. In accordance, this researcher dialogued and sometimes confronted existing publications on interpersonal and interpsychological interaction. I also self-debated, challenged and sometimes doubted, and as a result restructured some of the long-standing understanding and preconceptions in my own system. Whereas in many mainstream studies, the researcher perceives and assesses, but his / her self remains intact and unchanged; in the heuristic study, every step of progress is brought about by the internal change and transformation of the researcher’s self. Polanyi described such feelings:

Having made a discovery, I shall never see the world again as before. My eyes have become different; I have made myself into a person seeing and thinking differently. I have crossed a gap, the heuristic gap, which lies between problem and discovery (Polanyi, 1962, p.143; cited in Moustakas, 1990, p.56).

For a heuristic inquiry, a fixed research time frame or procedure is said to be inappropriate. Rather, each research process unfolds in a different way, guided by the researcher’s inner discipline and order so that rich, accurate, and comprehensive depictions of the research problem and its essential meanings can be yielded. As mentioned, in a typical
heuristic study, the researcher’s experience is composed of seven phases (Moustakas, 1990). In the phase of initial engagement, the researcher searches and discovers from within a critical theme or problem that holds important social meanings and personal implications, in which the researcher feels intense interest and passion. Upon discovery of the problem, in the phase of immersion, the researcher develops an intimate relationship and engages in sustained and concentrated focus on the problem so that all aspects of life and social contacts become raw materials with potential meanings. Having stayed with the problem, then in the phase of incubation, the researcher is proposed to retreat from the directed and concentrated focus. In a distance from the research theme, the researcher allows its expansion and maturation in an undirected state of mind, which leads to the phase of illumination, in which the researcher goes through a psychological reorganization, with sudden insights culminating in new awareness, wandering ideas falling into place, and previously fragmented experiences acquiring refreshed meanings. In the next phase of explication, the creative discoveries in illumination are deliberated in terms of individual constituents, nuances, and textures. The whole of the textures and constituents and their relationships are transformed and expressed in narrative, poetic, artistic or some other creative forms in the phase of creative synthesis. Before the end of the inquiry, the researcher returns again and again to the acquired data and its interpretation in self-validation. “Certain visions of the truth, having made their appearance, continue to gain strength both by further reflection and additional evidence” (Polanyi, 1969, p.30; cited in Moustakas, 1990, p.33). These may then end the inquiry and serve as foundation for the discovery to be communicated in publication.

Despite the above description of Moustakas’ heuristic research, however, this researcher’s work did not begin with the knowledge of the existence of such methodology.
As with Hiles (2001), only when this study was towards its end did I as the researcher come across the theory and recognize similarities in my own research journey. The seven phases rang as true and familiar descriptions of my experiences in both the entire study and its two sub-stages before and after the data collection.

Before the data collection, there was a two-year period of reading and reflective self-search. This started with a lingering desire to fully ‘understand’ exactly how interpersonal socialization comes to influence intrapersonal processes. The question bore the key to understanding the history of my own being and the nature of my role in society. To obtain the answer to this question, satisfaction could not be yielded from reading educational literature alone, where consciousness was overwhelmingly accounted as the single responsible process for communication, thinking and learning. In search of coherence at a deeper level, I turned to psychoanalytical theories of the Jungian school\(^3\). In the psychoanalysis-inspired educational theories that I was acquainted with, however, it was felt that the balance was again tilted, only towards the unconscious side of the psyche. The explanation of thinking and learning with the emphasis on unconsciousness, however, often accounted for only the peripheral projective sensations. While reading and dialoguing with existing literature, the core problem of speech socialization influencing thinking became more substantiated and explicit. It was decided that the question concerned not speech’s direct, causal determination of others’ thinking, the process of information transmission, or the process where suggestive cues are employed to induce in the listener certain psychological impressions. Rather, the question concerned an interpsychological, dialogic process with both speaker’s and listener’s whole-person engagement in the mutual encounter, leading to not fragmented and peripheral psychological processes but potentially structural connections and reorganizations. In answer

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\(^3\) I am much indebted and grateful for Dr Robert Matthews’ influence in this aspect.
to such a question and in arriving at an inner content, education and psychoanalysis, and height and depth psychology, it was felt, had to be synthesized anew. At the same time the core question was being clarified, its specific implications in classroom scenarios were speculated. Going through immersion, incubation, illumination, explication, synthesis and self-validation, various dimensions and manifestations of teacher mediation were listed, clustered, tabularized and modified.

With this crude frame of reference, the heuristic phases were experienced all over again in data collection and processing in the next two years of the study. I made sure that I would walk into and engage in classroom realities with an open mind. But while I was ready to remodify and even overturn the earlier reflections, I also strived not to be overwhelmed by the swift, divergent and ever-changing occurrences in classrooms. I attempted to digest, penetrate, and arrive at the structures that dominated the ordinary phenomena. This proved to be a major challenge. Several cycles of formulating theories, distancing, revisiting and validating were gone through. The final products, including the theoretical, instrumental, and interpretive analytical components of this report, were a marriage between the reflections before and after data collection.

Often problems identified internally in heuristic inquiries deserve years, if not decades, of stringent pursuit. But because a fixed time frame had to be imposed for the completion of this dissertation, this researcher could only achieve and present a product in, hopefully, a reasonably cohesive state in the ongoing journey of discovery.
2.3 DATA COLLECTION METHODS

2.3.1 Participants

The data collection for this study was conducted at three private secondary schools in Adelaide, South Australia. A total of three ESL teachers, eight classes, and approximately 150 students were involved. The three schools involved were a boys’ school with a church affiliation (School 1), a secular co-ed school (School 2), and a girls’ school with a church affiliation (School 3). The three teacher participants will be referred to as Ms A from School 1, Mr C from School 2, and Ms C from School 3. Student participants at School 1 included a Year 10 class, a SACE (Years 11 and 12) class, and two new arrivals classes (consisting of two students in each). Students at School 2 were in a Year 11 and two Year 12 classes, with an average of 25 in each. At School 3, one Year 12 class of 18 students participated. The majority of student participants were Asian international students, from mainland China, Hong Kong, Taiwan, South Korea, and Thailand. A very small number of students in the three schools had migrant family or refugee backgrounds.

2.3.2 Procedures

Data collection commenced in March 2007 and ended in September 2007, with 1 to 1.5 months spent at each school. Data collected from field research encompassed research journals, video recordings of lessons, teaching materials, examples of student assignments, school documents such as newsletters, staff journals, internet and intranet resources, and voice recordings of teacher and student interviews. The main data used for the analytical study included the classroom speech transcriptions from video recordings, text materials, and field journals. Other documentations contributed to the background information on schools, teachers, students, and curricula.
In central urban areas of Adelaide, random selection was conducted from schools that offered senior secondary ESL programs to international students. To select schools, letters were first sent out to Principals / Headmasters detailing the nature of the research and the forms of data sought, and seeking permission for the researcher’s visits (see Appendix 2). Teacher participants were suggested by schools and gave consent to taking part in the study after meeting with the researcher and obtaining understanding of the entailments of participation. Consent was also gained from all student participants (see Appendix 4 for Teacher and Student Consent Form).

When filming in classrooms, no matter how unobtrusively, the researcher’s presence and the operation of a video camera most certainly influenced classroom processes and individual behaviour in one way or another. For example, at early stages of the classroom visits, typically in the first one to two weeks, teachers might have spoken in a more formal manner; others might have initiated with students more peer-like exchanges. From a social semiotic perspective, it has been noted that, when under observation, language is the most easily perturbed human activity (Halliday, 1993). From this stance, to do away with influences from self-conscious moderations and manipulations, it is thus important for researchers to catch language users in their most authentic moments (see also Chapter 1 on ‘consciousness and unconsciousness in speech’).

From a psycho-semiotic perspective, however, ‘authenticity’ is defined differently. Quite contrary to the definition as unconscious use of speech, authenticity in this study referred to the simultaneity of external and internal processes in social communications (further considered in Chapter Three). In verbal thinking, speech is the most authentic transaction of meaning. Psychologically, what was sought was neither consciousness nor
unconsciousness in static states but the dynamic, inter-functional process mediated as well as
enabled by speech. For this reason, individuals’ self-conscious alterations of external speech
style or features did not influence the essential nature of data collected.

For the unique purposes of the study, the analyses of classroom data contributed to the
development of theories and research instrument. For this reason, the more random and
unintentional the selection of classroom speech for analyses, the better it was for the
development and fine tuning of the theories and the instrument. The episodes presented in
the thesis were selected based on only two considerations: that the episodes were relatively
self-contained, i.e., they had a relatively complete structure and independent status in the
whole curriculum process; and that they were of presentable lengths. Beyond such pragmatic
considerations, all excerpts were selected for analyses and presentation randomly.

In the next few chapters, the theoretical, instrumental, and interpretive analytical
components will be presented, addressing the central question of the mediation of teaching
and teacher socialization in student thinking and learning.
CHAPTER THREE
FROM INTERPSYCHOLOGICAL INTERACTION TO INTRAPSYCHOLOGICAL DEVELOPMENT: CLASSROOM PSYCHO-SEMIOTIC CONSTRUCTS

Ultimately, the sense of a word depends on one’s understanding of the world as a whole and on the internal structure of personality (Vygotsky, 1987, p.276).

Vygotsky’s writings branch into many diverse areas in psychology, including educational, clinical, experimental, theoretical, pedagogical, as well as the psychology of art. A mature stage of the development of his thinking was devoted to psychological semiotics (Van der Veer, 1997). Vygotsky’s psycho-semiotics attempts to penetrate phylogenetic and ontogenetic developments of the human psychological structure from the relationship between language and thinking. In the present chapter, I review, interpret and dialogue with Vygotsky’s psycho-semiotics, in the hope of presenting a contemporary continuation and application. The chapter is composed of three parts, respectively, on ‘Intrapsychology and Psychological Structure of Semiotics’; ‘The Interpsychological Process’; and ‘Classroom Psycho-Semiotics’.

Part one introduces Vygotsky’s understanding of language as a dialectic unity of the heterogeneous external (linguistic) and internal (psychological) planes, the interaction between which gives rise to the intrapsychological communicative process of inner speech. Inner and social speech forms share the common psycho-semiotic structure of predicative abbreviation. In predicativity, the external and internal, the objective and subjective, the collective and individual, and the conscious and the unconscious are brought together in the act of meaning-making. Characterized by predicativity, language is infused with inner vitality.
and psychological dynamics. This has great significance for education where social communication is to enact inner reflexive interaction.

In the second part, the process of interpsychological transaction is extrapolated from Vygotsky’s psychology of language with additional insights from modern psychoanalytic theories. Teaching and learning are postulated to be conjoint, apperceptive processes. In proximal learning environments, an acausal and apperceptive cycle is depicted which starts from teachers’ intrapsychology to teacher-student interpsychology, and then to students’ intrapsychology. The tripartite cycle presents the central premise for the current social psycho-semiotic study.

In the final part of the chapter, discussions from the previous two sections on the intrapsychological and interpsychological dynamics are extended to classroom communications. Specifically, four dimensions of teacher-initiated relationships with students are distinguished. These are: structure of task and participation (structural); functional systematicity of conceptual teaching (conceptual tool), interpsychological encounter (social conceptual); and internal order of interaction (historical). In the four different dimensions, the central premise is established that in proximal environments, interpsychological relationship and students’ intrapsychological development should originate from the teacher’s intrapsychological engagement and reflexivity. In each of the dimensions, detailed points are encompassed for reflecting and interpreting teacher-initiated relationships in classroom speech.
3.1 INTRAPSYCHOLOGY AND PSYCHOLOGICAL STRUCTURE OF SEMIOTICS

Among the basic tenets of Vygotsky’s psycho-semiotics are: first, speech is dual in nature. It is simultaneously an external and an internal expression; in other words, it is both interpersonally and intrapersonally social in function. Second, the dual aspects of language do not coincide; they differ in nature and developmental origins. Thirdly, the interaction and dialectic unity of the heterogeneous processes accompany the processes of meaning-making and psychological development.

These basic tenets distinguish Vygotsky’s psycho-semiotics from other schools of language studies in its concern with the dialectic unity of subject and object, individuality and collectivity, and history and present, and as such, its profound connection to the very nature of being.

3.1.1 Language as a dialectic, symbolic whole

Language as a symbolic system is at once an external and an internal entity. It is both externally denotative and psychologically connotative, a socially shared and an individually represented system of meaning making, a finished expression and an ongoing mediator of thinking. In understanding the psychological nature and function of language in relation to thinking, Vygotsky points out:

We have known only the external aspect of the word, the aspect of the word that immediately faces us. Its inner aspect, its meaning, remains as unexplored and unknown as the other side of the moon. However, it is in this inner aspect of the word that we find the potential for resolving the problem of the relationship of thinking to speech. The knot that represents the phenomenon that we call verbal thinking is tied in word meaning (Vygotsky, 1987, p.47).

Going beyond the reductionist approach to language and thinking, a Vygotskyan psycho-semiotics not only recognizes the dual nature of speech, but also challenges the assumption that the external plane coincides with the internal plane. It maintains that,
between the external, concrete forms of language and the internal meanings, there lies not a linear, one-to-one, but a symbolic, nonlinear relationship. Language is characterized by nonlinearity, multiplicity, and synchronicity.

This view of the relationship between the external and internal aspects of speech and its possibilities for development differs from the associationist, behaviorist and the Gestalt, structuralist conceptions. In the behaviorist stance, ‘thought is speech minus sound’ (Vygotsky, 1987, p.284); whereas in the structuralist view, thought is independent of speech, and speech is thinking distorted, representing ‘the attempts of psychologists to isolate consciousness from reality’ (Vygotsky, 1987, p.284). The constant and frequent oscillation of language theories between the extremes of behaviorism and spiritualism, as Vygotsky terms it, is still a prominent feature of contemporary research. On the other hand, a Vygotskyan view proposes a historical, dialectic understanding of the relationship between language and thinking. In this view, the true natures of speech and thinking are seen in developmental motion. In development, the separation of the two can only be done merely analytically, but not functionally and essentially. Only in the dialectic unity of speech and thinking is the profoundly active and dynamic nature of being revealed.

In writing about the heterogeneous natures of the different planes of language, Vygotsky (1987, pp.282-3) borrows an example from the interpretation of subtexts by Stanislavskii, the theatre educator:

<table>
<thead>
<tr>
<th>Text of the play</th>
<th>Parallel desires</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sophia: Oh Chatskii, I am glad to see you.</td>
<td>Wants to hide her confusion.</td>
</tr>
<tr>
<td>Chatskii: You’re glad, that’s good. Though, can one who becomes glad in this way be sincere? It seems to me that in the end, People and horses are shivering, And I have pleased only myself.</td>
<td>Wants to appeal to her conscience through mockery. Aren’t you ashamed! Wants to elicit openness.</td>
</tr>
<tr>
<td>Liza: But, sir, had you been behind the door, Not five minutes ago,</td>
<td>Wants to calm Chatskii and to help Sophia in a difficult situation.</td>
</tr>
</tbody>
</table>
You’d have heard us speak of you, Miss, tell him yourself!

Sophia: It is always so – not only now.
       You cannot reproach me so.
Wants to calm Chatskii.

Chatskii: Let’s assume it is so.
       Blessed is the one who believes,
       And warm his life.
       I am guilty of nothing!
Let us cease this conversation.

Using this theatrical example, Vygotsky demonstrates that, in order to understand the full inter-psychological significance of speech, one must understand the thinking and the motivation behind it. Underlying texts are subtexts, which indicate the nature of social relationships and interpsychological encounters. Heterogeneous in nature and origin, text and subtext form a dialectic whole in the process of verbal thinking. Neither exerts a causal, deterministic effect on the other; and both must interact to enable self-reflective and self-integrative development. The increasing capacity of communication between various aspects of the psychology accompanies the process of individual development.

The external-internal multiplicity is a feature of language functioning in symbolic capacities during verbal thinking. In the process of language development in childhood, language and thinking assume different relationships at pre-symbolic stages. For example, in the ‘natural’ or ‘magical’ stage, the word is perceived as a natural part or property of the denoted object. In children’s psychology the word is seen as intrinsically and physically connected to the concrete object. Then, in the ‘external’ stage, language is used as signs, but with conventional signification. In this stage, although the external use of words in children and adults does not seem to differ, the psychological conceptual structures represented by words are quite apart⁴. The true symbolic functioning of language emerges only in the last general stage of the development of verbal thinking, where thinking and speech are not

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⁴ Vygotsky observes that children’s egocentric speech, the speech that children use for themselves and that is at the verge of internal transition, is particularly characterized by conventional signification rather than true symbolism.
parallel entities, and the psychological and the grammatical do not correspond with one another (Vygotsky, 1981).

While Vygotsky mainly studied the relationship between language and psychology in child developmental stages, the object of the present study was classroom language learning environment. However, despite the difference in research problem, the unity of learning, teaching, and knowledge is the epistemological foundation of the current research (Chapter Four). So much as the symbolic function of language is the aim and object of learning, so much it must also be the essential characteristic of teaching and of teacher-student interaction. In the classroom, the dual nature of language is embedded in socialization acts and processes, and operates as the socio-psychological mediator for all participants’ continuing psychological and personality development.

3.1.2 Inner speech as intrapsychological interaction

Inner speech is the speech of intrapsychological dialogues, which accompany reflective and integrative development. In order to understand socialization processes, language and meaning are interpreted not in terms of external semantics but in terms of their facilitation of inner reflexivity. For this reason, understanding the origin and function of inner speech will shed light on the higher form of social speech in a developmental environment.

Studying the emergence of inner speech during child development, Vygotsky (1987) establishes that the speech for intrapsychological dialogues is social speech that is developed inwardly. The embryonic form of inner speech is discovered in children’s egocentric speech, or self-talk, in social play. It is found that earlier in life (at about three years of age)

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5 It should be pointed out that the object of the present study is not inner speech, but the psychological nature of teaching and teacher socialization. The latter is considered as the social psychological origin for the development of the former.
children’s egocentric speech in social play resembles their social speech in both content and structure. Egocentric speech is at this stage serving the functions of speech both for others and for oneself and, for this reason, largely comprehensible to other people. However, in late childhood at about 7 years, egocentric speech diverges dramatically from social communicative speech in function and structure and becomes increasingly incomprehensible.

Contrary to Piaget’s belief that egocentric speech decreases and disappears as socialization increases, Vygotsky contends that egocentric speech does not disappear in the developmental process. Instead, as socialization increases it grows more and more inward. From Piaget’s view, if socialization causes self-talk to decrease and disappear, egocentric speech would become more and more comprehensible. But if socialization contributes to the development of inner speech, egocentric speech would correspondingly become increasingly abbreviated and unsocial as socialization develops. Socialization and inner speech thus form a relationship of inverse correlation. Vygotsky concludes that in child development, egocentric speech reflects a general transition from social, collective activities to individual mental functions, and from interpsychological to intrapsychological interactions.

That inner speech emerges from social, interpsychological interactions corresponds with the fact that all structural characteristics of inner speech can be traced in social external speech.

Given the proper circumstances, all these characteristics of inner speech (i.e., the tendency for predication, the reduction in the phonetic aspect, the predominance of sense over meaning, the agglutination of semantic units, the influence of word sense, and idiomatic speech) can be found in external speech. This is an extremely important fact, since it demonstrates that the word’s nature permits the emergence of these phenomena. In our view, this provides the best support for the hypothesis that inner speech has its origins in the differentiation and circumscription of the child’s egocentric and social speech (Vygotsky, 1987, p.279).
Studies of egocentric speech and of the structural characteristics of inner speech demonstrate that intrapsychological interactions originate from interpsychological interactions. Highlighting this point of importance is the well-known quote of Vygotsky’s:

Any function in the child’s cultural development appears twice, or on two planes. First, it appears on the social plane, and then on the psychological plane. First, it appears between people as an inter-psychological category, and then within the child as an intrapsychological category. This is equally true with regard to voluntary attention, logical memory, the formation of concepts, and the development of volition. We may consider this position as a law in the full sense of the word, but it goes without saying that internalization transforms the process itself and changes its structure and functions. Social relations or relations among people genetically underlie all higher functions and their relationships (Vygotsky, 1981, p.163).

The process of social speech developed inward, i.e., internalization, is not one of mechanical reproduction or transition, but a process of structural and qualitative transformation. “Inner speech is not an inner variant of external speech; it differs from external speech not in degrees but in nature” (Vygotsky, 1987, p.257). In internalization, meaning given interpersonally is organized into an internal structure of connectivity. Because of its subordination to an internal structural centre, the intrapersonal meaning differs from the interpersonal. In other words, through internalization, meaning has acquired a symbolic status in the intrapsychology.

3.1.3 Predicativity in inner and external speech

Having discussed the social origin of intrapsychological speech, the question of how social speech transfers internally remains. The answer to the question lies in what inner and social speech have in common. The common structural feature of all speech forms (inner, social, as well as egocentric) as Vygotsky demonstrates, is predicative abbreviation. This common feature of all speech forms holds the key to the question essential to understanding educational effects of social speech.

Abbreviation in inner speech, as in the external speech, is not random or accidental but follows the principle of predicativity. Due to the psychological proximity one has with the
self, the inner interlocutor, inner speech is compressed in such a manner so that exchange with
the self could be conducted with the utmost efficiency, with only the core of the message
transmitted. In self-reflections, explicit contents involve only ‘new’, ‘fresh’, and previously
unknown or unfamiliar ideas. They do not involve statements of intact syntax and grammar.
“In inner speech, the predicate is always sufficient. The subject always remains in the mind,
just as the remainders beyond ten remain in the student’s mind when he is doing
multiplication or addition” (Vygotsky, 1987, p.273).

Predicative abbreviation is analogous in inner and external speeches. In external speech,
when the subject of conversation is known to both interlocutors, only the new information is
given in speech. For example:

* A: Do you want a glass of tea?
  B: (Not predicated) No, I do not want a glass of tea. /
  B: (Predicated) No.
* A: Has your brother read this book?
  B: (Not predicated) Yes, my brother read that book. /
  B: (Predicated) Yes, he read it.
* [A and B are waiting for the ‘X’ tram at a stop. When the tram is approaching, A says:] 
  (Not predicated) The ‘X’ tram, which we are waiting for to go somewhere, is coming. /
  (Predicated) It’s coming. [Or simply]

In extreme cases of abbreviation, meanings can be expressed with merely variations in
intonation. Vygotsky (1987, p.271) quotes an incident documented by Dostoevskii where the
word ‘eureka’ was uttered six times by several drunkards, each expressing different meanings
and understood by the speakers.

In logical information theory, Rommetveit (1979b) provides another example,
confirming the position that predicative abbreviation in communication is more the rule than
the exception. Two people are engaged in an answer-and-question dialogue. Individual A
has the answer as to the location of the ‘X’ in the diagram below and individual B is to ask A
questions so as to locate ‘X’ in the most efficient way.
The dialogue would proceed in this manner:

1) A: Is it in the right half?  B: No.
2) A: Is it in the upper half of the left half?  B: Yes.
3) A: Is it in the right half of the upper half?  B: No.
4) A: Is it in the upper half of the left half?  B: No.

As the dialogue progresses, the amount of shared information increases, and so does the number of abbreviated messages. It would be senseless, for example, if A asked after Q1 “Is it in the left half?”, or “Is it in the left half of the upper half” after Q3. Note also, that the meaning of the word ‘half’ alters as the dialogue continues. The first ‘half’ in Q2, for example, has a different meaning from the second ‘half’. In Q3, the second ‘half’ remains the same meaning as the first in Q2, but differs from its first appearance in the question. Despite differences in the meaning of the word at different rungs of the dialogic ladder, the expression remains the same, and the dialogue is not impeded by the ever changing and defused meanings of the word ‘half’. This is because both interlocutors share the knowledge of the progression of the exchange and the ongoing changes of the semantics.

In Rommetveit’s (1979b, p.100) words: “Message structure may … be conceived of as a particular pattern of … an interplay of tacit and verbally induced presuppositions on the one hand and semantic potentialities on the other”. The external messages in the dialogue include the diagram, which both interlocutors can see, and the semantics of the questions and answers.
exchanged. The internal messages include the mental progressions and constant updating of the meaning of ‘half’, which are also shared by both interlocutors. Without the scaffolding of the former, the latter would not be possible. *On the other hand, without the latter, the dialogue loses its entire psychological significance.* Imagine the situation where external language exhausts the psychological constructions. Suppose all individual components of the diagram at which the interlocutors are looking are named so that the game is turned from a symbolic one into a denotative one:

![Diagram 2](image)

The dialogue would proceed in the following manner:

4) A: Is it in a1? B: No.

The difference between the two versions of the game lies in the interdependent relationship between language and thinking. In the first one, because a symbolic, rather than denotative or exhaustive relationship between language and thinking is represented, it poses the psychological challenge of carrying out an online construction process that is mediated, but not caused, by language. This relationship between language and thinking and the
language/symbol-mediated psychological process involved are the core of learning in language, and math, science as well as other humanity subjects. If language is used in a one-to-one relationship with meaning, as in the second version of the game, language prevents, not promotes thinking.

In brief, predicativity is a core feature analogous in inner and external forms of communications precisely because it reflects language as symbols, not codes. In predicative abbreviation, the heterogeneous external and internal planes of meaning are integrated in forming an interactive, dialectic unity. The external and internal, the grammatical and psychological meanings in the phenomenon of predicative abbreviation, could be compared to the hydrogen and oxygen particles in the water molecule. Their incongruity and dialectic unity is what gives the water of meaning communication flow and vitality:

In its oscillation and in the incongruity of the grammatical and the psychological our normal conversational language is in a state of dynamic equilibrium between the ideals of mathematics and the harmony of imagination. It is in the state of continuous movement that we call evolution (Vygotsky, 1987, p.253).

Section Overview

Inner and external speeches are heterogeneous processes in terms of nature and development. Inner speech develops from within to without; external speech from the external to the internal. Different as they are, they share one general commonality in semiotic structure: predicativity, where speech is organized by meaning. Because of the common feature of meaning organization, inner and external speeches are enabled to interact and unite. In the interaction between inner and external speeches, individuality encounters socio-historical culture; ontogeny encounters phylogeny. In general, Vygotsky’s psycho-semiotics is concerned with the interplay between history and ontogeny, and between society and individuality, which is made possible by the interaction between inner and external speeches.
This concern in the study of language with dialectic unity poses important implications for educational practice. First, the fundamental goal of language operation in educational environment is not transmission of ‘contents’ but to incur intrapsychological connectivity and reflexivity (for both teacher and students). Second, for understanding speech-mediated social environment, the teacher practitioner and the researcher must go beyond the semantic transaction and comprehend the psycho-semiotic whole of the apperceptive socialization.

3.2 INTERPSYCHOLOGICAL INTERACTION

In Vygotsky’s remark, “Social relations or relations among people genetically underlie all higher functions and their relationships” (Vygotsky, 1981, p.163), the term ‘social relations’ does not refer to the social amiability in a general sense. As suggested earlier, interpersonal relationship is understood as one which facilitates intrapsychological reflexive communication. Moreover, social, external speech influences intrapsychological processes in a projective and resonant, rather than in a causal manner. In discussions of the interpsychological process of meaning and thinking transaction, this section covers four issues: apperceptive learning; apperceptive socialization; projection in socialization; and proleptic teaching.

3.2.1 Apperceptive learning

A common myth about perception is that it is a simple, natural physiological function of the visual optical system, unrelated to psychology. But the fact is all individuals create their own versions of reality and sense of vision with the collaboration of eyes and brains. In the whole of human and animal kingdom, only humans and apes can recognize themselves in the mirror (Greenfield, 2000). The development from animal to human perception is not a quantitative, biological process but a qualitative leap ‘from the zoological to the historical
form of psychological evolution’ (Vygotsky & Luria, 1994b, p.124). During the development of a child, symbolic tools increasingly function to alter the organization of the whole psychological structure as well as to influence separate ‘elementary’ processes, such as perception. In understanding the human, development-driven perceptive function, it is of great importance to have a separate theoretical construct from the general notion of perception. This has been known as ‘apperception’.

Apperception is saturated with meaning, understanding, imagination, and affects.

It is … known from experimental psychology that it is impossible under normal conditions to get absolute perceptions without associating with them meanings, understandings and apperceptions. … Perception is an integral part of visual thinking and is intimately connected with the concepts which go with it. This is why every perception is really an apperception” (Vygotsky, 1994c, pp.322-323; cited in Robbins, 2003, pp.147-8, note 15).

Quoting Humboldt, Vygotsky points out that “any understanding is a non-understanding; that is to say, the thoughts instilled in us by someone’s speech never coincide entirely with the thought in the mind of the speaker” (Vygotsky, 1971, p.42). Understanding as apperceived contains an infusion of reality and imagination, of objectivity and subjectivity. And no true understanding does not involve an imaginative flight away from the specific concrete reality (Vygotsky, 1987).

Secondly, because apperception reflects psychological structural connectivity, it is associated with psychological wellbeing. In Vygotsky’s study (1994c) of schizophrenic patients, he reported that the slightest changes in the outlooks or positions of objects would incur perceptions to which varied meanings and associations were attached. In schizophrenia, the connection between the conceptual structural system and perception is lost.

Thirdly, apperception involves an active online construction of mental models mediated by symbolic communication. In Rommetveit’s information logic game, where the diagram
does not contain denotative codes for all its components, the exchange of questions and answers using the word ‘half’ involves an online apperceptive process that both dialogic partners are conjointly engaged in. The word ‘half’ is used six times; every time referring to a different part of the diagram. The word thus does not denote a fixed, concrete meaning. In order for the dialogue to proceed, it is required of both interlocutors that a psychological process and reality beyond language is constructed online. This mental ‘updating’ (Robbins, 2003, p.132) is an apperception process that fills in the gaps between concrete perceptions so that internal connections can be established about one’s situated environment.

Any goal-directed system is going to have to be engaging in interactions with the environment that are dependent upon, and modified by, internal indications about the environment. ... We call the structure of such indications the situation image (clearly, a nonencoded image). It must be updated and kept current, both in terms of the passage of time and of the outcomes of interactions. This updating process is called apperception. Within this view, perception is the process of interacting with the world insofar as such interacting participates in the apperceptive updating of the situation image (Bickhard & Richie, 1983, p.19; cited in Robbins, 2003, p.132).

Apperception is thus the perception that goes beyond separate, concrete intakes of the external world, to building recurrent internal indications of the environment that bears on the individual’s social activities. It involves not exact mirroring of objects and phenomena but the construction of mental models. The psychological recurrent construction is particularly characteristic of goal-oriented or connection-driven activities. In Harris (2000, p.192), the mental updating process is described as the ‘situation model’:

... there is now a wealth of evidence showing that when adults process a connected narrative, they construct – in their imagination – a mental model of the narrative situation being described. Moreover, as the narrative unfolds, they update that situation model so as to keep track of the main developments in the plot (Zwaan and Radvansky, 1998; Zwaan, 1999). In building such a situation model, the listener (or reader) typically imagines the ongoing scene from a particular spatio-temporal locus. That deictic centre, as it is called, is usually selected in relation to the movements and actions of the main protagonist. Objects that are close to the main protagonist are mentally located in the foreground of the situation model. Similarly, events that have just befallen or are about to befall the protagonist are also foregrounded. In either case, they are ‘kept in mind’ by the listener, and easily accessed when later information calls for their retrieval. Finally, as they construct a situation model, adults interpolate causal connections.
between successive actions and episodes, even when such connections are not explicitly stated in the narrative.

In apperception, a language-mediated, psychological reality is constructed and continually updated. This psychological reality pertains to the spatio-temporal locus, or the ‘deictic centre’, of the individual’s social engagement. What is apperceived is neither purely objective nor subjective, but the structured, intelligent fusion of the two.

In children’s pretend play, apperception has the double function of allowing the processing of connected narrative language and continued engagement in the other, imagined world of pretence. It is ‘an endowment that enables children to understand and eventually produce connected discourse about non-current episodes’ (Harris, 2000, p.194).

The fusion of language and imagination would have enabled us to pursue a new type of dialogue – to exchange and accumulate thoughts about a host of situations, none actually witnessed but all imaginable: the distant past and future, as well as the magical and the impossible (Harris, 2000, p.195).

Fourthly, apperception is symbolically mediated. The collaborative and complementary relationship between apperception and speech is apparent in children’s pretend play (Harris, 2000). At around the age of 2, language communication and the ability to engage in pretend play appear at roughly the same time. Also, “once those two functions have emerged, children can immediately coordinate them” (Harris, 2000, p.195). In play, speech instantiates and structures pretence, stipulating the rules and logic of imaginary situations and behaviors. Complementary with speech is the mental process of suspending objectivity, enacting pretence stipulations in the psychology, and conducting logical extension and unfolding of pretence situations. Contrary to Piaget’s belief that pretence manifested children’s inadequacy in socialization and evasion from social reality, Harris suggests joint pretence displays precisely children’s attunement to engagement with sociality and analytical
realities and imaginative possibilities. Also, pretend games are always collective enterprises, consisting of an imaginary space jointly entered, sustained, and developed in sophistication.

Harris points out that such is indeed the social psychological mechanism underlying all academic learning. Pretence involves a psychological departure from the immediate concrete reality to a symbolic world (Vygotsky, 1987). Paradoxical as it sounds, this mental departure from the concrete specificity defines deep and genuine engagement.

In the classroom context, apperceptive learning is the holistic process where learners not only participate in a concrete, physical sense but actively engage in meaning-makings from the whole of their classroom psychological and semiotic experiences. In apperceptive dialogues, individuals in dialogic processes are placed within ‘an irreducible social matrix of meaning’ (Robbins, 2003, p.131). Teacher-student interactions occur not only at the level of explicit semantics, but also in the whole intertextual network and psychological organization of the semantics.

One recalls the ‘Fodor paradox’ reviewed in Chapter 1, where learning was said to involve ‘knowing’ even before we ‘know’ something. In apperception, one observes exactly this ‘paradox’. Where does the ‘deictic centre’ come from in making internal connections in the environment? How is it possible that an ‘accidental’ and ‘artificial’ instrument such as language enables the communication of thinking? How can an ‘external’ instrument such as language enable changes in the self to take place? Indeed, these would be impossibly paradoxical if ontological development were isolated from historical, phylogenetic development. They would be impossible problems if language were indeed accidental and artificial. But neither language nor psychology is bound to ontogeny. Both language and
psychology retain history before ontogeny in historical unconsciousness. This is the position defended in Chapter 1. Language does not give birth, per se, to thinking, imagination, or personality. Language enacts communication between consciousness and unconsciousness, bringing the historical endowment shared by all humans into ontological activation as well as development and transformation. In the language-mediated interaction between consciousness and unconsciousness, apperception is the active process driven by the archaic layer in the geological structure of the human psyche.

Apperception is an acausal, non-encoded construction and updating of mental modeling, mediated by symbolic language. Compared to the mechanical, behaviorist perception, apperception is more explanatory of the structure and function of human communication and relationship.

3.2.2 Apperceptive socialization

In joint play, children’s egocentric speech directed towards playmates often seems to be semantically nonsensical and void of connections with social reality. Of egocentric speech, Piaget (Vygotsky, 1987) identifies three characteristics. First, it is a collective monologue, i.e., it is present when a child is in the company of another individual, but not present when he / she is alone. Second, egocentric speech is vocalized rather than silent or whispered to oneself. Third, when children are engaged in egocentric speech to one another, a common understanding of the communication is assumed. Piaget concludes from the study that egocentric speech, in its awkwardly abbreviated and cryptic form, represents children’s inadequate attempts at socialization and will be rectified in future socialized development. Based on the same evidence identified by Piaget, Vygotsky comes to an entirely different conclusion. He decides that egocentric speech is not merely external speech addressed to
others. Serving both functions, as speech for others and for oneself, egocentric speech, the embryonic form of individual inner dialogue, is yet to be differentiated before the birth of the internalized inner speech.

To corroborate the finding, Vygotsky conducted follow-up studies. These were based on the reasoning that if egocentric speech is caused by inadequate socialization, then isolation of the child would give rise to an increase in this speech form. On the other hand, if egocentric speech represents social speech and individual inner speech inadequately differentiated, then the absence of others would result in its decrease.

In Vygotsky’s experiments, he tested each of the three variables or characteristics of egocentric speech identified by Piaget. Sequentially, three series of studies were conducted, where 1) children were placed together with children who were deaf or who spoke a different language; 2) children were placed in isolation, or left with unfamiliar companions; and 3) children were transferred to a situation where the possibility for vocalization was restricted or excluded. In all these studies, he found the amount of egocentric speech was sharply reduced.

The findings confirmed Vygotsky’s belief that egocentric speech is used to communicate both to oneself and to others; it is social and inner speech combined. The result of egocentric speech is that, although semantically unrelated to one another, the utterances are indeed given, as well as recognized, as social communication by the children involved in conjoint play. Although semantically unrelated, children’s minds are socially connected when engaged in self-talks. No other explanation can justify the characteristics discovered by Piaget: that egocentric speech appears in the ‘co-presence’ (cf. Allwright, 1998) of others; that it is not whispered to oneself but spoken aloud; and that common understanding is assumed enabling conjoint play to continue. The fact that the speech is fragmented and apparently
nonsensical does not hinder the smooth continuation of children’s exchanges in play. On the other hand, any disturbance in the social environment causes the self-talk to reduce sharply.

As it concerns us, children’s egocentric communication in social play presents three essential psychological features of all authentic social speech. First, in all social communications, the simultaneous engagement with the dialogic partner and with oneself underlies communicative authenticity. Similar to egocentric socialization, speech must not be directed towards the other only but also towards oneself. In other words, in authentic speech, communication with the other is used to mediate communication with the self.

Secondly, similar to egocentric socialization, interpsychological encounter is often made possible in a structured activity environment, defined by explicit goals and conceptual operations. As much as any scientific or academic endeavours, games are structured with goals and rules, which scaffold and complement imaginative investments. No less than any adult business, children in games are serious, dedicated participants and interactants. Interpsychological connections are seldom consequences of abstract contemplation or decontextualized introspection, but are often mediated by conjoint engagements in structured task environments. Goals and conceptually organized operations in well-defined social tasks require as well as enable participants’ structural, rather than peripheral, engagement. In goal-oriented activities, the coordination of ends and means is a holistic, inter-functional process.

The third fundamental factor common in authentic socializations concerns the operation of language itself. Similar to children’s egocentric communications, the speech that mediates the apperceptive, simultaneous engagement with the task, the self, and the other is symbolic in functionality. It does not progress in full and complete semantics. Instead, it follows the rule of predicativity, which is the psycho-semiotic structure that allows the online interaction
between external (interpersonal) and internal (intrapersonal) communications. Speech that is characterized by predicative abbreviations is speech addressed both to others and to oneself, and at the same time, to the process of the conjoint task.

On the collaboration and complementariness between predicative abbreviation and interpsychological connection, or ‘mental intimacy’, Vygotsky comments:

… the mental intimacy of the interlocutors creates a shared apperception that is critical for attaining comprehension through allusions, critical for the abbreviation of speech. This shared apperception is complete and absolute in the social interaction with oneself that takes place in inner speech (Vygotsky, 1987, pp.273-4).

The notion of interpsychological connection has been understood by others in a surface manner, as a perceptive, conscious agreement between persons, rather than an apperceptive, structural encounter. Comparing Vygotsky to Bakhtin (Wertsch, 1985c; Wong, 2001), for example, Wong has suggested that Bakhtin’s multiple voice theory is complementary to Vygotsky’s idea of a shared subjectivity for dialogue. Wong argues:

Vygotsky (1934/1987) is right to remind us that the actualization of ideal communication lies in a high degree of shared experience and shared orientation of consciousness. In conceptualizing a truly dialogic discourse, Bakhtin (1970/1994) highlighted “outsidedness / otherness” as a prerequisite for creative understanding. Such an open dialogue is viable only when the people involved expect and permit surprising possibilities (Bakhtin, 1984/1989). The Bakhtinian sense of genuine dialogue, viewed as a co-mingling of communion and distance by nature, is complementary to Vygotsky’s idea of common ground which serves as a necessary but not sufficient condition for ideal communication (Wong, 2001, p.377).

The interpretation of mental intimacy or interpsychological connection as ‘shared experience and shared orientation of consciousness’ in facilitating semantic exchanges is quite off the mark. Indeed, the understanding of Vygotsky’s notions of ‘interpsychology’, ‘social relationship’, ‘mental intimacy’, and ‘apperception’ as beyond the conscious and the semantic underlines the theoretical foundation of this entire study.
Up to now, the thesis has discussed the notion of social environment, contending that it denotes not the sum total of separate individuals but a qualitatively different entity consisting of interpsychological engagement and infusion. The psychologically holistic social interaction is possible eventually because of the archaic, phylogenetic unity and the ontogenetic divergence between individuals (Chapter One). In this context, a psycho-semiotic study is concerned with the relationship between the heterogeneous psychological and verbal levels of interaction, and ultimately, the relationship between the heterogeneous interpsychological and intrapsychological interactions. From the interpsychological encounter, the intrapsychological dynamics is originated. The interpsychological encounter that gives rise to intrapsychological reflexivity is not a peripheral contact or semantic agreement but a structural, abstracted, and apperceived comprehension. At a psychological structural level, getting in touch with others allows getting access to the otherwise inaccessible within oneself. In this sense, knowing the other is the mediator of knowing the self and socialization is the origin of development. Thus to Vygotsky, the ideal form of socialization and learning in social contexts do not occur unless there is profound psychological encounter and infusion.

3.2.3 Projection in social interaction

To further understand the interpsychological process of social interaction and individuals’ active roles in it, the notion of projection is useful. First we consider a hypothetical example mentioned in Meares (2000) which is borrowed and built upon. Imagine a mother who is teaching her baby to greet others with ‘hello’. She says repeatedly to the baby, ‘Hello, hello, hello’. Later the child imitates, making a similar utterance to ‘Hello’. Hearing this, the mother delightedly replies with ‘Hello, Josie’. In the brief
exchanges, both mother and child utter the identical ‘hello’, but the psychological nature of their involvement is quite distinguishable. In the three speech acts, the different hellos, indeed, fulfill varied psychological functions in a loop of interpsychological projection and resonance.

When the mother utters her first hellos towards the baby with her voice full of anticipation, she knows the baby is not yet able to speak; but in her mind she pretends that the child is responding. Her persistent hellos are thus not mechanical repetitions but interactively meaningful. In spite of the baby’s inability to return a hello, the mother projects a positive identification on her child. In the mother’s first “Hello, hello, hello”, she is not making meaningless repetitions. She is interacting with the mental image of the speaking baby. The repeated hellos are thus intrapsychologically meaningful and relevant communications. That is, in addressing the baby externally, meaning does not originate from the external social space but from the internal connection. Before the words are uttered, the meaning is already there; and the mother-child connectivity is already there.

Hearing the hellos repeatedly used to address to her, the baby then imitates it. In the imitation, the baby takes on an element that she is personally related to, an element to which social, symbolic relevance is attached in her environment. But the baby’s first utterance of hello is but a mere imitation; it is not yet a socialization act. It is the mother’s delighted response, ‘Hello, Josie’, that turns the baby’s utterance into one. By responding, the mother makes what was a meaningless vocal sound into something that is qualitatively different, an act of communication. Because of the mother’s response, the baby’s meaningless utterance now acquires interpsychological functional significance.
The hypothetical nature of the example will not prevent us from making an analysis—we all know well of the way mothers converse with their untalking babies. In the mother-infant dyad, developmental influences are projected, not externally prescribed. It is projection on the mother’s part when she initiates the baby to engage in an activity that she is not capable of to begin with. It is projection again when the mother responds to the baby’s hello, a mere reproduction of sounds, and transforms it into language that is communicatively meaningful. Taking for granted not the present incapability but future development, the mother envisions, utilizes, and realizes the potential.

*Within the projective identification, there lies not a single-sided or one-directional act, but an interpsychological infusion and reciprocity.* The mother plays the game of pretence. In pretending that the baby understands her and is presently going to respond to her, the mother is mentally infused with the baby’s psychological structure. The image is not a ‘real’ reflection of the baby’s current developmental state, but it is structurally higher. It is a consequence of the mother’s structural engagement with the untalking interlocutor. With an intrapsychological image of the baby, she greets and receives the greeting. It is this internal reciprocity that gives meaning and joy to the mother’s seemingly one-sided speech and later triggers the baby’s actual participation. *The psychological infusion and meaning of speech predate the social, external interaction.* The intrapsychological meaning in the adult generates the communicative meaning of the word ‘Hello’, which, in turn, triggers and activates the baby’s acquisition of its symbolic meaning. The (mother) intrapsychology – interpsychology -- (infant) intrapsychology cycle is the core mechanism of authentic socialization.
Together, projection and speech form a ‘safety net’, ensuring the baby’s acquisition almost without fail. The mother’s initiation brings about a response, which she reinforces by reacting further to the initiated response. Psychologically and verbally, the mother’s relation to the baby forms a coherent, interconnected, organic whole. The external and the internal levels of her relation are mutually complementary. In the micro system of psycho-semiotic coherence, the baby is shown the connection between ‘hello’ and its social symbolic significance. What has been scaffolded is, of course, not only the ability to use speech but also a way of relating to others and to oneself.

Thus, in projection, the mother plays a structurally active role. The mother’s role is active in the sense that meaning and change are not one-sided or one-directional generations. Meaning and change are results of the mother’s structural engagement with the whole being of the child, giving rise to a mother-child unity and fusion.

Importantly, structural projection can be distinguished from peripheral projection. Structural projection is mediated and made possible by engagement with the structure and organization of the other’s psychological processes. In envisaging the other’s psychological structure as a whole, what is seen is not just the concrete, existing, perceptible operations, but the system and organization that govern the concrete operations, the past and future of the operations. Structural projection takes as a precondition internal integration in the speaker. In the apperceptive, structural engagement with the other, the mother’s self, as a whole, is the guideline of knowing. Thus, the structural projection starts and ends with fusion and intersubjectivity between mother and child. The mother who projects is a different psychological being from the one who sees only the baby’s present ability. In the former, the
mother’s being is enriched by the baby’s. As a result, the mother-child fusion leads to the child’s enrichment.

On the other hand, peripheral projection is not mediated by social engagement and is not formed on the basis of unified intersubjectivity. It involves apperceptions of isolated and elementary, rather than structural, psychological processes. Peripheral projection is associated with internal polarization in the speaker; in it, the psychological reflexivity or ‘doubleness’ (Meares, 2001) is not a characteristic. Elements in the unconscious are cast onto the other in a passive manner. Changes, if incurred, are one-sided, leading to increasing separation, rather than communication and integration. The qualitative difference that social mediation can bring to the primary, unconscious process presents an important implication that a Vygotskyan psychology has for a traditional psycho-analytical view of projection.

In projection, the mother is not the only active party. It must be recognized that the baby plays a structurally active role as well. Explicating on the phenomenon of projective identification, Ogden (1986, cited in Leiman, 1994) emphasized its truly interpsychological character, arguing it allows the infant to process experience in ways that differ qualitatively from anything that may have been possible for the infant on his/her own.

Projective identification is not simply a process wherein the mother ... 'metabolizes' experience for the infant ... and then returns it to him in a form that the infant can utilize. Although this is a common conception of projective identification, this understanding falls short in that it implies that the infant's receptivity remains unchanged throughout the process. Without a change in the infants' way of experiencing his perceptions, he would not be able to modify his expectations even if his projection had been modified by the mother and made available to him through her empathic caregiving ... In projective identification, a potential for a certain quality of experience is generated by the mother-infant entity (Ogden, 1986, pp. 35-36; cited in Leiman, 1994).

Ogden here highlights the active role of the infant as a being of historical endowments. It has been argued before that ontogenetic development is intrinsically connected to the historical resource of phylogenetic development. That babies are born as tabula rasa is a
naïve and simplistic view incapable of explaining either ontogenetic or phylogenetic progression. The retaining of history in ontogeny is specifically human. In the case of projection, any transformation in the baby’s psychology and social experience is not the result of the passive reception of the significant other’s influences. Projection from the significant other influences by activating and transforming what is already in the baby.

3.2.4 Proleptic teaching

Literally, prolepsis means ‘anticipation’, or ‘representation of thing as existing before it actually does or did so’ (Australian Concise Oxford Dictionary, 1987). Proleptic teaching involves projection in the teacher’s psychological relationship with students.

... the mind projects its mature psychological capacities onto the earlier stages of its development: We see the higher mental functions in the infant’s behaviour even when they are not yet present. ... Vygotsky holds that treating children as if they had abilities they do not yet possess is a necessary condition of the development of those abilities (Bakhurst, 1991, p.67, Note 6).

Earlier, in discussions of projection in the educational context, two factors were highlighted for a scientific understanding of the phenomenon: the structural, rather than peripheral, nature of educational projection; and the active roles of both the adult and the developing individual involved in projection. Based on these characteristics, the psychological operation of proleptic teaching is extrapolated. It is argued that proleptic projection presents the basic mechanism of teacher effectiveness and of the teacher-student relationship from which development is originated.

In general, proleptic teaching entails a particular type of interpsychological relationship the teacher initiates with students. This teacher-student interpsychological relationship is originated from the teacher’s intrapsychological engagement in conceptual functionality and students’ structural psychology. In other words, the teacher’s relationship with students is
defined by his/her inner relationship with students and with conceptual functionality. The teacher-student interpsychological relationship as defined by the teacher’s intrapsychological engagement and reflexivity is the social, environmental origin of students’ intrapsychological engagement and reflexive change. In this relationship, student learning and development occur as resonance with the teacher’s intrapsychology.

In prolepsis, the process from teaching to learning can be described in Diagram 3:

![Diagram 3. Psychological Mechanism of Proleptic Teaching](image)

In proleptic projection, both the teacher and student interactants play structurally active roles. First, in the projection, the teacher’s self is the guideline in conceptual functions and in knowing the student. Departing from the inner conscious awareness, the teacher operates with the whole structure and organizational principle of the conceptual system. He/she apperceives the structure of the student’s conceptual function, its past and future. In teaching and dialoguing with students, the intrapsychology of the teacher represents the teacher-concept-student intersubjectivity. Contained in the teacher’s projection is not a static, passive semantic knowledge of the concept, nor a peripheral assumption of the student’s operations. In envisaging the student’s psychological structure as a whole, what is apperceived is not just the concrete, existing, palpable operations, but the system and organization that govern the concrete operations, the past and future of the operations. Thus, the structural projection starts and ends with fusion and intersubjectivity between teacher and student. The process as
well as consequence involve mutual changes – the teacher must entice and inspire thinking with thinking, and change with change.

In dialoguing with students, “[t]eachers listen usually for nothing but the linguistic form or the propositional content of students’ utterances. They are seldom trained to listen to silences and to their students’ implicit assumptions and beliefs. They have also little training in listening to themselves and reflecting on their own assumptions and beliefs” (Kramsch, 1994, p.245). In listening, the teacher must seek beyond surface semantics for the conceptual organization in operation. This apperceived conceptual structure of the student is then incorporated into the teacher’s own structural system. The implication here is that student and teacher’s conceptual systems are on the same developmental continuum (see Chapter Four on scientific and spontaneous concepts). The matter with conceptual functionality does not concern the right vs. the wrong, but psychological systematicity. Psychological systematicity is the unison continuum along which all individuals’ psychological operations are located. The issue of development is not a simplistic, positivist question of right or wrong, but one of psychological organization and functional systematicity.

The student is the other active party in the projective process, challenged to continually structure and restructure his/her conceptual organization. In knowing, the student’s self is the ultimate guideline, but his/her access to the self is mediated by the teacher’s psychological structural functioning.

Prolepsis is structural, rather than peripheral, projection. In the projection, the upper developmental threshold in the learner’s zone of proximal development is envisioned and functionally utilized in dialogic interactions. Prolepsis is the result of interpsychological intimacy mediated by conjoint engagement in social activities. In prolepsis, the
intrapsychological engagement and reflexivity in the teacher predates intrapsychological interaction and integration in the student.

Section Overview

The interaction between the social symbolic system and the phylogenetic unconscious, shared by all individuals, accompanies the entire process of ontological development. In the process, the phylogenetic unconscious endowment is activated and transformed in ontogeny. The complementariness between history and social culture in the individual development fundamentally underlies Vygotsky’s educational philosophy and psycho-semiotics.

From a psycho-semiotic view, language in educational socialization serves as neither the dictator of learning, nor an external code system unrelated to thinking. As a psychological symbolic system, the external (linguistic and semantic) and internal (psycho-semiotic) functions are dialectically united. External communication is to activate internal reflexivity rather than to directly cause thinking and learning behaviour. The only form of communication that achieves this goal is verbal thinking, the communication which is mediated by the speaker’s own intrapsychological reflexivity. Intrapsychological dynamics is apperceptively communicated and resonates with the other’s intrapsychological process. This acausal, apperceptive socialization is enabled by individuals’ conjoint engagement in structured activity. In apperceptive communications, all participants play the active part when engaged in the simultaneous interactions intrapsychologically and interpsychologically. But in educational communications specifically, e.g., in mother-child and teacher-student dyads, the adult and the expert learner are to initiate the apperceptive relationship with the developing individual. The teacher’s active initiation of the apperceptive engagement has been described as prolepsis, which involves the development from teacher’s intrapsychology.
to teacher-student interpsychology, then to students’ intrapsychology. In a nutshell, educational relationship entails the simultaneous interpersonal infusion and intrapersonal integration; and educational socialization involves the simultaneous intrapsychological and interpsychological communications. Next, specific dimensions of teacher-initiated psycho-semiotic relationship with students will be systematically elaborated.

3.3 CLASSROOM PSYCHO-SEMIOTICS: FOUR DIMENSIONS AND TWO LEVELS

Modern interpretations of Vygotsky’s postulation for the mediated, self-reflective intrapsychology have oscillated between subjectivist and objectivist taints. Similarly, understandings of educational provisions for the intrapsychology have also wavered between either of the two separatist camps. In the previous parts of the chapter, the intrapsychological and interpsychological processes were reinterpreted in coherence with Vygotsky’s holistic, dialectic philosophy. Next, specific dimensions of teacher-initiated psycho-semiotic relationship with students will be systematically elaborated.

Four specific dimensions are distinguished for interpreting the teacher’s intrapsychological engagement which precedes social interaction and student engagement. The main challenge, it is recognized, in any attempt to detail extrapolations of a holistic process is to retain the whole in the small and the specific. Thus, composing an organic, integral whole of teacher communication, the four dimensions are aspects of one and the same mechanism: teachers’ intrapsychology – interpsychology – students’ intrapsychology. With teachers’ intrapsychology as an acausal, apperceptive precondition of socialization and student development, in each dimension, teachers’ activity and speech are considered as
processes where their inner and social communications simultaneously and complementarily unfold.

These four dimensions include: structure of task and participation (structural dimension); functional systematicity of conceptual teaching (conceptual tool dimension); interpsychological encounter (social conceptual dimension); and internal order of interaction (historical dimension). The dimensions are not absolute and mutually exclusive constructs, as varying degrees of overlap exist in between; instead, they are best considered as orientors for reflection. In each dimension, external and internal levels of teachers’ communications are considered. The external level of communication involves readily observable occurrences and speech behaviour of teacher and students. The internal level involves the psychological organization governing external manifestations and the conceptual processes fostered and enacted in the external speech and behaviour. The internal level of communication differs from the notion of inner speech. Whereas the internal level of communication refers to psychological organization and mechanism underlying all socialization; inner speech is the internal level of authentic verbal thinking communication.

3.3.1 Structure of task and participation (structural dimension)

The dimension of structure of task and participation concerns teachers’ design and organization of classroom processes. Teachers’ intrapsychological engagement can be reflected, at the external level, in teachers’ verbal thinking in discussing about task and participation in initial moments, during, and after tasks; and at the internal level, the actual psychological mechanism regulating task unfolding. Teachers’ engagement at the verbal and internal levels of the structural dimension communicates apperceptively to students the
A. Interpsychological origin of the structure of task

The structure of task is conceptualized as a psychological, rather than an external or objective, construct. It does not pose a concrete, exterior framework prescribing and dictating individual participation and behaviour; it cannot work as an external imposition. Instead, any structure for task engagement must be apperceived by the participant himself/herself. Task structure is a psychological scaffold; it is not constructed single-sidedly by one or some parties of participants and then deliberated and observed by others. Similar to children’s pretend games, all participants enter into a psychological consensus which is co-constructed and then updated apperceptively throughout the process. The apperceived consensus is a result of conjoint engagement in task as well as social, mutual engagement in one another. What differentiates classroom tasks and pretend play is the consciously aware initiative that teachers have in triggering the formation of task structure. To invite and structure students’ intellectual participation, the teacher must lead with his/her own intrapsychological engagement. He/she scaffolds participation not from without but from within. The teacher’s intrapsychological processing and reflection on task structure is apperceived by student participants, whose intrapsychological engagement is then inspired and motivated. This is the structural dimension of the teachers’ intrapsychology – interpsychology – students’ intrapsychology cycle.

There are different perspectives on the psychology of task structure. Ach (Vygotsky, 1987) of the Wurzburg School (Vygotsky, 1987, p.376, Note 2), for example, proposes the ‘determining tendency’ of task. The determining tendency of task is ‘a tendency that defines
thinking and is given birth by the task that the individual is trying to resolve’ (Vygotsky, 1987, p.380, Note 49). According to Ach, an intellectual task presents to participants a goal towards which their thinking and behaviour are directed. When engaged in a task, participants’ mental representations of the intrinsic goal of accomplishment or problem solution gives rise to participants’ conscious, self-regulated mental operations. The goal or determining tendency of a task is considered as the basic factor in conceptual development consequential of task participation.

This argument resembles Marx’s theory on the effects that the psychological nature of labour has on mental operations in explaining social distinction of labour and the departmentalization of individual psychology. The task determining tendency theory receives a contemporary echo:

There is … a danger in the claim of some researchers that what counts is the ‘activity’ that arises from a task rather than the ‘task’ itself. While acknowledging that task performances are necessarily always constructed rather than determined, recognition needs to be given to the propensity of certain tasks to lead to particular types of language behaviour. There is sufficient research (see especially Chapter 4) to demonstrate that such variables as the inherent structure of a task, the availability of planning time and the opportunity to repeat a task have certain probabilistic process outcomes. It is, therefore, not appropriate to reject ‘task’ as a legitimate target for study and to insist on the overriding importance of learner agency in determining ‘activity’. Tasks are best seen as devices for enabling learners to learn through participating in ‘communities of practice’ (Foley, 1991). To some extent at least the device chosen will influence the nature of this participation (Ellis, 2003, p.201).

Similar to the notion of determining tendency, tasks of certain structures, components, and features are contended to have the ‘propensity’ in shaping learners’ language performance.

Vygotsky agrees with the significance in the nature and structure of tasks for mental development:

…where the environment does not create the appropriate tasks, advance new demands, or stimulate the development of intellect through new goals, the adolescent’s thinking does not develop all the potentials inherent in it. It may not attain the highest forms of intellect or it may attain them only after extreme delays. Therefore, it would be a mistake to ignore or fail to recognize the significance of the life-task as a factor that nourishes and directs intellectual development in the transitional age (Vygotsky, 1987, p.132).
Obviously and undeniably, the external structure and features of task play a part in influencing learner behaviour, but the difficulty in the notions of task’s determining tendency or structural propensity as a device is that task and the participating individual are implied to be eventually separable. From this view, it is suggested that the effects of task on individual thinking can be considered a separate issue from individual engagement. Determining tendency or propensity is an intrinsic property of task, regardless of the human factor.

From the perspective of individual intrapsychological development, Vygotsky’s challenge is that determining tendency does not explain the essential quality and nature of psychological operation. “Vygotsky felt that although a goal must be in place to achieve growth and development, a process cannot be explained via a goal” (Robbins, 2001, p.55).

Identifying the goal as the active force in concept formation cannot explain the causal-dynamic and genetic relationships that constitute the basis of this complex process any more than the target toward which a cannon ball is directed explains its flight (Vygotsky, 1987, pp.131-2).

And,

In essence, they are reduced to the assertion that the goal itself creates the corresponding goal-oriented activity through a determining tendency. They are reduced to the assertion that the solution is contained in the task itself (Vygotsky, 1987, p.127).

Instead, Vygotsky (1987, p.132) emphasizes ‘the mutually conditioned nature, the organic integration, and the internal unity of content and form [i.e., task and conceptual tool operation – writer’s note] in the development of thinking’. From the perspective of the present study, which is concerned with the social, interpsychological environment of learning, task structure as an external and independent factor does not explain the whole of the origin of

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6 It should be noted that Vygotsky was working beyond his time, inventing concepts and notions that did not yet exist in his contemporaries. ‘Causal-dynamic’ relationships are understood to be contrastive to ‘causal-mechanic’ relationships. The former equates to what is described as ‘acausal’ in this study.
learner engagement. Instead of the intrinsic regulation of task as an independent factor in learning environment, this study emphasizes the mutual reliance and the organic integration between teacher’s psychology and task structure as the social origin of learner engagement. Together, teacher’s psychology and task form an irreducible socio-psychological task environment for learner participation. Simply put, learner engagement is not driven by goal or task per se, but invited and inspired by the teacher’s intrapsychological integration of task and self.

In understanding environmental effects for conceptual development, Vygotsky remarks that the researcher is faced with understanding the internal connections between environment and individual psychology. Between the external task features and learner engagement, there does not exist a necessary developmental connection. More importantly, it is time researchers and teachers departed from the prolonged and continued preoccupation with pedagogic ‘techniques’ and ‘strategies’, underlying which is the belief that manipulation of external factors can have causal influences on learning processes and behaviour. By contrast, this study proposes that the psychologies of teaching and of learning are interactive and resonating processes, the former being the precondition and mediator for the latter.

Next, applicative considerations are offered on the external and internal levels of task environment as teacher’s intrapsychological engagement. It will be argued that, at the external level, teachers’ delineations of task before, during, and after task must be psychologically substantive, revealing his/her orientation to task as conceptual thinking processes, as opposed to merely external procedures and behavioral prescriptions. At the internal level, the actual unfolding of task must reveal psychological coherence and coordination with the conceptual nature of task. In these aspects, teachers’ conceptual
engagement and orientation will serve as the irreducible social environment for students’ intellectual participation.

**B. External and internal levels of task and participation structure**

External level of task and participation structure encompasses the semantic and behavioural levels of teachers’ task organization. In task organization, teachers may discuss with students the (meta)cognitive factors and features of tasks, such as: psychological natures of tasks, their developmental significances, motivations, goals, methods, roles and responsibilities, results, and future plans, etc.

In all classroom processes, organization and structure facilitate systematic and in-depth engagements, otherwise impossible in unstructured contexts. Similar to the rules and goals in children’s pretend games, “[r]estrictions on and extensions of … degrees of freedom go together and depend on each other” (Vanderstraeten, 2001, p.273). Well-defined task environment helps focus attention and maintain engagement during the activity process. Moreover, they are also important for raising students’ self-aware and self-regulative participation.

But the key issue in investigating teachers’ verbal delineation of task structure is not clarity and specificity of language (cf. Vanderstraeten and Biesta, 2001). ‘Explicit teaching’ is recently called for by social semiotic researchers of classroom speech (ACER, 2006). The single most fundamental difference between this proposition and the stance taken in this study lies in the conception of the relationship between speech and thinking. In the postulation of explicitness of teaching speech, a causal relationship between language and thinking is suggested. By contrast, an acausal, apperceptive conception of speech mediation of thinking is argued in the present study. Specifically, for teacher’s verbal delineations to effectively
scaffold learners’ psychological experience, they must be conceptually substantive. Language must mediate teacher’s inner orientation towards task as conceptual thinking processes, as opposed to merely behavioral conducts and external procedures. In discussing about task with students, the conceptual orientation in teacher’s speech addresses his/her own thinking, leaving students in control of their own behaviour. It invites and convinces participation, instead of demanding mechanical compliance.

The internal level of task and participation structure may involve the non-verbalized psychological mechanism governing the unfolding of the social task. The actual enactment of the task and participation is considered in terms of its collaboration with the conceptual nature of the task. Some specific factors at the internal level may include: temporal stage and developmental status of the activity, time allocation for various components of activity, methods and tools, nature of teacher and students’ psychological operations, their respective partnership in accomplishing the task, actual results arrived at and deemed satisfactory, intellectual connections between the activity with others, etc. In case of conflicts between the verbal and internal levels, students’ self-aware and self-directed engagement will be impaired.

One example helps to illustrate the coherence between internal task structure and conceptual operation. During field research in China (not reported here), one local teacher, here referred to as Patricia, was observed to establish a distinctive teacher-student intellectual partnership which served to inculcate independent learning habits. Patricia insisted on conducting her classroom practices from the high ground of students’ pre- and post-lesson independent work. A set of routine self-learning activities was established for the students. Students were given text materials and requested to prepare for their lessons beforehand. This usually involved independent studies of vocabulary and semantic meanings of texts with the
aid of dictionary, reading and understanding the content of texts to the extent that students could answer content-based questions on the text, identifying special sentence structures and grammatical features. Students’ out-of-class self-learning was structured and fostered via in-class socializations. That is to say, self-learning was intrinsically relied on and built on in-class interactions.

Independent learning and in-class interactions were not identical or repetitive, but mutually complementary and dependent. The teacher and her students entered into lessons not as blank slates, but had to be equipped with individual integrations of texts and materials. Classroom interactions were consciously focused not on semantic learnings that students were trusted to have accomplished (e.g., the teacher did not supply semantic explanations of language items that students were anticipated to accomplish). Instead, interactions were focused on synthesized, integrated understandings and applications of learned items. Students were first requested to supply semantic understandings, identify phrasal verbs and syntactical structures, answer information-based questions about texts, then discuss integrative thinking. Teacher-student interactions were also observed to normally transit from content-based question-and-answers to discussions of ideas, opinions, and sometimes recreations of the texts. By making after-class learning an integral part of in-class socializations, students were apprenticed to become self-facilitated readers in text comprehension as well as conscious language learners attending to linguistic features and syntax formations. The classroom provided the crucial social space for extended student externalizations of learning and for higher-level, structural operations of the English language. From the task and participation structure dimension, Patricia’s lessons were typically and consistently organized and
orchestrated to enable the transformation of individual semantic learnings into communicative functional symbolic systems.

Such higher-level, structural orchestration of lesson structure was, regrettably, not common in the rest of the data from both China and Australia. In the rest of the data, the lack of ‘echoing’ between external and internal, and between structure and concept operation was frequently evident. Commonly in these classrooms, whether or not students were administered with out-of-class independent studies, prior learning was not addressed or was repeated and reproduced in class. Prior learning was not utilized in an integral and integrative manner, rendering in-class discussions overwhelmingly dominated by the teacher, and typically concerned with first-level, semantic provisions. The structural deficiency of lessons then led to teachers’ attribution to student laziness or incompetence.

“Thinking, you see, denotes nothing less than the participation of all of our previous experience in the resolution of a current problem, and the distinctive feature of this form of behavior is simply that it introduces a creative element into our behavior through the construction of every possible connection between elements in a preliminary experience, which is what thinking is essentially” (Vygotsky, 1997c, p.175).

The implication is that the only way for task structure to cohere with conceptual operation (verbal thinking) in language is to actively enlist students’ existing resources as foundation for authentic, integrative socialization. As soon as classroom interaction is focused merely on first-level, semantic supplies, the psychology of lesson structure is internally impaired.

To summarize, the dimension of task and participation structure is considered an organic, integral fusion of task goals and features and teacher’s intrapsychological engagement. The latter is manifested in both external and internal levels of teachers’ structural endeavours.
3.3.2 Functional systematicity of conceptual teaching (conceptual tool dimension)

The basic premise of the study is that, in a proximal learning environment, teachers’ intrapsychological engagement should be the precondition of students’ thinking and development. Social relationship in the classroom, as represented in the teachers’ intrapsychology – interpsychology – students’ intrapsychology cycle, can be examined in four dimensions. Among them, this dimension of functional systematicity of teaching concerns the teacher’s active engagement in conceptual thinking mediated by pedagogic activity and the teaching speech. In authentic and proximal environment, teaching is not constituted by ‘talking about’ a concept; it is the very process of conceptual functionality itself. Conceptual functionality must be mediated in the teacher’s activity and speech. In the pedagogic activity, the governing psychological mechanism must be coherent with the nature and functionality of concept. In the language of conceptual teaching, conceptual functionality is not reflected in the semantic content of what is said; it is mediated in the intertextuality, the psychological relationship and organization in language. In intertextuality, tension arises from between meaning units and between units and textual whole. This tension is the psycho-semiotic mechanism of apperceptive communication of thinking.

The ensuing discussions of functional systematicity of teaching will include considerations of conceptual teaching activity and conceptual teaching language. The latter aspect will begin with understanding Vygotsky’s notion of systematicity in terms of ‘generality and generalization’. This is followed by discussions of the psycho-semiotic notions of ‘intertextuality’ and ‘tension’, which will facilitate the interpretation of conceptual function in speech.
A. Conceptual teaching activity

Systematicity in Vygotsky’s notion is considered in psychological functional terms, rather than in an external, objective sense. In mediating thinking, concepts or words\(^7\) function as ‘a stitch in a living integral fabric’, not as ‘a pea in a sack’. “By its very nature, each concept presupposes the presence of a certain system of concepts. Outside such a system, it cannot exist” (Vygotsky, 1987, p.224). The presence or absence of a system also constitutes a key difference between scientific and spontaneous concepts (Chapter Three).

The functional systematicity in teaching is first reflected in the coordination and complementation of the external and internal levels of conceptual teaching activity. At the external level is the pedagogic approach and behaviour; and at the internal level is the nature of psychological operation that governs and is requested by pedagogy. The psychological coherence in the two levels of teaching constitutes an apperceptive conceptual learning environment. An example can be found in Larsen-Freeman (2003). With regards to teaching the ‘there be’ syntax to beginners, many are familiar with the approach of displaying a picture to students and having them make sentences with ‘there’ about what they observe. This approach is regarded as misleading, for when teacher and students can all see the contents of the picture, the function of ‘there be’ in introducing new information, information that is previously unknown to the listener or reader, is not utilized. The teaching activity thus

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\(^7\) Vygotsky’s notion of ‘word’ has frequently been taken literally as referring to a morphological unit, rather than text or speech in general. Wells (1999), for example, when comparing Vygotsky and Halliday, remarked “Whereas Vygotsky focuses almost exclusively on word meanings as the locus of conceptual development, for Halliday the minimum unit of analysis is a text, that is to say, an instance of language being used in discourse” (pp.32-3). By contrast, Wertsch (1981) cautioned against such partial interpretation of the ‘word’: “Through out this section Vygotsky consistently uses the term word [slovo] where it may appear to many readers that speech [rech’] would be more appropriate. Since Vygotsky’s emphasis here is on how signs mediate social and individual activity rather than on the process of speech activity, it would seem that his use of word rather than speech is significant. Therefore, I have maintained this distinction in my translation. It should be noted, however, that one should not take the term word too literally. Since it is used in connection with Vygotsky’s general concern with sign mediation, it does not refer solely to morphological units; rather, phrases, sentences, and entire texts fall under this category as well” (p. 158, Note).
harbours an internal conflict with the psychological operation of the concept. The syntactic form that students practice producing is detached from the psychological functional significance. Alternatively, Larsen-Freeman proposes, if teacher and students are looking at similar, but not identical, pictures, they could use ‘there be’ to identify the differences between the images in a way that is psychologically and functionally legitimate. The activity could be supplemented with similar practices between student peers; and then followed up with consciousness-raising activity. The teacher or students could, as a consequence of the accumulation of external-internal coherent experiences, point out the social psychological function of ‘there be’. The arbitrary separation between grammatical form and psychological function is thus avoided.

B. Conceptual teaching language

Functional systematicity should also be mediated in the operation of conceptual teaching language. In a proximal, apperceptively sensitive learning environment, teaching by ‘talking about’ concepts, i.e., communication about concepts at the semantic level of speech, is not sufficient. Conceptual functionality must govern the internal, psychological relationship and organization of speech.

In establishing the conceptual tool dimension of classroom socialization, it is argued that conceptual thinking always functions in systems. First, systematicity is a geometrical, multidimensional psychological structure defined by ‘generality and generalization’, as opposed to a linear association or a horizontal plane. This means, importantly, that the mediation of geometric, multidimensional structures of interconnectivity is characteristic of conceptual verbal thinking. Secondly, language achieves the non-linear structure of interconnectivity with ‘intertextuality’ and ‘tension’. The mediation of thinking,
characterized by non-linear meaning structures, in the language of teaching is the precondition for learning in a holistic, apperceptive environment.

\[ a) \text{ Generality and generalization} \]

Conceptual systematicity is psychologically defined in terms of the \textit{relationship of generality} and the \textit{structure of generalization}. The relationship of generality represents the inter-connectivity between concepts. It refers, in brief, to the width and richness of the web of connectivity between concepts.

The measure of generality is the foundation for the relationship of the concept to all other concepts. It determines the potential for transitions from one concept to another and permits the establishment of an infinite number of relationships between them. This is the foundation of concept equivalence (Vygotsky, 1987, p. 227).

Vygotsky gives the example of the number 1. In a developed arithmetic mind, “the number one can be expressed as 1,000,000 minus 999,999 or, more generally, as the difference between any two adjacent numbers. It can also be expressed as any number divided by itself or in an infinite number of other ways. This is a pure example of the law of concept equivalence” (Vygotsky, 1987, p. 227). The number ‘1’ could be represented in the psychology in infinite different ways. The scientific concept also functions in a network of conceptual connectivity. It can be represented in multiple ways, in relation to other concepts.\[ 8 \]

A conceptual system of generality relations can be compared to a geometric, multi-dimensional structure. A concept’s position in the geometric structure is defined by \textit{longitude} and \textit{latitude} measures. However,

\[ 8 \text{ Vygotsky’s notion of generality and generalization emphasizes individuals’ intrinsic participation in conceptual understanding. Psychologically, conceptual generality relationships are limitless. Hasan raises (1992) the objection against the unlimited semiotics of word meanings. But as a social semiotician, she departs from the consideration of language as an existing established system of codes. Vygotsky, on the other hand, as a psycho-semiotician, departs from the consideration of the human mind in the interaction with the established code system. As a result of the interaction, the development of the symbolic mediated psychology has no causal, deterministic bounds.} \]
In geography, the relationships between longitude and latitude are lineal. Two lines cross at only a single point, with the meridian and parallel determining their position. This language of lineal relationship is not adequate to express the more complex relationships characteristics of the concept system. The content of the concept that is higher in its longitude is also broader. It incorporates a whole section of the lines of latitude of its subordinate concepts which require a whole series of points to designate it (Vygotsky, 1987, p. 227).

In the non-linear structure, the difference between scientific concepts and spontaneous concepts does not lie merely in height, but also in the width of connectivity. The higher a concept is in the system, the wider the web of connectivity.

While the relationship of generality refers to the connectivity and transferability between concepts; the structure of generalization encompasses the concept’s abstraction. Simply put, if the relationship of generality represents a quantitative development of a concept, the structure of generalization represents a qualitative one. Throughout child developmental stages, thinking is typically characterized by various structures of generalizations (syncretic, complexive, pseudoconceptual, and conceptual); within each stage, the same concept, e.g., ‘mammal’, is qualitatively different in psychological functionality (Vygotsky, 1987).

Quantitative changes are a necessary condition of the qualitative development; but the latter is not a necessary consequence of the former. Between conceptual generality and generalization, the relationship is not one of identity or direct correspondence, but of ‘a complex mutual dependency’ (Vygotsky, 1987, p.225). While generality of a certain nature may not change or define the structure of generalization, a generalization structure always entails the transformation and reorganization of the generality relationship between concepts. In Vygotsky’s experiment, a child who could learn specific names such as table, chair, cabinet, couch, bookcase, etc, could not learn the generalized, abstract term, ‘furniture’. Learning the word ‘furniture’ involves not just another addition to the list of specific names. It required the
mastery of a higher, more complex conceptual generalization structure. The word ‘furniture’
cannot be mastered as the sum total of all the specific items of household contents; it must be
learned with an apperceived fusion of the objects and one’s psychological relationship with
them.

Moreover, it would be a mistake to consider the psychological act of generalization
applies only to ‘abstract’ words. The mastery of all words as psychological, symbolic tools
requires an act of generalization, as has already been indicated in Chapter One.

The word does not relate to a single object, but to an entire group or class of objects.
Therefore, every word is a concealed generalization. From a psychological perspective, word
meaning is first and foremost a generalization. It is not difficult to see that generalization is a
verbal act of thought; its reflection of reality differs radically from that of immediate sensation or
perception” (Vygotsky, 1987, p.47).

In generalization, there exists not simply a quantitative reservoir of associations, but a
qualitative type of being and a worldview. Fundamentally, the structure of generalization
concerns the transcendent function of concepts. A generalized concept is a concept of
psychological symbolic functions. A generalized or abstracted concept is always more
enriched, rather than impoverished, compared to the concrete specificities.

In contrast to what is taught by formal logic, the essence of concept or generalization lies
not in the impoverishment but in the enrichment of the reality that it represents, in the enrichment
of what is given in immediate sensual perception and contemplation. However, this enrichment of
the immediate perception of reality by generalization can only occur if complex connections,
dependencies, and relationships are established between the objects that are represented in
concepts and the rest of reality (Vygotsky, 1987, p.224).

Furthermore, systematicity defined in terms of generality and generalization describes
not just words as psychological symbols; it is a characteristic of meaning unit of any length,
e.g., phrases, sentences, texts, an author’s collective works, etc. Vygotsky’s notions of ‘word’
and ‘word meaning’, often misunderstood as related to a morphological construct only (see
also Note 4 in this chapter), indeed refer generally to a unit of functional systematicity. Language seen from this perspective of functional systematicity is an ecological system, which can be likened to ever expanding ripples on the surface of water. Larsen-Freeman uses the metaphor of tree fractals:

While I have to be careful not to ascribe to a code a vitality of its own, since it is the people who use it who make it ‘come alive’, it is nevertheless attractive to think of language as a natural phenomenon, a dynamic organism. Indeed, I was very moved the day that I realized that the structure of language and the structure of a natural entity such as a tree were both fractals. A fractal is a pattern that is self-similar at every level of scale. For instance, the structure of a tree consists of a central trunk with branches spreading out from it. When you focus on a single branch, you see essentially the same shape, with twigs emanating from a central stalk. At the end of the twigs are leaves with central veins and arteries radiating outward. Thus, each level of scale of a tree reveals the same basic shape. The same is true for language: It is self-similar at every level of scale. For instance, the ten most frequent words in a given text will be rank-ordered in the same sequence as in a much larger corpus of the language (Larsen-Freeman, 2003, pp.31-2).

Of course, what concerns us in this study is not the function of corpus, but psycho-semiotic structure. In terms of psychological structure of meaning and thinking, language at the levels of words, phrases, sentences and texts, etc displays similar systems of generality and generalization (Diagram 4).

In the ecological system, symbolic multiplicities in smaller and larger units are profoundly entangled and mutually derivative. Because of this, all meaning units, if analyzed as concrete static constructs, are deprived of their functionality in living textual and communicative contexts, and more importantly in the living, thinking mind of the language user.
Diagram 4. Functional Systems in Language as an Ecological System

b) Intertextuality and psycho-semiotic tension

Echoing the argument above that meaning and thinking functions in the interconnectivity between units of speech, Vygotsky (1987, p.272) comments “the speech relationships become the determinants or sources of the experiences that appear in consciousness”. The relationship between words or meaning units, rather than words as independent, self-sufficient constructs or the sum total of word semantics, communicates thinking. This is a key principle in a psycho-semiotic study of language and meaning / thinking. Psychologically, in different contexts of word relationships every word can refer to a limitless range of meanings. For this reason, while it is possible to discover the external, conventional semantics of words, it is not possible to determine the psychological intention, or ‘subtext’ (Vygotsky, 1987, p.281), based on words as independent entities. The psychological intention, the act of meaning and thinking must be discovered from speech relationships. The relationship between speech components is the psychologically regulated and governed organization of speech. Understanding speech relationships involves a holistic
comprehension of language. In a holistic understanding of language, speech governed and
organized by speech relationship is an ever larger and qualitatively different functionality than
the sum total of separate semantics.

What Vygotsky calls the ‘speech relationships’ has much in common with the notion of
‘intertextuality’ in contemporary semiotics. Intertextuality describes a system of
interconnected and interactive text units, argued to underlie cohesion within texts:

But there is one specific kind of meaning relation that is critical for the creation of
texture: that in which one element is interpreted by reference to another. What cohesion has
to do with is the way in which the meaning of the elements is interpreted. Where the
interpretation of any item in the discourse requires making reference to some other item in
the discourse, there is cohesion (Halliday & Hasan, 1976, p.11).

In intertextuality, the meanings of speech elements are set against the background of
each other as well as the textual context. Moreover, it is pointed out that intertextuality is not
limited to ‘intra-literary’ relationship within texts but extends to ‘extra-literary’ (Mai, 1991,
p.51) relationship between texts.

Every text, the discourse of every occasion, makes its social meanings against the
background of other texts, and the discourses of other occasions. This is the principle I have
called general intertextuality. … [Intertextuality is] the general principles by which our own
community … constructs relationships of meaning between texts (Lemke, 1992, p.257).

Kozulin (1999, p.80) considers this ‘literary allusion that links a given text to other
literary texts’ a ‘super tool’ of semiotic and symbolic mediation, commenting that “the
literary super-tool addresses one of the most difficult aspects of formal learning – ability to
follow a chain of arguments that develop in a purely discursive plane without recourse to
empirical examples” (Kozulin, 1999, pp.80-81).

This interplay between elements, between elements and whole, and between texts is
what bears upon the central prism of thinking and intention behind the operation of language.
However, the definition of ‘intertextuality’ would be flawed if the notion of ‘tension’ is not
recognized in the creation of harmony and unity. This is so simply because intertextual unity and coherence are not a consequence of semantic proximity and agreement. Intertextuality, characterized by thinking, intention, and creativity, always involves the intricate interplay between contrastive and even opposing elements. Consonance given birth to by dissonance is a common psychological mechanism in art, music, drama, literature and films. Brought together in apperceived fusion, contrastive tendencies and forces form between them a hollow or vacancy pregnant with possibilities, potentials and suspension. From this tension, great energy is generated, impelling spectators and readers to respond intellectually, imaginatively, and emotionally so that dissonance can be resolved. In the psychology of speech, for example:

In its oscillation and in the incongruity of the grammatical and the psychological our normal conversational language is in a state of dynamic equilibrium between the ideals of mathematics and the harmony of imagination. It is in the state of continuous movement that we call evolution (Vygotsky, 1987, p.253).

Thus, tension is the diversity and contradiction that exist in dynamic equilibrium, resulting from the struggle between the mathematic ideal of correctness and the creative imagination. Without understanding of the significant role of tension, the concept of intertextuality would be incomplete.

Diverse and contradicitive elements harnessed in the service of one common system of relationships are characteristic of such literary expressions as ‘the deafening silence’ in description of the Australian Outback; ‘the eternal changes’ the Tao of life; ‘the unbearable lightness’ individuality in historical upheaval (Kundera, 1999); in which the direction in chance and the harmony in discord (Pope, 1903) are unified in paradox. A similar mechanism dominates the film review below.

Lee has created a bracing new sub-genre with this gorgeous firework display of a picture. *Crouching Tiger* is a martial arts movie that arrives pruned of both the melodrama of the style’s early manifestations and the irony that has lately infested it. It is unapologetically serious at certain moments, unashamedly flamboyant at others. It’s a film of exquisite grace under fire; a
work so lush, giddy and beautiful it has you giggling in the aisles (Guardian, Arts pages, January 5, 2001).

Between the meaning components, and between components and textual whole, the relationships are not self-presumed; they are not a natural property of the semantics within the language. Between units and between units and whole, language is organized in accordance with the law of predicative abbreviation (Section 2, this chapter). In predicative abbreviation, psychological tension gives rise to the dialectic unity of meaning and thinking.

The creation of intertextuality does not involve a mere play on words for words and meanings must be fused by the dynamic mind. Giving rise to intertextuality in language and the impelling psychological force for readers’ or listeners’ engagement, structural psychological processes must occur simultaneously with the production of speech. In authentic verbal thinking, language is always predicatively abbreviated, entertaining tension, but also establishing intertextual coherence. On the other hand, a state of psychological inertia is always associated with full and seamless, but automatic semantic progression. Underlying speech is the presumed stableness of knowledge, as opposed to the ongoing construction of structural connection and reorganization.

Structural processing is, for example, mediated in the following definition of heavy water excerpted from a biography of Enrico Fermi, the nuclear physicist awarded the Nobel Prize in 1938:

Heavy water is water in which the hydrogen atoms of \( \text{H}_2\text{O} \) had been replaced by the heavy isotope \( \text{H}_2^\text{H} \), also called deuterium. The hydrogen atom has a single proton as its nucleus; heavy hydrogen has a proton and a neutron in its nucleus and a reduced tendency to absorb neutrons – that makes heavy water a better moderator in a pile (Cooper, 1999, p.95).

The above definition of heavy water, in two sentences, offers a system of the interconnections between such concepts as water, heavy water, \( \text{H}_2\text{O} \), hydrogen atom, nucleus,
proton, neutron, etc. As the text is being read, a non-linear, geometrical structure is co-concurrently apperceived in the reader’s mind. One possible apperceived image of the conceptual structural relationships is as follows (Diagram 5):

![Diagram 5](image)

*Diagram 5. Hydrogen in Water and Heavy Water*

In defining ‘heavy water’, the concept is placed in the interplay and connectivity with other concepts. In fact, all of the concepts mentioned in the text are presented in this system of generality and functionality; none is explained semantically and exhaustively. The mutual relationships between the concepts form a non-linear, spatial extension of tension, constituted of width, height, volume, and dimensions. It is this psycho-semiotic tension that enables a reader, without deep specialist knowledge, to obtain a general comprehension, a ‘comprehension through allusions’ (Vygotsky, 1987, pp.273-4) of the subject matter. Against the background of their relationships with other more or less known concepts, the one or more unknown concept(s) will not impede understanding of the textual whole. Without droning with specific details in each individual concept, the author challenges readers to construct an active, apperceived comprehension. In doing so, the common reader is allowed to operate at a structural height similar to that of a trained scientist. They have been momentarily elevated through the author’s interpsychological revelation. The structural conceptual connections
engender a driving tension in the reader, propelling their own intra-psychological processes of connective functionality. Thus, the interpsychological communicative goals are accomplished of informing and engaging but not patronizing or expelling interest.

Thus far, functional systematicity of language has been defined in light of intertextuality and tension. In the psycho-semiotic mechanism of intertextuality and tension, language is argued to mediate non-linear, multi-dimensional structures of interconnectivity which are measured in generality and generalization. Functional systematicity so considered provides an account of the social origin of word meaning as a conceptual system. Mainly, for students to gain access to conceptual functionality in language, the teacher’s language operation, as a precondition, must mediate this very process of verbal thinking.

3.3.3 Interpsychological encounter (social conceptual dimension)

Previously, the structural and the conceptual dimensions of classroom relationships initiated by the teacher have been discussed. In both dimensions, an understanding of a teacher-initiated relationship departs from the central premise of the apperceptive socialization cycle: teachers’ intrapsychology – interpsychology – students’ intrapsychology (Diagram 1). In other words, the teacher’s intrapsychological mediation and fusion serve as the precondition of change first in the social space then in students’ intrapsychology. Classroom socialization that is mediated by the teacher’s intrapsychology, it is argued, reflects authenticity in social relationship and facilitates the whole-person apperceptive learning process. Interpsychological encounter is another dimension of teacher-initiated relationship in the classroom. It encompasses the interpersonal dialogic process during teaching and learning. Similar to the previous two dimensions, teachers’ intrapsychological engagement is emphasized as the essential precondition for change first in the social space.
then in the students’ engagement. Specifically, the teacher’s participation in dialogue must be mediated by his/her intrapsychological engagement with both the conceptual task structure and the student’s psychological structure. As a result, individuality, concept, and socialization are three aspects of one integral whole in the dialogue. In socialization, teachers’ simultaneous engagement with conceptual structure and the structure of students’ thinking is the precondition of students’ dialogic engagement. It constitutes a learning environment where the fusion of teacher, student, and conceptual task predates changes in teacher and students.

In the following sections, I shall endeavour to explore the external and internal manifestations of interpsychological encounters in teacher-student interactions from two aspects: student externalization of thinking and structural interaction.

A. Students’ externalization of thinking

Sufficient student externalization of their thinking systems is the prerequisite for teacher and students to enter into structurally meaningful dialogues. From the students’ perspective, “[t]hought is not merely translated in words; it comes into existence through them” (Vygotsky, 1962, p.125; cited in Sfard, 2000, p.45). Just as the teaching speech should not be a reflection of the end-product of knowledge, students’ speech is also the very process of thinking and learning. In speaking, or what Vygotsky refers to as verbal thinking, one is allowed to interact intrapsychologically. In the intrapsychological reflexive process, the structured and the unstructured thoughts encounter, which permits the individual to gain access to and become aware of the yet unstructured thoughts. As a result of the intrapsychological encounter, conceptual organization expands and develops in generality and generalization. In neither teacher nor student is thinking constant but must be allowed to
continually unfold and develop. Through speech, thinking is symbolically structured, reorganized, and thus transformed. From the teacher’s perspective, to truly understand the dialogic partner’s thinking system, sufficient student externalizations and teacher-student negotiations must be actively constructed as an intrinsic element in arriving at teaching ends. The intrinsic reliance between students’ and teacher’s speech must accompany classroom proceedings.

B. Structural interaction

Authentic interpsychological encounters are encounters at the structural, rather than peripheral, level. In educational processes, Vygotsky (1997a, p.349) argues that “an inner affinity is needed between teacher and student, they must be close in terms of feelings, and in terms of thinking”. The inner affinity between teacher and students does not mean that they must think alike (cf. Wong, 2001), i.e., it does not refer to affinity at the surface or peripheral level, but affinity or encounter at the apperceived, structural level. In the apperceived understanding of each other’s psychological structures, ‘mutual and continuous adaptation’ (Vygotsky, 1997a, p.349) is made possible.

Interpsychological structural encounter is not a necessary or natural condition in all socializations. It is not a typical characteristic of casual conversations between family and friends and of routine business exchanges between colleagues and between service providers and recipients. But in educational socializations structural interaction is a must for developmental ends.

Structural interaction does not occur in general, unmediated exchanges; it is made possible by the interactants’ conjoint engagement in a common activity. In conjoint engagement in an activity, interactants share an apperceived goal and concomitantly update it
in the process. Also, in the structured environment of the activity, participants’ psychological processes are similarly mediated by conceptual functionality. This mediated structural interaction process is testified in earlier examples of mother-infant talk and children’s pretend play. The mother-infant communication, for example, is a highly organized psychological task conscientiously attended to by both participants, the common apperceived goal being symbolically mediated (concerning the expression of ‘Hello’) socialization. Similarly, socialization in children’s pretend play occurs also in a structured environment characterized with commonly apperceived and continually updated goal, and the mediation of hypothetical thinking. Both the mother-infant and children’s socializations have transformative developmental effects, and not for just one or some but for all participants involved.

The mediation of the commonly attended process is of crucial importance for the revelation of the true selves. Only in action is the true nature of being displayed, for action presumes structural coordination of the psychological whole. In the mother-infant talk, the mother’s engagement with the baby’s psychological operation activates her structural self. In internalizing the expression ‘Hello’, the baby’s structural psychology is also activated. Similarly, in pretend play, engagement with the task and one other triggers and unfolds the children’s most active and authentic beings. In the process, the otherwise inaccessible intrapsychology is accessed through egocentric speech. It can be thus said that interpsychological structural encounter involves a simultaneous engagement between participants and activity (with goal and conceptual functionality). In simultaneity, individualities fuse with conceptual operation and with one another, enabling psychological systems to function as a structural whole.
Interpsychological structural encounters are necessarily apperceptive simply because psychological structures can never be concretely represented. This has implications for transactions at the verbal level. Speech that mediates the structural, apperceptive exchanges differs in form from casual, routine communications. Speech in everyday social exchanges is characterized by ‘a simple volitional action’, a ‘rapid tempo’, and ‘significant elements of habit’. The everyday social conversation is ‘speech that consists of rejoinders. It is a chain of reactions’. On the other hand, speech in structural dialogues is ‘a complex volitional action’; it is ‘an action characterized by reflection, the conflict of motives, and selection’ (Vygotsky, 1987, p.272). This means that, between moves of exchanges, the relationship is not semantically automatic. Between moves of exchanges, the semantics transition is not seamless but is characterized by tension. From the initiation move to the response move, there is embodied a structural leap. An externally seamless flow of semantics precludes structural dynamics. In a semantically automatic response, the thinking in the initiation move does not act as a trigger for reflection. On the other hand, a response with psycho-semiotic tension mediates structural incorporation, rendering the dialogic partner’s thinking structure as socially and developmentally meaningful.

To help illustrate the dialogic structural engagement and the conceptual change as consequence, an instance in personal communication comes to mind. The conversation took place between my friend, Harold, who was professionally trained as a physicist, and me. The conversation concerned the bamboos of different species and origins seen at the local botanic gardens. When I mentioned that there were some bamboos with square trunks in Yunnan and Sichuan, China, Harold was certain they could not have been natural but would have been artificially engineered, although I remembered clearly from my source of reading that they
were indeed natural. In our conversation, Harold asked: “Well, have you SEEN anything that’s square in Nature?” challenging my common sense. Uncertain as I was, I replied: “Well, yeah. Like, snow flakes”. As I was saying this, I had no clear idea what my point was and where I was going with it, but for a vague hunch that snow flakes, with their regular shapes, somehow contradicted Harold’s position that nothing natural could be square. With an obvious transition in tone from doubt to recognition, Harold replied, “Ah, you mean at the MICRO level”. I reflected quickly, realizing the potential in the proposition, and took up the suggested level of conversation: “Yeah, AT THE MICRO LEVEL, can’t Nature be ‘square’?”

From here, the conversation continued on ‘things at the micro level’. Harold remarked that often Nature has regular geometrical arrangements in matters. That is why diamonds can be cut along the faces where atoms are lined up together. Before the conversation ended, Harold commented that somewhere in his learning, he had had the implicit idea that Nature was chaotic and irregular, and the macro and micro levels had not always been connected.

Brief and trivial as it was, the conversation manifested a transformation from the level of ‘common sense’, or spontaneous concepts, to that of scientific concepts, mediating conceptual changes for both conversers. In my ‘snow flake’ proposition, the external message contained only unstructured thoughts and hunches from personal experiences. To my apparently illogical utterance, alternative replies could have been, for instance, ‘What about snow flakes?’; or ‘Snow flakes aren’t square’, in which case, the upward movement would have been blocked in the dialogue. The conversation would have remained at the ‘common sense’ level. But the spontaneous comment was internalized and responded to with an internal structural mediation. In ‘You mean at the micro level’, there was embodied an apperceived comprehension of the structural organization underlying my utterance, and a
positive projection on its development. The projection transformed ‘snow flakes’ into ‘objects with regular atomic arrangements’, making possible the conversation at a structural conceptual level. As a result of reflective engagement, the conversation, insignificant as it had started, mediated changes in thinking for both. The utterances exchanged in the brief dialogue were disconnected at the semantic level, but were connected in psycho-semiotic tension at the apperceived structural level.

Previous examples of exchanges between mother and infant, children in play, and in personal conversation represent dialogues conjointly initiated, with interactants self-initiating the goals and conceptual functionalities. Classroom interaction, on the other hand, is generally organizationally initiated; students’ engagement in interaction is not a part of the intrinsic or organic motivation that can be taken for granted. For this reason, teachers’ intrapsychological engagement with their students’ psychological structures and the conceptual task must be a precondition for students’ engagement; such is the central premise underlying all four dimensions of teacher-student relationship.

From students’ external semantics, the teacher must, co-concurrently, construct and update in apperception the psychological mechanisms in their speech relationships. The unfolding of speech should be governed by the structural functionality of concepts. The response given by the teacher at the conceptual structural level enables the trajectory of classroom dialogue to take the form of an upward moving helix reciprocating between teacher and students’ systems, rather than a horizontal line that begins and ends within the teacher’s own system. In the tension between student and teacher’s utterances and between the external and internal levels of the teacher’s speech, developmental dynamics is not an external imposition, but the intrinsic force driving dialogic exchanges.
The interpsychological dynamics of a structural encounter in the classroom could probably be presented in Diagram 6 of proleptic dialogue below.

<table>
<thead>
<tr>
<th>External Level of Speech</th>
<th>Student’s Speech</th>
<th>Structural Apperception and Projection</th>
<th>Teacher’s Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proto-conceptual, or spontaneous conceptual semantics</td>
<td>Teacher’s intrapsychological encounter between his/her own conceptual structure and that of the student</td>
<td>Response at higher structural level, embodying a semantic leap from the student’s utterance</td>
<td></td>
</tr>
<tr>
<td>Internal Level of Speech</td>
<td>Organizational or operational structure governing semantics and speech relations</td>
<td>Structural connection and development as a consequence of infusion of teacher and student’s thinking structures</td>
<td></td>
</tr>
</tbody>
</table>

*Diagram 6. Proleptic Dialogue in Teaching*

The proleptic dialogue initiated by the teacher is educationally significant for learning. Students learn about a discipline not from the semantics of words, but from the psychological structure governing word relations, which can never be transmitted but only apperceived. In comprehending the structural-orientation and organization in socialization with the teacher, the student is entrusted and challenged to actively construct and update the apperceived model of conceptual functionality. Conceptual functionality in the dialogue is then the social reality students are situated in.

On the matter of dialogic scaffolding (which, by definition, involves not semantic manipulation but structural attendance), Vygotsky emphasizes the role of the expert, but not so much that of learning peers. In contemporary studies, however, scaffolding has been examined not just in novice-expert but also in peer interactions (reviewed by Ellis, R., 2003). It is proposed that scaffolding is not dependent on the novice-expert interaction; it can also happen in interactions between learners. It is true that structural engagement between peers
tends to be an intuitive and self-initiated occurrence; whereas between teacher and students, it is a systematic act of reflective awareness. However, there is no denying that structural engagement between peers is a critical component in authentic classroom conceptual socialization. In accordance with Vygotsky’s conceptualization of the historical, surplus, inner resources of learners (Chapter One), and also on the basis of the researcher’s personal experience, peer friendship developed in collaborative engagement is a most valuable asset in classrooms, and must be recognized as an important means as well as ends in mass educational systems. Peer relationship established during conjoint conceptual activities is a revealing indicator of the teacher’s pedagogical accomplishments and the success of the learning environment.

In summary, the dimension of interpsychological encounter is concerned with the interaction of selves as psychological wholes. Such authentic interaction takes as preconditions a) sufficient student externalization and b) the teacher’s intrapsychological engagement and reflective mediation in dialogic process. In the dialogue, the teacher’s response does not depart from student’s utterance readily and semantically. Between student and teacher’s utterances, there is embodied psycho-semiotic tension, mediating conceptual functionality. As a consequence of structural relationship and mutual fusion, students as well as teachers undergo change and growth in conceptual structure and organization.

3.3.4 Internal order of interaction (historical dimension)

Echoing Goffman (1966), Vanderstraeten (2001) argues that the internal order of interaction is the reality *sui generis*, having an independent nature and making demands on the interaction process on its own behalf. The internal order of interaction operates with the result that speech exchanges between persons often ‘lock into’ each other, forming an implicit
socializing ‘contract’. Perception in social settings forces communication to occur and continue in a way that is intended or not. “Even the communication of not wanting to communicate (e.g. looking out the window, hiding behind a newspaper) is communication. One cannot not communicate in an interaction situation” (Vanderstraeten, 2001, p.269). As Vanderstraeten points out, the contract often regulates the specific interactive process.

Equally, the internal order of interaction operates in the classroom. However, for educational ends, the internal order of interaction in classroom socialization cannot be characterized by the peripheral projection in unconscious perception as Vanderstraeten argues. In fact, the internal order of classroom interaction must distinguish between acts of peripheral unconsciousness and of psychic integration.

Previously, the structural, the conceptual tool, and the social conceptual dimensions of teacher-initiated relationships were enumerated. In all three dimensions, the emphasized mechanism is teacher’s intrapsychology – interpsychology – student’s intrapsychology. This acausal mechanism of effecting social change in resonance with internal change is indeed the internal order of interaction characterized by integrative psychology.

Besides the interactive order that is characterized by the teacher’s intrapsychological mediation, there is a second type of internal interactive order, which is characterized by the absence of mediation and, therefore, peripheral unconsciousness. Thus, there can be two types of internal order of interaction: the mediated and the unmediated. In the socialization governed by the mediated and the unmediated orders, individuals’ social psychological experiences are entirely and qualitatively different. In the unmediated interactive order, speech production and transaction follow an automatic and self-reproductive mechanism. Individuals’ participations in interaction are governed by the expectation and energy
generated from the immediate social situation. Individuals’ participations involve peripheral psychological processes, which are not part of the structurally organized system, and the functionality of which individuals are often not consciously aware. The result of this is felt when people say things not meant, speak in ways ‘out of character’, or in spite of their better judgment.

In the mediated order of interaction, on the other hand, speech production and transaction are not totally determined by the social situation. Socialization involves structurally regulated contributions from participants, which are characterized by conscious awareness and continual internal reorganization. As a result, interaction has the effect of enabling the otherwise inaccessible thinking, connections and insights, and ideas that were not ‘there’ to begin with.

As the key difference between the two types of interactive order is the integrative psychology, the interactive order typically does not change from one type to the other from time to time in social transactions. That is, the internal order of interaction is likely to remain the same in the structural, conceptual, and social conceptual dimensions. The three previous dimensions are manifestations of this internal interactive order as a unified prism. The three previous dimensions may involve different specific contents and modes of communications at different stages of classroom proceeding, but the tendency is that the internal order, be it unmediated or mediated, will remain the same in a social space. Thus the internal order of interaction could be considered as a constant interpsychological energy, determining the social experiences of individual participants. For example, if a contract of intrapsychologically mediated relationship is observed by a teacher with his/her students, he/she is most likely to interact in the same mechanism in different activities, at different
times, and with different individual students. Vice-versa, if an unmediated, automatically driven order of interaction is observed, the same mechanism is likely to self-repeat in all dimensions of the teacher’s classroom socialization behaviour.

The internal order of interaction has the regulative power over the historical as well as future developmental trajectories of socialization. From the perspective of the internal order, the present of speech is also its history; in an intersection of speech performance, the past, present, and future merge.

As examples, two excerpts of dialogues are taken from the film ‘Monsieur Ibrahim’\(^9\), illustrating both the unmediated and the mediated internal interactive order. On the left side of the tables below are the conversations excerpted from two scenes of the film; on the right are analyses of the internal transactions.

<table>
<thead>
<tr>
<th>Scene 1: Conversation between boy and father</th>
<th>Internal level of speech</th>
</tr>
</thead>
<tbody>
<tr>
<td>Father: At least your brother wasn’t like you.</td>
<td>External attempt of interference in order to alter the other’s thinking or behavior. As the initiating remark in the dialogue, it sets the contracting order for ensuing utterances of both father and son.</td>
</tr>
<tr>
<td>Boy: Why are you always thinking of him?</td>
<td>Causal attempt to alter the other’s thinking and/or behavior</td>
</tr>
<tr>
<td>F: Got nothing to do? Take a book. He loved books.</td>
<td>Again, attempting to causally alter or regulate the other’s behavior</td>
</tr>
<tr>
<td>B: [Boy hits the pile of books on desk and turns to go out of library.] Think he’d have liked me?</td>
<td>Psychological self-submission to external interference</td>
</tr>
<tr>
<td>F: What a question.</td>
<td>Psychological dismissal, and again attempt to alter or control thinking</td>
</tr>
</tbody>
</table>

Table 1. Father-Son Exchanges

The psychological, interactive order in this conversation is of an opposite nature to the one below.

<table>
<thead>
<tr>
<th>Scene 2: Conversation between boy and M. Ibrahim</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Boy: Living in Paris must be fun.</td>
<td>Speech mediates revelation and engagement of the self. The language is symbolic, rather than semantic – the boy does live in Paris. Between semantic and symbolic meanings speech is organized with tension.</td>
</tr>
</tbody>
</table>

\(^9\) The movie was based on a same-titled novel. The fictional nature of the ensuing dialogues to be used as examples is fully recognized. Their use in this context is merely for descriptive and illustrative purposes. They are not used to add to the evidential base of the investigation. As it happens, examples could not be found in the classroom data obtained of both of the contrastive kinds of interaction.

B: No, I live on Blue Road. It’s too beautiful here for me.

Speech mediates further intrapsychological revelation and engagement. The language is symbolic and sophisticated, conveying multiple-layered meanings.

I: You can find beauty wherever you look. That’s what my Koran says.

Symbolic language mediates inner engagement with the child’s verbal thinking. Intertextual tension operates between ‘beauty’ as an abstract concept and ‘wherever you look’ as a concrete physical act.

B: Should I read your Koran?

As typical in the developing individual, the boy is readily submissive to external authorities. When communication is externally oriented, language becomes linear and the meaning exchanged is concretized. An unmediated response from the adult would follow the linear and concretized order of speech, telling the other what to do and what not to do, for example, ‘Yes, you could read it’, or ‘No, it’s not relevant’. The latter responses would shift the focus of socialization from the interpersonal integration to the adult’s opinion alone.

I: If God wants to reveal life to you, he won’t need a book.

Instead of departing from the other’s question automatically on the semantic level, speech is structurally mediated and engaged. Language is characterized by symbolic tension and multiplicity.

B: I thought Muslims didn’t drink. [The two are at a café; Ibrahim is having a glass of beer.]

The language is linear and externally oriented but indicates a transition from self-lamentation to other-oriented curiosity.

I: But I’m a Sufi. It’s not a disease, it’s a way of thinking. Although some ways of thinking are diseases too.

Instead of offering a detailed and exhaustive semantic explanation of Sufi, language mediates a symbolic structure in which ‘Sufi’ is a living, functional concept. In the symbolic mediation, the understanding of ‘Sufi’ and the self are integrated. Meaning is not ‘told’, but mediated.

B: [Boy goes home and looks up dictionary.] ‘Sufism: Mystical form of Islam. Opposed to legalism, it stresses inner religion’. [Then, boy looks up the word ‘legalism’ from a second dictionary] ‘Meticulous observance of the law’. [Boy reads from the first dictionary] ‘Opposed to legalism’. He’s (M. Ibrahim) against the law. He isn’t always honest. If respecting the law means being like him [looking back at Father], that’s terrible. I’d rather be against legalism. ‘Inner religion’. Dictionaries always use words you don’t understand. ‘Inner religion’.

Learning is a result of resonation with the intrapsychological thinking and meaning alive in the adult. Such learning is self-motivated as well as self-guided. Moreover, self-regulative learning leads not to semantic understanding but integrative comprehension which is connected with personal experience and emotive value system.

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Table 2. Child-Mentor Exchanges

The transactions in the second conversation are much less automatic than in the first. In the first dialogue, the father and the son speak in a ‘chain of habitual reaction’ (Vygotsky, 1987, p.272). Both participants follow the spur of emotions. Language mediates isolated, peripheral functions of the psychology but not the structural self. In the second dialogue, the participants speak as thinking individuals. The level of meaning-making on the boy’s part
would be unrecognizable if one only observed his interaction with the father. In the first and second conversations, the selves experience qualitative differences. This has to do with the *transformative power of the internal order of interaction*.

Comparing the language features in both conversations, in the first dialogue, the speech of both father and son contains linear, exhaustive semantics. In the second, the speech mediates nonlinear symbolic language. Meaning-makings are not completed in the external semantics only. The external semantics between meaning elements and between utterances exchange is predicatively abbreviated, but language is not deprived but enriched in meaning. Here, as soon as the symbolic words are communicated, the psychological healing and inner connection has already begun. Thinking in connections and speaking symbolically go hand-in-hand in verbal thinking. This dialectic process of interaction between the inner and external, and between various mental functions eventually would enable the boy to gain control of his own psychological processes. While linear language mediates peripheral processes separated from the structural centre, inner isolation, in nonlinear language, psychological connectivity is enabled, constructing the generalized, structural self beyond the present and the visible.

The internal order of interaction, which operates as a constant interpsychological energy, is proposed to be the totality of a teacher’s reflection and legitimate intervention with learning. A teacher cannot cause learning; he/she is not to work directly on his/her students, their behaviour or beliefs, but only mediate from within this interface of interactive order. The interface of interactive order delineates the totality of a teacher’s legitimate and effective endeavour. When directing his/her endeavour outside this interface, the teacher is likely to resort either to crude and simplistic control or to submissive, laissez-faire noninterference.
Construction of the internal order of interaction represents the highest challenge for a teacher’s integration and creative imagination, for it requires none less than the participation of his/her entire structural and consciously aware self. The intrapsychological mediation in the dimension of the internal interactive order predates the concrete speech production and development of both the teacher himself/herself and of the student.

From a psychoanalytic perspective, Meares (2000) criticizes the clinical approach in which the therapist attempts to directly address the patient’s mental distortion, giving professional ‘insights’ of the patient’s self knowledge, in order to correct the distortion. Holding an integrative view of healing, Meares points out that in this approach, the therapist would be addressing the wrong system, i.e., the semantic. In other words, by feeding only to the ‘information’ aspect of interaction, the therapist would be attending exclusively and overwhelmingly to the external level of the exchange. By ‘overwhelming’, I mean that the external level would be used to replace or act on behalf of the internal level. The attempt of using speech to replace thinking, and external speech to replace inner speech, indeed, causes a counter-effect at the internal level. The therapist, in spite of the benevolent intent, would be utilizing and reinforcing the internal inequality between himself/herself and the patient. Externally, the therapist is helping and the patient is getting help. Internally, the message exchanged and made psychologically functional and significant by the exchange is of the inadequacy of the patient. Now, the therapist is likely to be ‘caught up’ in the ‘trauma zone’ (Meares, 2000, p. 130). The therapist remains the strong, healthy and good; the patient the weak, sick, and bad.

Psychoanalytic and educational encounters are different in many aspects. Mainly and most essentially, they differ in terms of the mediators of interpersonal engagements. Whereas
in a psychoanalytic interaction, the paramount mediator is personal experiences and recollections, i.e., materials originated from within the individual during the ontological life; in an educational interaction, the major mediator is disciplinary knowledge established historically before the ontology. However, the difference in mediator of engagement does not prevent us from drawing the commonality in the internal order and quality of interpsychological transactions.

Educational and psychoanalytic encounters are both human-centred processes. Both are reliant on interfunctional integration (Meares, 2000; Vygotsky, 1987) as developmental or progressive mechanism. Thus, in both, social encounter is but the mediator of intrapsychological dynamics and change. The internal order of interaction is reflectively apperceived and cannot be causally manipulated.

**Section Overview**

The synchronicity of external and internal connections presents the essence of all human-centred social processes. Proximal educational relationship entails, synchronically, connecting with others and with oneself; similarly, authentic educational communication is underlined by the synchronous inter- and intra-psychological exchanges. All four dimensions of teacher-initiated relationship have been enumerated from this central prism. Each of the four dimensions is composed of the external manifestations of speech and activity as well as their psychological organization and regulations. In doing so, it was hoped that the whole has been retained in the small and the specific in all dimensions.

In a sense, the four dimensions could be considered as progressive on a scale of teacher’s conscious awareness. The dimension of task and participation structure concerns a first level of teachers’ conscious awareness in task design and organization, which has been
regarded as the ‘designed-in’ level (Hammond & Gibbons, 2001) of pedagogic reflections. The dimension of functional systematicity concerns a second level of teacher conscious awareness, namely, the conscious awareness of the teacher’s own conceptual and symbolic processes in teaching activity and speech. Compared to the structural and conceptual teaching dimensions, where conscious awareness encompasses more or less the teacher’s own operations, the social conceptual dimension requires a higher level of generalization and transcendence as they are enacted in interpsychological encounters. Finally, the dimension of internal order of interaction concerns the dialectic understandings of history and future, of change and constancy. It entails the conscious awareness of the educational socialization process as an integral whole governed by the fundamental acausal, apperceptive mechanism. In this, it involves the conscious awareness of, at the same time, both the unlimited strength and the restricted power in oneself. The four dimensions are interconnected and interpenetrated; occasional overlaps are inevitable between dimensions of the organic integrated whole. But as general orientations, it was hoped that they would serve as reasonable applicative extensions from theories.
CHAPTER FOUR
L2 EDUCATION FROM A VYGOTSKYAN PERSPECTIVE

4.1 AN ALTERNATIVE POSITION OF LANGUAGE EDUCATION

To date, mainstream L2 educational theories have pervasively been inspired by applied linguistics and the computational metaphor of language acquisition. Reviewing L2 educational developments in the past decades, Allwright (1998) observes that second language acquisition (SLA) research has associated largely with linguistic studies. It is noted that, from the 1960s, the field has been preoccupied with various key causal factors in teaching. Faith was harboured in the ‘best’ teaching method, in ‘comprehensible input’, in natural and implicit psychological processes in the learners’ brains, and in real-life rehearsal or mimicry communication in the classroom. Discontented with the isolation of SLA from educational issues in general, Allwright (1998, p.122) argues that ‘second language acquisition researchers have effectively diverted their own and other people’s attention away from social issues, by focusing exclusively and unhelpfully on an asocial conception of the individual’. The generation of language has been considered in separation from classrooms as unique social settings, from the individuals constituting the sociality, and from the cultures of interpersonal interaction that plait the very texture of classroom life.

Ellis (2003) critiques the computational model, where second language acquisition occurs in the individual mind. The mind is conceived as a ‘black box’, containing knowledge resulting from processing input and output. Interaction provides the raw materials for input and the opportunity for output. Learning is a causal result of semantic exchanges. The
teacher’s role in the classroom is to monitor the amount and nature of input and output so that language can be learned correctly and accurately.

A Vygotskian psycho-semiotics, concerning speech-thinking relationships, presents an alternative perspective on L2 education. In this perspective, language teaching and learning deal with conceptual, psychological development mediated by symbolic tools. Second, in this view, social relationship and socialization serve not just as the external context, but as the source of development. Social relationship and individuality are interactively and dialectically fused as the precondition of learning and growth.

**4.2 CONCEPTUAL INSTRUCTIONS IN LANGUAGE EDUCATION**

To begin with, every word is a concept. Both are psychological constructs instead of external entities in concrete, static forms. A concept entails a way of thinking, a psychological structure of a specific nature. Similarly, in a word, there is embedded a psychological generalization, an act of thinking. To quote again,

> The word does not relate to a single object, but to an entire group or class of objects. Therefore, every word is a concealed generalization. From a psychological perspective, word meaning is first and foremost a generalization (Vygotsky, 1987, p.47, original italics).

Because every word relates to a group of objects, and word meaning always represents an individual conceptual abstraction, the reality represented in individual cognitions by language is qualitatively different from the reality reflected in immediate sensations and primary perceptions. Language mediation enables a dialectical leap from direct sensation to thought.

Language and concepts are two aspects of the same developmental process. Concepts are mediated by language in socialization, and conceptual formation is accompanied by the development of word meaning. ‘Word meaning’, as the basic meaningful unit in Vygotsky’s
research of psychological development, is similar to the contemporary notion of psycho-
semiotics rather than semantics\textsuperscript{10}. While semantics involves language’s conventional
reservoir of meaning, psycho-semiotics entails language’s function as psychological symbolic
tools. Psycho-semiotics results from an infusion of language and thinking; in it, a conditioned
connection between language as stimulus and thinking or behavior as response is constructed.
The process of psycho-semiotic development underlies the origin of individual ontological
development.

We know that the concept is not an automatic mental habit, but a complex and true act of
thinking that cannot be mastered through simple memorization. The child’s thought must be raised
to a higher level for the concept to arise in consciousness. At any stage of its development, the
concept is an act of generalization. The most important finding of all research in this field is that
the concept – represented psychologically as word meaning – develops. The essence of the
development of the concept lies in the transition from one structure of generalization to another.
Any word meaning, at any age, is a generalization. However, word meaning develops. When the
child first learns a new word, the development of its meaning is not completed but has only begun.
From the outset, the word is a generalization of the most elementary type (Vygotsky, 1987,
pp.169-170).

The development of word meaning or conceptual understanding entails a true act of
abstract thinking and generalization. It is not a simplistic reproductive accomplishment or a
mechanical generation of mental habits, but a dialectical unity of reality and imaginative
creativity.

In general, from a Vygotskyan psycho-semiotic perspective, language education deals
with the development of word meaning and conceptual formation as two sides of the same
coin. In order to understand the function of language in thinking development, language is
not considered as a fixed, concrete semantic code system, but as psychological symbols and

\textsuperscript{10}In Vygotsky’s times, there were not yet established disciplines of semantics, semiotics, psycho-
linguistics, and psycho-semiotics. In his own writing on the subjects, he used the terms ‘signification’ in
equivalence to ‘semiotics’, and ‘signalization’ to ‘semantics’ (Vygotsky, 1997c, p.55). To him, the former
represents a mediated and conditioned relationship between word and behavior and thinking; while the latter a
direct relationship between word and meaning. In signification, artificial signs are created, then subjectified and
humanized in their mediation of thinking.
conceptual tools. Eventually, language education, as in all other subject matters, is concerned with the formal aspect of schooling, i.e., the development of the holistic structure of psychology.

4.3 SCIENTIFIC AND SPONTANEOUS CONCEPTS

In individual ontological development, the phylogenetic ideal form is introduced so that history and presence co-exist and interact. In doing so, school instructions revolve around scientific, instead of spontaneous, concepts. In his belief in educational intervention with the phylogenetic ideal form and scientific concepts, Vygotsky’s educational theories differ from the popular post-modernist schools.

However, although scientific and spontaneous concepts differ in origins and evolutionary paths, they are not mutually insulated in the integrative process of psychological development. Spontaneous concepts are typically results of empirical activities and immediate and situational social interaction; they are not explicitly deliberated. Scientific concepts, on the other hand, are consequences of consciously aware educational intervention and systematic mediations.

The strength of the scientific concept lies in the higher characteristics of concepts, in conscious awareness and volition. In contrast, this is the weakness of the child’s everyday concept. The strength of the everyday concept lies in spontaneous, situationally meaningful, concrete applications, that is, in the sphere of experience and the empirical. … Scientific concepts restructure and raise spontaneous concepts to a higher level, forming their zone of proximal development. … instruction in scientific concepts plays a decisive role in the child’s mental development (Vygotsky, 1987, p.220).

In terms of psychological representations, spontaneous concepts are associated with and bound by immediate situational cues; they do not operate in a systematic organization. By contrast, scientific concepts require the operation of a coherent system. In terms of content, spontaneous concepts attest to concrete, specific phenomena and experiences; scientific
concepts bear upon internal logics and structures in the external reality, beyond what can only be directly observed and experienced.

Scientific concepts are described as the opposite of spontaneous concepts in terms of origin and developmental paths. The former develop downwards and become increasingly capable of representing concrete phenomena; whilst the latter tend to develop upwards and become increasingly abstracted.

[Scientific concepts] develop from above to below, from the more complex and higher characteristics to the more elementary. … The birth of the scientific concept begins not with an immediate encounter with things but with a mediated relationship to the object” (Vygotsky, 1987, p.219, emphasis original).

Vygotsky clearly emphasizes that scientific concepts represent only the departure point or the ‘portals’ to reflective integration. Robbins (2001) argues that spontaneous and scientific concepts are the opposite ends of one developmental continuum. “Both spontaneous and scientific concepts are not stable units of understanding, and both maintain a multidirectional flow within a dialectical continuum” (Robbins, 2001, p.61).

In Vygotsky’s writings, the notion of scientific concepts was discussed largely in the domain of learner psychology in reference to the result of formal schooling. The discussion of the scientific concepts did not contain a clear view of the interpsychological process and mechanism which cater for a certain type of learning. Robbins has noted that

… Vygotsky’s understanding of scientific concepts changed during the last ten years of his life. He went from focusing on the ‘psychological and semiotic nature of scientific concept forms to discourse used primarily in formal schooling’ (Wertsch & Minick, 1990, p.83). If Vygotsky had lived longer, his understanding of the scientific concept would have probably been extended (Robbins, 2001, p.62).

For the understanding of interpsychological environment for learning, the original notion of scientific concepts will later be extended to the context of teaching and teacher
socialization. But before that, key ideas concerning additional language education from Vygotsky’s perspective are reviewed.

4.4 VYGOTSKY’S ADDITIONAL LANGUAGE EDUCATION THEORIES

Differences between language education and other school disciplines have been unduly dramatized, partially due to language education’s primary association with applied linguistics. It is the position of this study that language education, like all other school subjects, contribute to the formal aspect of all disciplinary education, i.e., the development of individual psychological structure and of personality in general. This has implications for understanding the interrelationships between L1 and L2.

4.4.1 Interrelationships between L1 and L2

The additional language system is not mastered in isolation or independence from the native language system. Vygotsky compares the relationship between L1 and L2 to that between spontaneous and scientific concepts. Similar to scientific and spontaneous concepts, the developments of the additional and native languages are also interdependent. “There is a mutual dependence between these two paths of development. The conscious and intentional learning of a foreign language is obviously dependent on a certain level of development in the native language” (Vygotsky, 1987, p.221). Before the beginning of additional language learning, students already have an initial psycho-semiotic concept system, entailing connections between language and world, and speech and thinking. This is the formal foundation for the student to be able to make sense in the second language of how language functions as a symbolic and psychological system. While the relationship between reality and thinking is mediated by language, the relationship between the foreign language and
reality is mediated by the native language. Cummins (1984) has also discussed the psychological transfer between native and additional languages extensively. Besides semantic concepts, “subject matter knowledge, higher-order thinking skills, reading strategies, writing composition skills etc. developed through the medium of L1 transfer or become available to L2 given sufficient exposure and motivation” (Cummins, 1984, p.144).

Moreover, during the process of additional language learning, it is not just that L2 is dependent on L1; L1, on the other hand, also interacts with and gains from L2 development. The mastery of the second language objectifies the primary connection between the mother tongue and reality. In the process of the second language learning, the relation between the external features of language, such as sounds, spellings, and sentence structures, etc., and the meaning aspects becomes less direct. The immediacy in such relation is reduced. Such development is not only a matter of addition but one of qualitative change. Mastery of an additional language brings qualitative changes to the way reality is organized in the conceptual system developed in the native language.

4.4.2 A ‘1+1>2’ perspective of ESL

Individual psychological development is not a quantitative accumulation of independent associations acquired in various areas and subjects. Development is marked by qualitative, i.e., structural changes resulting from integrative, abstracted thinking that transcends disciplinary boundaries. All disciplinary learnings both rely on and contribute to the common aspect of learnings.

_The child’s abstract thinking develops in all his lessons._

…there is significant commonality in the mental foundations underlying instruction in the various school subjects that is alone sufficient to insure the potential for the influence of one subject on the other (i.e., there is a formal aspect to each school subject); … instruction influences the development of the higher mental functions in a manner that exceeds the limits of the specific content and material of each subject. Once again, this provides support for the idea of a formal discipline which is different for each subject but common to all. In attaining conscious awareness of cases, the child masters a structure that is transferred to other domains.
that are not directly linked with cases or grammar; … the mental functions are interdependent and interconnected. … Because of the foundation which is common to all the higher mental functions, the development of voluntary attention and logical memory, of abstract thinking and scientific imagination, occurs as a complex unified process. The common foundation for all the higher mental functions is consciousness and mastery (Vygotsky, 1987, p.208, italics original).

At school, a central task of the psychology of instruction is to develop the ‘internal logic’ in phenomenological realities, ‘calling to life the internal course of development’ in the individual learner (Vygotsky, 1987, p.208). In L2 education, this calls for a ‘1+1>2’, in contrast with a ‘1+1= 2’ or ‘1+1 < 2’, pedagogic orientation. In a ‘1+1>2’ orientation, L2 education sets as the central goal the psycho-semiotic awareness of speech and thinking that transcends boundaries of linguistic systems, which subordinates the goal of native-speaker-like proficiency. It relies intrinsically on and enlists actively the word-world relationships in L1 and develops on this foundation word-word relationships in L2.

As the central goal of L2 education, native-speaker-like proficiency is neither enough nor developmentally adequate for it mandates the repetition of the semantic acquisition of L1 and lags behind learners’ internal course of development. On the other hand, L2 word-word semiotic-oriented education relies on the ‘zone of proximal development’, ‘freeing ourselves from an old delusion that implies that development must complete its cycles for instruction to move forward’. It promotes the instruction that “impells or wakens a whole series of functions that are in a stage of maturation lying in the zone of proximal development” (Vygotsky, 1987, p.211, italics original).

Similar to scientific and spontaneous concepts, the development of the additional language takes an opposite path to that of the mother tongue. In the latter, the semantics develops before the semiotics but, in the former, the semiotics always develops before the semantics. In the mother tongue, spontaneous and precise use of the language develops
before the awareness of how language as a system functions. In the additional language, the second must guide the first. The spontaneous and correct use of the language always comes later than the insight into the operation of language as a social and psychological system.

Thus, in L2 education, the word-world semantic and psychological relationships in L1 that learners bring with them are actively enlisted. Instead of repeating the semantic acquisition process in L1, teaching and learning revolve around the higher-level, word-word, symbolic and psychological structure in L2. Semantic acquisition in L2 is subordinated to psycho-semiotic development.

Psycho-semiotic education of L2 may be reflected in four aspects of classroom learning environment: a) in structure and role relationships in conceptual tasks, entrusting learners with independent studies of word-world semantics, and focusing on symbolically mediated socializations in the classroom; b) in the complex, dimensional webs of intertextuality in teachers’ instructions, in the place of linear, concretely exhaustive semantic explanations; c) in teacher-student communications of intentions, opinions and structures of thinking, instead of exchanges of fragmented words and expressions, unsupported by unfolded networks of word-word connections; and d) in teachers’ own reflective use of language as the trigger of learners’ verbal thinking, instead of direct, causal manipulations of behavioral and psychological change.

4.4.3 Teacher and students’ prior knowledge in ESL

Piaget’s original distinction of spontaneous and non-spontaneous concepts inspired Vygotsky’s notions of scientific and spontaneous\textsuperscript{11} concepts. Vygotsky, nevertheless, resisted

\textsuperscript{11} Van der Veer (1998) suggested that, in resistance to Piaget’s original ideas, Vygotsky in fact preferred the term ‘everyday concepts’ to ‘spontaneous concepts’, which current literature uses interchangeably. However, this researcher felt that in ‘everyday concepts’, there is implied a limitation of children’s surplus resources and originality to only the ontological and empirical; whereas the term ‘spontaneous concepts’ retains
the implication in the original distinction of a social developmental view of the replacement, suppression and coercion of children’s thinking (spontaneous concepts) by adults’ thinking (non-spontaneous concepts) (Van der Veer, 1998). He consistently shows a conviction in the surplus resources in children (Vygotsky, 1997a), originating from phylogenetic inheritance. Although he associates scientific concepts with teachers and expert learners, and spontaneous concept with learners, with development emphasized as internal integration, he places the two concepts on a line of continuum of dialectic, qualitative changes.

The matter of teacher and students’ prior knowledge presents itself as even more complicated in second language education. For one thing, learners’ prior, surplus assets originate not only from the historical unconscious resources common in all learners but also, in a more evident form, from their L1 psycho-linguistic systems. That is, learners’ surplus resources are both phylogenetic and ontogenetic in nature. It is not at all unusual that SL learners operate with more psycho-linguistic systems than their (often) native-speaking teachers. In the Australian context, Aboriginal, migrant, refugee and international learners are the main ESL clienteles. All groups of learners operate with at least one other, if not multiple speech systems, as in the case of many Aboriginal learners. In the case of international students, their L1 operations are typically not only results of natural acquisition but also systematic schoolings in L1 scientific concepts.

In teachers, native-speaker-like speech proficiency does not equate with scientific concept operations. In fact, Vygotsky associates native-speaker use of speech with spontaneous concepts. Scientific concepts and conscious awareness of speech-thinking

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12 Second language education occurs in the target language country, whereas foreign language education in learners’ L1-speaking countries. The term ‘additional language’ is used to refer to both second and foreign languages.
relationships come from systematic studies or the mediation of an additional psycho-linguistic system.

This poses challenges and requirements for ESL teachers different from those in a linguistic code paradigm of language education. Pervasive in the linguistic code paradigm of L2 teaching is the conceptualization of language being a set of hard and fast social conventions. The conceptualization of the disciplinary knowledge as an external body of knowledge and skills, rather than the integration of speech and thinking, decidedly posits that teachers possess absolute expertise and unshakable authority in the classroom.

In Vygotsky’s perspective, L2 teaching, as common to all other subject matters, is not a process where the teacher’s spontaneous and accurate use of language replaces the erroneous use of the learners. Classroom educational practice does not focus on the compensation for what learners are lacking in, but on both teacher and students’ mutual integrative development. Both teachers and learners must actively participate in constructing speech-thinking relationships and in integrative conceptual formations. The L2 educational awareness required in a teacher is higher level than everyday, spontaneous speech proficiency. Essentially, teachers, as the interactive others, must do justice to the authentic picture of language used in verbal thinking. In brief, emphases are placed on a) the structural psychological tension between teacher and students’ verbal thinking; and b) the psychological dynamics experienced first intrapsychologically in the teacher and then interpsychologically between teacher and students.

4.4.4 Social Relationships in the L2 Classroom

In many popular language pedagogies, social relationships occupy a significant status. Between language teaching and sociality is a special kinship not celebrated in many other
subject matters. What makes language classrooms particularly ‘social’ is the educational attempt to duplicate the ‘real’ social world within the classroom (Allwright, 1998). Educational relevance is defined according to what exists outside the classroom. Within the classroom, L2 learners are to rehearse communicative skills and abilities in social mimicry. Teachers and students interact through temporarily acquired personas, rather than as who they really are as individuals who are thinking, sensing, and feeling. Sociality for sociality’s sake, i.e., social inauthenticity, may be seen as the reason for educational failures in all other disciplinary teaching but, in language teaching, it seems to be a glorified pedagogic technique. As Allwright (1998) points out, the concern to manufacture an artificial social environment essentially deflects attention away from the ‘true’ and unique social setting in the classroom, made up of the presence and ‘co-presence’ of individuals. Educational practices at the external level of sociality emphasize the social, at the expense of conceptual/psychological, development. Often, language classrooms are particularly troubled by ‘a simple conflictual relationship between social and pedagogical pressures’, “wherein teachers and learners might delude themselves, and each other, that ‘all must be well pedagogically if all is apparently well socially’” (Allwright, 1998, p.130).

However, pedagogy is not the main concern of this study; here, the goal is not to defend or promote a pedagogic theory. The fundamental issue is the nature of the language-thinking relationship which is celebrated in teaching. It is argued that the difference in this fundamental issue separates the semantic code-decode and the psycho-semiotic paradigms of L2 education.

On the problem of the educational environment, Vygotsky (1987, p.210) emphasizes on interaction and relationship as “the source of all the specifically human characteristics of
consciousness that develop in the child”. Social relationships must serve as the ‘source’, rather than just the ‘context’ for higher mental function development (Vygotsky, 1994b).

In Chapter One, the differences between Vygotsky’s philosophy and social constructivism in their conceptualizations of social environment were identified. One basic difference is that, in the latter, individuals are essentially conceived as independent, separate beings; the environment represents the total sum of individuals. On the other hand, in Vygotsky’s dialectic-monist paradigm, social environment is composed of a dialectic unity of individuality and interpersonal connectivity. Social environment is qualitatively different and larger than the total sum of separate individuals.

The unity of individuality and connectivity is mediated by language of predicative abbreviation and intertextual tension. Speech communication is not perceived but apperceived; the interpersonal understanding thus achieved is beyond surface semantics. Such speech communicates not only interpersonally, but intrapsychologically between psychological functions. It mediates verbal thinking in the speaker and creates motion of thinking in the communicative partner. Thus, to redefine socialness in the educational setting, it is interaction first in the intrapsychology of the teacher, then in the interpsychology between teacher and students.

4.5 ‘SCIENTIFIC CONCEPT’ EXTENDED

For understanding the interpsychological environment of learning, Vygotsky’s original notion of scientific concept, which was discussed in relation to learner psychology only, is now revisited and extended to shed light on the psychological operation of teaching and teacher socialization.
Generally, scientific concept in the psychology of teaching and teacher socialization is defined as social psychological processes. It is not an external entity in a concrete and unchanging form. It dictates not ‘correctness’ of knowledge but a particular psychological organization and interactive trajectory. In teaching and teacher socialization, scientific conceptual operations are reflected in four aspects: scientific concepts as pedagogic structure; as functional systematicity; as social process; and as history. These aspects of scientific concepts correspond with previous discussions of educational psycho-semiotics.

<table>
<thead>
<tr>
<th>Scientific Concepts in Teaching</th>
<th>Concept as pedagogic structure</th>
<th>Concept as functional systematicity</th>
<th>Concept as social process</th>
<th>Concept as history</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational Psycho-Semiotics</td>
<td>Task and participation structure</td>
<td>Functional systematicity in conceptual teaching</td>
<td>Interpsychological encounter</td>
<td>Internal order of interaction</td>
</tr>
</tbody>
</table>

*Diagram 7. Scientific Concepts in Alignment with Educational Psycho-Semiotics*

First, scientific concepts differ from spontaneous concepts in task structural awareness, including awareness of (meta)cognitive nature and features of conceptual task. Successful classroom activities presuppose coherent task structures, goals and substantive discussions of (meta)cognitive features of learning. Teachers’ awareness of task goal and structure, mediated in task organization and the verbal delineations of task, is the precondition for learners’ self-aware participation.

Secondly, scientific concepts must define the operations of teaching activity and speech. Scientific and spontaneous concepts are mediated in functional motion. Their natures are not revealed in ‘correctness’, but in the psychological organization regulating inter-conceptual connections. In terms of generality, scientific concepts, compared to spontaneous concepts, relate to quantitatively more concepts, and are characterized by better functional mobility. In terms of the structure of generalization, scientific concepts attest to a deeper level of the
phenomenological reality; in other words, they are freer and more transcendental in operations across domains (see also Chapter Three). As concepts in connective motion, they involve not the concrete static form of knowledge but the very process of thinking operation in speech and activity.

Because scientific concepts always involve functional structures (geometrical and multidimensional rather than linear and horizontal), their speech communications cannot be causal and direct, but can only be accomplished indirectly, mediated in the intertextual connections between various concepts. In this study of classroom speech, teachers’ scientific concepts are considered in terms of the systems and structures of connections that are unfolded in instructive verbalizations.

Scientific concepts are also social and interactive in nature. Due to the qualitatively different generalization structures, scientific conceptual systems are structurally transcendent, thus socially inclusive and encompassing. In teacher-student interactive negotiations, teachers’ scientific concepts must develop downwards, acquiring social relevance and communicative meanings. Students’ concepts are not converted from the wrong to the right; spontaneous concepts are not abandoned and eradicated but incorporated and subordinated under new principles and structural centres.

Moreover, scientific concepts entail not peripheral inclusion but interpsychological, structural engagements. Operating with scientific concepts, teachers do not receive or respond to student communications in their surface semantics, but at the psychological structural level. Only interpsychological engagements at the structural level are psychologically and socially authentic in educational settings. In the interpsychological generation of meaning and thinking, scientific concepts’ bearings on internal logics
underlying phenomenological realities are revealed in their bearings on the archetypal historical inheritance resonating in all individuals.

Lastly, teachers’ scientific concepts involve the conscious awareness of the historical origin giving rise to all changes and development. This is the conscious awareness of how all changes, development, capacity and performances are originated not from the external but from the internal integrative system. All development occurs from within the teacher, in an acausal manner, as a result of apperceptive socialization. Above all, scientific concepts involve the awareness of this internal mechanism as the totality of a teacher’s interventional endeavour, no more and no less.

In summary, teachers’ scientific conceptual operations were considered as task structural awareness, as functional systematicity, as social process; and as history. Together, the four aspects highlight scientific concepts as teachers’ on-going thinking, learning, and social integration. Thus defined, the notion of scientific concept emphasizes teachers’ and learners’ prior knowledge not as insulated entities but as different points on the same developmental continuum. On this continuum, teachers’ scientific conceptual operations inspire resonations and shared apperceptions with students’ psychological development.

Chapter Overview

Vygotsky’s language educational theories present an alternative paradigm to mainstream EAL pedagogic perspectives, many of which are informed by linguistic theories. In contrast with the linguistic code paradigm where language exists as an external and conventional system, Vygotsky views language as a symbolic whole composed of the dialectic unity of external and psychological aspects.
Because every word is a generalization of a group of objects or phenomena, word meaning contains the individual construction of conceptual connections, thinking mediated by speech is qualitatively different from immediate and primary sensations. Both language and concepts are generalizations, thus both are symbolic constructs. Language and thinking develop as two sides of the same coin. Accordingly, language education deals with conceptual education, highlighting the role of human symbolic language in the development of thinking. In this sense, language education does not differ from any other discipline.

Secondly, education intervenes with ontological development by introducing the ideal form of human phylogenetic development, as embodied in scientific concepts. Individual acquisitions from immediate experiences and social contacts in the ontology are referred to as spontaneous concepts. In the developmental process, scientific concepts do not replace or suppress spontaneous concepts. As interdependent forces, the two fuse and result in conceptual thinking characterized by different organizational rules.

In terms of L2 education, L1 and L2 are not separate or insulated systems. Once acquired, L2 functions in psychological coherence with L1. Acquisitions in both L1 and L2 contribute to the formal aspect of all disciplinary learnings, i.e., conscious awareness built on interfunctional interactions. Because of the relationship between L1 and L2, classroom pedagogies should not repeat semantic acquisitions in L1, but actively enlist the L1 word-world relationships and develop on these foundations word-word relationships in L2. With psycho-semiotic development subordinating semantic development, the goal of education is for learners to rise above native-speaker-like proficiency and to acquire generalized conscious awareness of speech and thinking.
With regards to students’ prior knowledge, language education revolves around not a deficit but a surplus image of learners. Language learners operate with at least one, if not multiple, other speech systems. Developmentally, they are ahead of the conceptualization that is associated with only one set of semantics. Their generalization of the relationships between language and meaning is enhanced by their contacts with L2. For teachers to develop their disciplinary concepts, they are required to operate at a higher structural level than simply being content with language as native speakers know and use it in their everyday lives.

In the language classroom, teacher and students complement one another in prior resources and developmental trajectories. Their relationships surpass sociality in the external sense and are redefined as interpersonal apperceptive engagement and mutual changes. Social relationships in the educational setting start from the teacher’s intrapsychological interaction and move to interpsychological exchanges.

Finally, teachers’ scientific concepts were discussed in terms of the four dimensions of mediated teaching. In task structure, functional systematicity, social exchanges, and history of development, scientific concepts reflect the teaching mechanism that originates from teachers’ intrapsychology to student-teacher interpsychology.
CHAPTER FIVE
A TENTATIVE HEURISTIC INSTRUMENT

The whole difficulty of scientific analysis consists in that the essence of things, that is, their true, real relation, does not coincide directly with the form of their external manifestations; for this reason, processes must be analyzed, and through analysis, the true relation that lies at the base of these processes, behind the external form of their manifestation, must be disclosed (Vygotsky, 1997c, p.70).

5.1 THE INSTRUMENT

The heuristic instrument (Diagram 8 below) established was an analogue of the structural principle of the higher forms of teaching postulated. The instrument essentially tapped into not the pedagogic provision of quantity in educational environment, but the difference teaching makes in quality.

… in the words of Hegel, that something is what it is because of its quality, and losing its quality, it ceases being what it is, for development of behavior from animal to man resulted in the appearance of a new quality. This is our main idea. This development is not exhausted by a simple increased complexity of those relations between stimuli and responses which were already presented to us in animal psychology. Neither does it proceed along the path of quantitative increase and branching of these relations. At its center is a dialectical leap that leads to a qualitative change in the relation itself between the stimulus and the response. We might formulate our basic conclusion thus: human behavior differs by the same kind of qualitative uniqueness in comparison with the behavior of animals as the whole type of adaptation and historical development of man differs from the adaptation and development of animals because the process of mental development in man is part of the total process of the historical development of humanity. In this way, we are forced to look for and find a new methodological formula for the psychological experiment. (Vygotsky, 1997c, p.39).

The qualitative difference teaching makes for learning is essentially manifested in the introduction of the phylogenetic ideal form in a way that resonates with the individual’s internal course of development. Specifically, educational provision is reflected in four dimensions of classroom speech environment: A) Task and participation structure (structural dimension); B) Functional systematicity of conceptual instruction (conceptual tool dimension);
C) Interpsychological encounter (social conceptual dimension); and D) Internal order of interaction (historical dimension).

<table>
<thead>
<tr>
<th>Dimensions of Speech and Task</th>
<th>Task and Participation Structure (Structural Dimension)</th>
<th>Functional Systematicity of Conceptual Instruction (Conceptual Tool Dimension)</th>
<th>Interpsychological Encounter (Social Conceptual Dimension)</th>
<th>Internal Order of Interaction (Historical Dimension)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Brief Definitions of Dimensions</strong></td>
<td>Teacher’s intrapsychological engagement with task structure as precondition for students’ apperceived knowledge of task</td>
<td>Conceptual functionality in teacher’s activity and speech as precondition for students’ apperceived conceptual understanding</td>
<td>Synchronous engagement with concept and students as precondition for apperceived learning in socialization</td>
<td>Teacher’s intrapsychological mediation as history of teacher and students’ speech and activities</td>
</tr>
<tr>
<td><strong>External Level of Speech and Activity</strong></td>
<td>In verbal delineations of (meta)cognitive features and factors of task (e.g., developmental nature and features of task, purposes, aims and goals, components, procedures, roles and responsibilities, results, and future plans, etc.), language needs to be psychologically substantive, and reveal orientation to psychological, rather than just behavioural, aspects of task</td>
<td>1. Using conceptual and (meta)cognitive language in teacher-student communications; 2. Conceptual employment in applicative situations and/or exemplary explanations</td>
<td>1. Student externalization of thinking in conceptual negotiations; 2. To elicit student externalizations to unfold, teacher ‘stays with’ students’ speech, mirroring, summarizing, clarifying before extending; 3. Peer interaction on conceptual operations</td>
<td>All meaning developments are not contained in teacher’s speech; Students responsible for making some conceptual integrations and advancements</td>
</tr>
<tr>
<td><strong>Internal Level of Speech and Activity</strong></td>
<td>Actual regulative mechanism, stated or unstated, of teacher and student experiences enacted in unfolding of task, e.g., in roles and responsibilities, task procedures, time allocation, results, etc</td>
<td>1. Coherence between psychology of concept and of pedagogic activity and method; 2. Nature of conceptual structure mediated in speech, e.g., linear or non-linear, horizontal plane or geometric structure</td>
<td>1. Synchronicity in teacher-text-student or teacher-task-student interaction; 2. Teacher responds to student at conceptual structural level, rather than at semantic level; 3. Semiotic tension in-between teacher and students’ utterances; 4. Meaning developments between students’ utterances</td>
<td>1. Teacher’s speech and activity developed as per inner mediation vs. stimulus-response mechanism 2. Students’ activity and thinking are elevated in social exchanges, but internal process remains unbroken and continuous</td>
</tr>
</tbody>
</table>

*Diagram 8. A Tentative Instrument for Interpreting Teaching and Teacher Socialization*
Respectively, the four dimensions concern: a) providing for learners’ self-regulatory participation and learning; b) providing for active conceptual comprehension; c) providing for socio-psychological operations of concepts; and d) providing for learning integration and (re)organization. All four dimensions examine the qualitative rather than quantitative change teaching is intended to bring.

5.2 DEFINITIONS OF KEY CONCEPTS

A. Task and Participation Structure (Structural Dimension)

This dimension concerns the teacher’s design and organization of classroom task processes. The teacher’s intrapsychological engagement and integration with task structure and features serve as the precondition for students’ apperceived knowledge of task. The external level encompasses the teacher’s delineation of task features, components, procedures, and roles and responsibilities, etc, before, during, and after task. Speech must be psychologically substantive and pertaining to conceptual and metacognitive operations in task. It must reveal the teacher’s orientation to the psychological rather than just the behavioural aspects of task. At the internal level, the actual regulative principles, stated or unstated, which govern task unfolding and individuals’ participation are relevant. The mechanisms governing the unfolding of tasks must be coherent and collaborative with the external delineations.

B. Functional Systematicity of Conceptual Instruction (Conceptual Tool Dimension)

The conceptual tool dimension concerns the teacher’s activity and language in conceptual teaching. Teaching does not entail merely talking and doing things about the concept at hand; conceptual functionality must govern teacher’s activity and speech. Teacher’s intrapsychological engagement with conceptual functionality is the precondition of apperceived conceptual learning and understanding. In relation, L2 teaching needs to bring
about language’s psychological symbolic function, rather than the linear semantic code operation.

At the external level, whether or not concepts were employed in communication and/or problem contexts was examined. At the internal level, first, the coherence between the psychology of concept and that of pedagogic method and activity was examined. Secondly, conceptual instructions were investigated in light of the conceptual systems and structures that language mediated. In the language of conceptual teaching, conceptual functionality is not reflected in linear, associative semantic decodes; it is mediated, with intertextual tension, in the geometrical structure of inter-conceptual relationships.

C. Interpsychological Encounter (Social Conceptual Dimension)

This dimension encompasses the interpersonal dialogic process during teaching and learning. Similar to the previous two dimensions, teachers’ intrapsychological engagement is emphasized as the essential precondition for change first in the social space then in the students’ engagement. Specifically, the teacher’s participation in dialogue must be mediated by his/her synchronous engagement with both concept and student’s psychological structure. As a result, individuality, concept, and socialization are three aspects of one integral whole in the dialogue. This serves as the precondition for student’s apperceptive engagement and learning in society.

For interpersonal structural encounter, teachings cannot simply be transmitted without negotiation. Students must be enabled to sufficiently externalize their conceptual understanding and associations. Teachers need to show the ability to ‘stay’ with students’ speech and thinking and to provide structural ‘mirroring’ for students’ self-regulation and reorganization. It is also important that conceptual socialization be not limited to teacher-
student exchanges but occur between peers. These are investigated at the external level of classroom exchanges.

At the internal level, the semantics of the teacher’s speech is governed by his/her synchronous engagement with text / task and with the dialogic partner’s psychological structure. In responding to students, the teacher’s speech should be conceptually and structurally mediated. Because of this, teacher’s speech does not progress readily from the semantics of students’ speech, but from the psychological structures. The teacher’s response should not relate to the student’s utterance as in a simplistic S-R habitual chain; rather, it should be connected to student’s speech at a psychological structural level. Also, the teacher’s conceptual structural responses to individual students would contribute to the progression of collective dialogue; thus there would be conceptual developments between students’ utterances in whole-class discussions.

D. Internal Order of Interaction (Historical Dimension)

The internal order of interaction underlies all classroom communications at various stages; it is the central mechanism of socialization in which all the previous dimensions are integrated. It accounts for the history of the micro-genetic development of classroom environment, uniting the past and present of speech development in the shared social space. Presenting the fundamental interface between teaching and learning; the internal order of interaction delineates the totality of a teacher’s legitimate and effective intervention of learning.

At the external level, all meaning developments in socialization cannot be directly caused by the teacher, and at least sometimes, students must be responsible for making conceptual connections and advancing dialogic developments. At the internal level, this
dimension distinguishes between the mediated and the unmediated, stimulus-response mechanism. As a result of teachers’ mediated intervention, students’ speech development is elevated in dialogues but remains a psychologically unbroken and continuous process.

**E. External level of task and communication**

Each of the four dimensions is composed of an external and an internal level of task/communication. The external levels of the dimensions encompass the semantic level of teaching speech and the behavioural level of teaching activities.

**F. Internal level of task and communication**

This refers to psychological relationships and organizations regulating the enactment of teaching and teacher socialization. As the heterogeneous, but not antagonistic, components of a dialectic whole, the external and internal levels relate to each another in tension. The internal level of communication is to be differentiated from Vygotsky’s notion of inner speech. The former refers to the psychological dynamics underlying and enabled by social processes; it is the psychological nature of social and interpersonal processes. The latter refers to individuals’ intrapsychological communications. The development of inner speech is the goal of educational socialization which is composed of external and internal levels.

**5.3 METHODOLOGICAL CONNECTIONS**

In the identification and definitions of the key dimensions of the instrument, some of Vygotsky’s fundamental methodological concerns were inherited. As a result, the heuristic tool was a marriage between classroom psycho-semiotic theories and Vygotsky’s original methodological principles (Diagram 9).
In Vygotsky’s methodology (1997c), first, psychological research envisions a basic mechanism of double stimulation, in contrast with the direct and unmediated S-R mechanism. Second, research on psychological development studies processes, not things. Third, individual psychology is studied as genesis, not phenomena. Finally, psychological development is viewed in historical, instead of ‘post mortem’, terms. In the following, the four dimensions in the heuristic tool will be discussed in light of Vygotsky’s methodological concerns or principles.

<table>
<thead>
<tr>
<th>Dimensions of Classroom Psycho-Semiotics</th>
<th>Task and Participation Structure</th>
<th>Functional Systematicity</th>
<th>Interpsychological Encounter</th>
<th>Internal Order of Interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vygotskian Research Methodology</td>
<td>Double Stimulation vs. Stimulus-Reaction</td>
<td>Process vs. Product</td>
<td>Genotypic vs. Phenotypic</td>
<td>Historical vs. Post-Mortem</td>
</tr>
<tr>
<td>Dimensions of Heuristic Instrument</td>
<td>Teaching as Double-Stimulation</td>
<td>Teaching as Process</td>
<td>Teaching as Social Genesis</td>
<td>Teaching as History</td>
</tr>
</tbody>
</table>

*Diagram 9. Unity of Theories, Vygotskian Methodology and Instrument*

### 5.3.1 Study of task and participation structure as double stimulation

In Vygotsky’s contemporaries, the orthodox psychological studies of human intellect employed a direct stimulus-response mechanism in the experimental tasks given to participants. By contrast, Vygotsky and his colleagues incorporated the acausal, mediated mechanism of stimulus-X-response in studies of children’s conceptual development. From the outset, the nature of the question asked by Vygotsky was different. He was interested in finding out not what humans and animals alike could do but what was specifically human, that is, the ability to organize one’s own behaviour with the aid of the internal mediation, which he called the psychological tool.
The method of ‘dual-stimulation’ (also called ‘functional method of two-fold stimulation’ or ‘double-stimulation’)

13 was employed in experiments to study the inner organization and structure of the higher (i.e., mediated) processes (Vygotsky & Luria, 1994b). Instead of giving one stimulus and receiving a direct response from participants, Vygotsky and his colleagues provided simultaneously another set of stimuli, which served a psychological auxiliary function in the accomplishment of the given task14. The adoption of the psychological instrument alters the entire structure and nature of the operation. In essence, what is being studied by using the S-X-R mechanism is not the final product of task accomplishment, but the psychological pathway and process. In the process of solving the task, the fundamental psychological prerequisite is that the child must subject his / her natural psychological trajectory to change, as a result of the awareness of the conceptual goal, the means, and their complementariness. Thus, what is studied is the process that starts from the individual’s engagement with the psychological structure and disposition of the task, and the reorganizing of one’s psychological structure in alignment, before making the behavioural accomplishment. Using this method of ‘active instrumentation’ (Vygotsky & Luria, 1994b, p.161), Vygotsky and his colleagues were able to comprehend the specifically human aspect of social adaptation.

In general, the following might be said about human behavior: in the first place, his individuality is due to the fact that man actively participates in his relations with the environment and through the environment he himself changes his behavior, subjecting it to his control (Vygotsky, 1997c, p.59).

13This method was developed by Vygotsky and one of his closest colleagues, L. S. Sahkarov (1930, cited in Vygotsky, 1987, p.127). The method is thus also called the ‘Vygotsky-Sahkarov method’ (Vygotsky, 1987, Note 51).

14The auxiliary stimuli are not external means readily provided; they are a set of elements or conditions based on a common psychological principle hidden from the participants. In order to accomplish the task, a participant first has to construct the nature of this hidden principle. Then, with the help of the constructed principle, the participating child will be facilitated in accomplishing the central task.
This study of classroom environment examined the provision for learners’ awareness of the task and self-monitored, self-controlled engagement. As with the experimental method, classroom teaching needs to place learners in a dual-stimulation situation – with a stimulus for both the goal and the means.

When the method of dual stimulation is used, … the task is presented fully to the subject in the initial moments of the experiment and remains consistent throughout. The underlying idea is that the establishment of the task or emergence of the goal is a prerequisite for the development of the process as a whole. In contrast, the means are introduced gradually (Vygotsky, 1987, p.128).

At the beginning stages of classroom conceptual tasks, students must be enabled to form a psychological goal for their self-monitoring and self-reflective participation. For the emergence of the psychological goal, the teacher needs to delineate relevant cognitive and metacognitive features of the task, presenting such factors in psychological coherence with the functionality of the concept in question. In the unfolding of task, the actual regulative mechanism should be coherent and collaborative with the explicit presentations. Ambiguous, evasive, or contradictory task initiations hinder the formation of goal and inner direction on the part of the learners.

5.3.2 Functional systematicity of conceptual teaching as process

Vygotsky distinguished the research methods for analyzing things versus analyzing processes.

Thus far, psychological analysis almost always treated the process being analyzed as if it were a specific thing. Mental formations were understood as a certain stable and solid fact, and the problem of analysis essentially was reduced to breaking it down into separate parts. This is why in this psychological analysis, the logic of solid bodies has been dominant thus far. The mental process was studied and analyzed, in the expression of K. Koffka, primarily as a mosaic of hard and unchanging parts (Vygotsky, 1997c, p.68).

An essential factor underlying human communication is that speech and meaning / thinking are heterogeneous processes. Speech is not the external mirror of the internal
processes. What is held simultaneously and concurrently in thought can only be expressed in speech indirectly and chronologically. “Thought is always something whole, something with significantly greater extent and volume than the individual word” (Vygotsky, 1987, p.281). Thinking involves a geometric structure of connections (composed of generality relationships and generalization structures); its verbal mediation cannot be achieved within isolated words, but in intertextual tension between meaning units. It is not possible to represent thinking directly, causally, and instantaneously in speech.

In between what is said and what is abbreviated arises a psycho-semiotic tension. Tension can be defined as the additive relationship between meaning units which are connected to each other according to the evolving psychological structural organization. This tension characterizes verbal thinking, the process of language interacting with and enabling thinking development. Also, because of the tension, the textual whole functions as a context larger than the sum total of individual units. Speech communicates in ‘dynamic equilibrium’ (Vygotsky, 1987, p.253) beyond the surface semantics because it communicates not only with word meanings but also with the structural relationships between them. Underneath this type of communication is always an active process of thinking organization and reorganization. It is distinguishable from verbalist speech, where the ongoing process of thinking is not unfolded and the psychology is in a state of inertia. Words accumulate but do not mutually interact and enrich; and speech does not motivate active construction of connectivity.

Language conceptualized as process corresponds with the dimension of functional systematicity in classroom teaching. In teaching, this living, authentic process of thinking mediated and enabled by speech is considered the precondition of thinking in learning. In
considering the teacher’s speech as a process, rather than the final product, of his/her thinking and learning, this investigation differs in focus from other classroom discourse studies. The teacher’s conceptual speech is not evaluated in terms of ‘correctness’, accuracy, or static systematicity. To understand the developmental psychology in conceptual teaching speech, one does not compare what the teacher says with what is written, for instance, in the textbook so as to find out about their compatibility. Instead, the researcher considers the nature and structure of the conceptual system mediated in the teaching speech and activities. This systematicity mediated in speech is not static but living and functioning. It does not represent connections between concepts and meaning units as they are stipulated by a written text; it concerns connections between concepts as they live and develop in the teacher’s thinking. Living in thinking, conceptual structures mediated in speech should be multi-dimensional, geometrical existences. By contrast, linear connections and horizontal structures exemplify what is called ‘verbalism’ (Vygotsky, 1987, p.169), suggesting context- or situation-bound operations.

5.3.3 Interpsychological encounter as social genesis

Echoing Kurt Lewin (cited in Vygotsky, 1997c), Vygotsky postulates a distinction between phenol- and genotypic perspectives, and between descriptive and explanatory research in psychology. Vygotsky maintains that scientific research should not be content with describing observations but must disclose the genetic process and connections at the heart of phenomena. He criticized the phenomenological position on this basis (Vygotsky, 1997c, p.69):

Phenomenological or descriptive analysis takes a given phenomenon as it is in its external manifestation and proceeds from the naive assumption that there is a coincidence between the external appearance or manifestation of matter and the real, actual, causal-dynamic connection that underlies it. Conditional-genetic analysis proceeds from disclosing real connections that are
hidden behind the external manifestation of any process. … In this sense, we could, following Lewin, move to a psychology of separating phenol- and genotypic points of view.

In psychological studies of individual development, as Vygotsky demonstrates, the phenotypic stance had led to the equation of language manifestation and psychological development. The phenomenon of children’s language employments were seen as identical or homogeneous to psychological operations. Also, the apparently nonsensical egocentric speech in children was thought of as the manifestation of egocentricity and inadequate social development. From a genetic and explanatory perspective, however, despite the similarity in one-and-a-half-year-olds’ and adults’ use of words, the psychological structures behind words differ qualitatively. Egocentric externalizations that apparently have little in common with adult social speech indeed mediate interpersonal engagement at a deeper level.

The conceptualization of teaching as genesis, rather than phenomenon, corresponds with the dimension of interpsychological encounter in classroom environment. In understanding teacher-student exchanges as the source of learning and development, the psychological mechanism that governs teachers’ responses to student utterances is interpreted.

Real, active intervention in education is revealed in the relationship between student’s utterance (stimulus), the teacher’s inner mediation (X), and the teacher’s reply (response). It is active in the sense that the teacher introduces a new stimulus into the situation. It is also active in the sense that the new, inner stimulus transforms the psychological nature of the stimulus. The teacher’s internally mediated reply responds not to the student’s semantics but to the psychological structure. By attending to the thinking structure in student utterances, the teacher’s response transforms what may be semantically nonsensical, imprecise or ‘wrong’ into what is developmentally connected and meaningful. Also, by responding to students’ structural organizations, the teacher’s response connects the past and the future of student’s
learning. Thus, the motivation and trajectory for change is not prescribed from external to the student, but first intrapsychologically within the teacher then interpsychologically in the mutual engagement. A genotypic analysis of the teacher’s participation in classroom interaction thus holds the key to a scientific understanding of the interpersonal generation of conceptual development.

By contrast, a phenotypic investigation observes only the semantic components, rather than the inner relations between the semantic components. In the phenotypic and descriptive study, it would be impossible to distinguish the actual psychological nature and developmental quality of a teacher’s participation in classroom dialogues. All of a teacher’s responses, if semantically related to students’ speech, would have equivalent educational effects. Consider, for example, a brief excerpt in the data:

T: What does ‘comprehensive’ mean?
Student A: Understand?
T: No. That’s ‘comprehension’.
Student B: Understandable?
T: No, it’s got nothing to do with ‘understand’ or ‘understandable’.
Student C: Fair.
T: No, it’s not ‘fair’. ‘Comprehensive’ means? Come on, where’s your dictionary? Move around. Turn those pages quicker, Sam.

At all three times, the teacher’s responses are semantically related to the students’ utterances. From a phenotypic perspective, it could be said that the teacher is fulfilling the responsibility of providing evaluative feedbacks to students’ learning, informing them of the correctness of their answers. In a semantic interpretation, it could be said that the teacher has moved the conversation along and contributed to the development of students’ thinking.

Genotypically, however, the teacher’s responses do not manifest meaningful relationship with students’ psychological processes. Student A’s answer of ‘Understand’ is associated with ‘comprehend’, ‘comprehensible’, or ‘comprehension’, which are of similar
forms to ‘comprehensive’. With the teacher’s simple rejection, this association is not addressed, and the student’s contribution becomes socially and developmentally irrelevant. Student B’s response is also interesting. It shows not only the same association of ‘comprehensive’ with the ‘comprehend-comprehensible-comprehension’ group, but also the identification of ‘comprehensive’ as an adjective, which, based on his psychological deduction, leads to the adjective counterpart, ‘understandable’. Student B’s active thinking involves a meaningful connection between Student A’s contribution and the teacher’s negation. The teacher’s response at this point is again lacking in internal and developmental relevance. At both times, the teacher’s responses do not show an internal conceptual mediation. The attempts are to moderate students’ thinking at the external semantic level, but as a precedence of student development, their thinking is not incorporated into a structural conceptual organization. As a precedence of anticipated student change, transformation of thinking does not originate from within the teacher’s intrapsychology.

One of the purposes of the study (in examining the social conceptual dimension) is to discover the actual, internal connection between a student’s utterance and the teacher’s response in terms of the developmental dynamics the latter provides for the former. It attempts to discover how the teacher’s response transforms the students’ utterance by turning what is apparently inadequate, incomplete, or semantically incorrect into what conceptually and socially relevant and connected. In doing this, the connection between the stimulus of the student’s utterance and the teacher’s response must not be a direct one; the S-R relationship must be mediated by the teacher’s conceptual/psychological structural centre. A response mediated by the teacher’s structural centre is structurally higher than the original stimulus; it gives internal developmental momentum to the dialogue; and from the reflective association
made with the student’s utterance, the teacher is given the enrichment and substantiation of his/her own generalization structure.

5.3.4 Internal order of interaction as history

Disputing the understanding of a historical study as one that investigates happenings in the past, Vygotsky explicates that to study something historically is to study something in motion.

Thus far, many are still inclined to present the idea of historical psychology in a false light. They identify history with the past. For them, to study something historically means necessarily to study one fact or another from the past. This is a naive conception – seeing an impassable boundary between historical study and the study of present forms. Moreover, historical study simply means applying categories of development to the study of phenomena. To study something historically means to study it in motion. Precisely this is the basic requirement of the dialectical method. … for only in movement does the body exhibit that it is. … behavior can be understood only as the history of behavior (Vygotsky, 1997c, pp42-3).

To study phenomena in motion is to be able to see in them the emergence of past and presence. In a historical vision, individual development, for example, is not a petrified form of behaviour, but the unity of both the end and the beginning of development.

From a historical point of view, it is possible to observe and understand student development in the moment-to-moment, microgenetic process of classroom interaction. But to do so, one must see development as what it really is: an unbroken, self-conditioned process following an internal course. According to Gesell (1932, p.218; cited in Vygotsky, 1987, p.147):

The higher genetic law is apparently the following: Any development in the present is based on past developments. Development is not a simple function fully determined by X units of inheritance plus Y units of environment. It is an historical complex that selects at each stage what is included in its past. In other words, the artificial dualism of environment and heredity leads down a false path. It hides the fact that development is an unbroken, self-conditioned process, not a marionette directed by tugs on two threads.
The researcher needs to discard the misconception that development is simply a process of replacing the wrong with the right, the spontaneous with the scientific. In this misconception,

Development is reduced to the dying out of the characteristics of the child’s thinking. What is new to development arises from without. The child’s characteristics have no constructive, positive, progressive, or formative role in the history of his mental development. Higher forms of thought do not arise from the characteristics of the child, but simply take their [sic.] place (Vygotsky, 1987, p.175).

Originated from without, the trajectory of student development would coincide entirely with the trajectory of teaching in its semantic contents. This leads essentially to an ahistorical view of development. On the other hand, understanding development in the historical view is to see the co-presence and continuity of the yesterday and the today in the student’s performance in the classroom. To view development historically requires thinking dialectically rather than mechanically (Robbins, 2001).

In the last section, it was argued that to understand classroom speech environment from a genetic stance, one needs to see the psycho-semiotic and developmental, rather than semantic, connection between student’s and teacher’s utterances. In the teacher’s reaction to students, there can be the S-R or the S-X-R mechanism of psychological construction. Constructed according to different principles, the teacher’s speech is pregnant with varied interpsychological and developmental energies. An S-R reaction in the semantics has its foundation in the absence of internal mediation and impedes the psychological growth of the socialization process. An S-X-R reaction, on the other hand, is a reflective conversion of the immediate dialogic situation and provides psychological momentum for the interpersonal communication. In this section on the historical perspective of classroom speech, it is suggested that students’ speech performance should be interpreted in light of the
developmental momentum the dialogue is impregnated with. The present of students’ speech use is a dialectic continuity of the past of the teacher-student dialogic contract or trajectory.

In Chapter Three, I analyzed two dialogic excerpts from a movie. One of the heroes, the teenage boy, manifests language use of entirely different nature when communicating with his father and his mentor. With his father, the boy’s language is simplistic, linear, behavioral, and externally oriented (intending to intervene and change others); but in communicating with the mentor, his language is symbolic, layered, and internally oriented (self-reflective). If seen from a view of solidified individual performance, the contrast in the boy’s speech on varied occasions would be perplexing. From a historical perspective, however, one sees speech performances as consequences of varied didactic contracts. The father-son dialogue represents a direct, causal and mechanic S-R relationship between utterances. Without internal structural mediation, utterances are outwardly pointing. Of both dialogic partners, the utterances originate from the intrapsychological isolation between operations; and they lock each another into a contract of speech in the hindrance of reflection. In the other type of conversation, speech exchanges do not follow an automatic self-reproduction mechanism. Change and transformation in the boy’s thinking is preceded by the internal S-X-R reflective conversion in the adult. From one person’s utterance to that of the other, the psycho-semiotic mechanism in speech is not self-repetitive or self-reproductive, but dialectically and integratively transformative.

In the classroom situation, the historical view is applied in understanding the internal construction of students’ speech operation and its social psychological origin. It is the goal of classroom teaching that students are enabled and inspired by the speech environment to self-reflect and self-adjust so that reactions are made that depart from the causal pathway of
behaviour. The self-reflective psychological dynamics is first originated in the interpsychological communication, then triggered in students’ intrapsychological communication. Resulting from the self-reflection and internal mediation is not mere semantic reproduction or compliance in students’ speech but semiotic recreation which is not directly connected to the stimulus utterance. Equivalent to the teacher’s speech, students’ speech contributes to the psychological development of the dialogic process.

Thus, students’ speech performance can only be understood as the history of speech. Moreover, to understand speech performance historically is to understand it dialectically. Dialectical thinking is required in detecting not only the internal construction of students’ speech operation but also its social psychological origin.

Chapter Overview

A tentative heuristic tool is provided as the foundation for future studies and teacher reflections. The identification and definitions of the four dimensions in the instrument are aligned with educational psycho-semiotic theories developed in Chapter Three and with Vygotsky’s methodological principles.

Respectively, the dimension of task and participation structure is concerned with teaching as double stimulation. For learners’ self-regulatory engagement, teaching needs to provide the stimulation of structural goals, directions as well as conceptual means. The dimension of functional systematicity entails teaching as the process of conceptual thinking, rather than the end product. The dimension of interpsychological encounter attests to teaching as social genesis, where student development in dialogues is not externally transmitted but projected within the psycho-semiotics of the teacher’s speech. The teacher’s response includes and transforms students’ psychological operations by turning what is
apparently inadequate, incomplete, or semantically incorrect into what is socially and conceptually relevant and connected. The final dimension accounts for the history of the micro-genetic development of classroom environment; it unites the past and present of speech development in the shared social space.

Next, the theories and instrument in the previous chapters depicting the acausal, apperceptive mechanism of teachers’ intrapsychology-interpsychology-students’ intrapsychology will be applied in analyzing episodes of naturally occurring classroom interaction. The interpretive analytical component of the study will help explicating, elaborating, and supplementing the meanings of concepts in the theoretical and instrumental components.
CHAPTER SIX
INTERPRETATIVE ANALYSES

In this chapter, teacher-student interactions are investigated and interpreted as classroom learning environments. The theories and the instrument discussed in the previous chapters are applied to data obtained from the classrooms of three teachers in three senior secondary schools in Adelaide. In sequential order, the structural, conceptual, social conceptual, and developmental historical dimensions of classroom enactments will be examined.

Before analyzing the three classrooms, general background descriptions will be given of the schools, the teacher participants, the classrooms and the student participants to provide contextual information associated with individual cases. For the analyses, excerpts of relatively complete classroom activities and socializations are quoted. For the presentation of intact structures and micro-genetic histories of classroom occurrences, some excerpts are of greater length than others.

6.1 GENERAL BACKGROUNDS OF SCHOOLS, TEACHERS AND STUDENTS

Three English-as-a-Second-Language teachers from three Adelaide schools participated in the study. All three teachers were senior and experienced practitioners, with two to three decades in the profession. At the time of the field research, all teachers had been teaching ESL exclusively for 10 years or more. The teachers were serving at three private schools, an all-boys’ school with a religious affiliation (School 1), a secular co-ed school (School 2), and
an all-girls’ school with a church affiliation (School 3). The three teachers will be referred to as Ms A from School 1, Mr C from School 2, and Ms C from School 3.

6.1.1 School 1, Ms A

The School

School 1 was among the longest standing and most prestigious local educational institutes, with about 1000 students in its primary and secondary sections. The school established an image of enjoying high academic results and offering a multitude of sports, arts, and extra-curricular activities for its students. In the year before the research, a percentage of 95 was recorded of graduates’ university entrance. A reputation of being progressive had been nurtured through school publicity channels (website and newsletters) and in students and staff. During the school visits, more than once the researcher heard the teacher and student participants positively contrast School 1 with their neighbouring, ‘more conservative’ counterpart.

In recent years, international student population saw an increase, as a result of, as reported by the school’s International Coordinator, strengthened emphases and efforts for overseas marketing. At the time of the research, the school had about 40 international students enrolled. To adjust for the growing needs of international students, the school recently dedicated a classroom to their exclusive use (for language lessons and lunches, etc), and developed a new language program called the International Students’ Transition Program as part of new comers’ curricula. Although in school publications, images of their Asian clienteles had started to appear, from reports of teachers and students, international students were a new phenomenon at the school. Passing by, local students often cast curious glances through the windows of the International classroom, which was decorated with various Asian
pictures and artifacts. Once at the participant teacher’s pastoral care session, students asked Ms A what it was like to teach international students, to which she answered, ‘It’s very different. I have to explain every thing three times to them’.

The Teacher

Ms A had 12 years of ESL teaching experience and almost 20 years in English and drama. At the time of the research, it was her third year at School 1. There were two ESL teachers at the school. The other was in charge of the ESL course in the international baccalaureate (IB) program. The participant, Ms A, was responsible for all other ESL programs, including the International Students’ Transition Program (ISTP, two classes, with two newly arrived international students in each); the Year 10 program with one class of 12 students; and the SACE\textsuperscript{15} (South Australia Certificate of Education) class of 9 Year 11 and 12 students. Because of the increased number of new international recruits, at the time of the research, Ms A was appointed for the first time on a full-time workload, which involved 28 hours a week of classroom delivery and administration (such as pastoral care and school yard duty).

Outside school hours, Ms A provided after-hour tutoring for students in need with school assignments (not always with charge). Ms A often arrived at the school at 8 am, started teaching at 8:40, and left at 7 or 8pm. As the single member of her family, almost all of Ms A’s waking hours of a day were spent at the school. She revealed during interviews that, since she started full-time work at the school, life outside teaching became next to naught.

\textsuperscript{15} The South Australian Certificate of Education is the credential awarded at the completion of Year 12. It leads to vocations and post-school studies. For entry into tertiary education, universities use a tertiary entrance rank (TER) derived from SACE studies. The SACE curriculum typically runs over two years (in Years 11 and 12). To gain a TER, students must complete five Year 12 subjects, with a minimum of four HESS (Higher Education Selection Subjects) General, and a maximum of one HESS Restricted courses (SSABSA website).
During the researcher’s visits to the school, most of Ms A’s routine activities were observed and recorded through videotaping and/or field notes. Included in observation and recordings were all Ms A’s teaching hours during the field research, and some of the recesses at the staff room, yard duties, school assemblies, and a professional development session. By the end of the field research, through varied forms of participant observations, the researcher had become familiarized with the teacher’s daily professional flow and rhythm.

*Physical Environment of the Classroom*

The classroom for international students was well-equipped and furnished, with all needed facilities such as TV, radio, DVD player, computers with internet connection, air-conditioning, and a selection of reading materials and dictionaries in different languages. Ms A had also taken care to decorate the classroom with a rich and colorful ensemble of East Asian paintings and prints, artifacts, student photos, and student artworks. As it was, the room seemed to set a contrast to the other classrooms in the school. Well-lit and spacious, the room contained a set of computer stations along the rear wall, and a central section of about 50 desks and chairs. Most of the time, students were seated in the traditional arrangement in neat lines facing the teacher and the whiteboard.

In the front corner was Ms A’s own office area. Other than recesses, yard duties, and school assemblies, the teacher spent most of her school hours in the room. Occasionally, one or two other teachers and staff members were seen to enter the room for brief work-related exchanges.
6.1.2 School 2, Mr C

The School

School 2 was a co-educational, independent, senior secondary school, offering Years 11 and 12 courses. Unlike School 1 with a long-standing history, School 2 was a new establishment opened five years before but similarly proffered an academic-oriented image. Standing out in the school’s publicity channels (such as school website, newsletter, student charter, and staff journal) were its emphases on students’ successful university entrance. The school management postulated the provision of a head-start university-style education and a smooth transition from secondary to tertiary studies. In alignment with this, lesson deliveries in both years simulated the lecture and tutorial format. Previous to the field research, the school had run the ESL course in lectures and tutorials but, having received setbacks, had reverted to the small-class delivery format. The emphasis on university entrance was also reflected in the participating teacher, Mr C’s lessons, where the teacher frequently talked about such matters as ‘assessment’, ‘marks’, ‘examination’, and ‘what things will be like at University’.

An academic progress policy was run to monitor student performance. International students sat the International English Language Testing System (IELTS) exam before enrolment and were continually monitored after entrance for language and academic performances. According to the participant teacher, a number of international students accepted into the school over the previous years later departed due to unsatisfactory English language proficiency.

As at School 1, the market of international students held importance for School 2’s continued development, but School 2 had an obviously much larger international cohort than
School 1. The majority of international students were of Chinese ethnicity and cohort numbers had been increasing quickly.

The Teacher

Mr C had had decades of English and ESL teaching experiences at a few different schools, and at the time of the research, was on the verge of retirement. Headhunted, he joined School 2 in its beginning days and took part in the construction of its ESL curriculum. In the two types of ESL courses (ESL studies and ESL restricted\textsuperscript{16}) offered at the school, he was responsible for three ESL studies (one Year 11 and two Year 12) classes. A second ESL teacher at the school was responsible for the ESL restricted classes. Mr C taught 12 hours weekly, with 4 hours (2 two-hour lesson blocks) in each class. Mr C’s reputation of being ‘strict’ and ‘severe’ was held by students. The school’s International Coordinator reported that some students had gone to her and enquired about the chances of skipping ESL as a result of that reputation.

The Students

The Year 12 class, where the teaching episode took place, had 21 students, with 14 international and 7 local students. All international students were from China (mostly from mainland and one from Hong Kong). The 7 local Australian students had other than Australian ethnic backgrounds: one Malaysian, one Chinese, two Vietnamese, and three European. All the local students, of migrant family backgrounds, had had a few years of educational experience in Australia.

\textsuperscript{16} A range of HESS courses are offered in Year 12. “Each university course in South Australia has prescribed HESS requirements. To be eligible for selection to most university courses, a student is required to include a minimum of four subjects from the HESS General list among their Stage 2 SACE subjects” (SSABSA website).
The Classroom

Although no classroom was dedicated to specific groups of students, lessons were held at routinely booked rooms. In the routine ESL classroom for the Year 12 class, the student seats were arranged in the traditional layout, facing the whiteboard and the teacher’s desk in the front. Students of migrant and international backgrounds seemed to have voluntarily demarcated seating in the classroom. During ESL lessons, the majority of local students would sit in the first two rows in the central seats, and the majority of international students in rear rows and in the side seats of the classroom.

6.1.3 School 3, Ms D

The School and the classroom

School 3 was an all-girls’ school with a religious affiliation and a student population close to one thousand, in both primary and secondary sectors. International enrolments began in 1990, and students from other cultures appeared to be part of the more familiar sceneries on this campus. The international cohort was, in comparison to Schools 1 and 2, more diverse in cultural backgrounds, including Asian, European, South American, and in very recent years, African refugees. Although good academic results were also publicized as at the other two schools, this was done with a strong religious undertone. As the publicized school ideals (on school website and in Newsletters), care, self-esteem and social relationship in young females were highlighted.

The age of the school was more manifest in its buildings and facilities than the equally long-standing but financially better-to-do School 1. But School 3 in no sense seemed to be left out in financial development. At the time of the research, a major school building construction was in progress to make room for student expansion.
Classrooms at School 3 are generally modestly but adequately facilitated. Year 12 students occupy a newly renovated and technologically better equipped site than the rest of the school. In all classrooms, religious posters and artifacts are displayed together with student photos, artworks and school notices.

*The Teacher and the Students*

Ms D has been an ESL teacher at School 3 for 17 years and, prior to that, had taught English for 15 years. Not working full-time, she was responsible for one Year 12 class and co-taught a Year 10 class with another teacher. Besides the 5 Year 12 lessons and 4 Year 10 lessons taught each week, she was also employed by the school to tutor some individual students in need of academic assistance.

There are 22 girls in Ms D’s Year 12 class. Except for three students from migrant families (Afghan, Vietnamese and Chinese), all are Asian international students, the majority of whom are from mainland China and three from South Korea. During lessons, many students sit in what can be called ‘friendship groups’. This, in part, seems to have contributed to the constant high noise level in class. After the teacher finishes whole-class teaching of the day, the girls are given normally half of the lesson time doing independent work. Chatting in native tongues often occurs between varied off-task topics. From time to time, Ms D calls out and reminds the students to keep their focus on task and their voices down. Outside the Chinese groups, the Korean girls regularly sit at the back as a private group, leaving the Vietnamese and Afghan girls sitting together, friendly and polite, but not quite as enthused in their conversations.
6.2 CURRICULUM BACKGROUND

6.2.1 Ms A, School 1

The teacher was responsible for four classes: two ISTPs, one Year 10 and one SACE
class. The ISTP program was meant to provide “intensive English tuition to boys
immediately upon arrival in Adelaide and prior to entering mainstream classes and allows
boys to become enrolled and involved in the [School] community immediately upon arrival in
Adelaide” (School Newsletter). In ISTP lessons students typically did coached readings and
writings with random materials and resources given out by the teacher. Year 10 and SACE
lessons were organized in cycles around a specific theme, such as ‘extreme sports’, ‘bullying’,
and ‘climate change’, etc. Each theme cycle was run over one term (eight weeks), with the
topics chosen by the teacher in accordance with ‘boys’ interests’ (teacher’s interview). At the
beginning of the classroom observations, the researcher was shown the teacher’s teaching
plans for the semester. According to the semester plans and on later observations, Year 10
and SACE lesson cycles typically contained the following stages of activities:

1. Movie:

Students watched a movie on the central theme of the teaching cycle of the term.
During the movie, the language and happenings in the film were at times explained. Later,
the class reviewed the plot and discussed the characters in the movie. Worksheets on the
contents of the film were completed.

2. Reading:

The teacher then gave out newspaper and magazine articles on the same theme. Class
read materials and went through vocabulary.
3. Writing:

Students wrote a brief summary of articles and/or the film with a sample summary and vocabulary list provided.

4. Assessment:

Students wrote a major expository essay on the theme. The teacher and individual students reviewed drafts of writing, followed by students’ revisions and further submissions of drafts. Each student typically produced two to four attempts at each major essay. Students gave an oral issue analysis on the theme in the form of questions-and-answers with the teacher.

Classroom observations and video recordings covered a Year 10 cycle on ‘extreme sports’, a SACE cycle on ‘bullying’, and a number of ISTP sessions with no specific themes. In writing their end-of-term major essays, students were required to make use of all of the provided resources, including the film and the reading handouts, but nothing beyond, such as personal experiences and information from other sources.

In a typical teaching cycle, exposures to theme-related resources preceded students’ written and oral productions. Written text productions were then followed by teacher-student ‘conferencing’ (teacher’s word), where the teacher and individual students, one-on-one, review the students’ written drafts. Later, students produced orally ‘issue analyses’, where they answered the teacher’s questions on the semester theme.

Throughout the observed period, the teacher had placed strong emphases on two aspects of language learning: vocabulary and essay structure. Most whole class sessions, in fact,revolved around vocabulary learning. The teacher frequently made known to students that a varied vocabulary in essay writing was highly valued and rewarded. Structural organizations of essays were dealt with during the teacher’s one-on-one reviews of students’ essay drafts,
but no whole-class teaching of generic essay structures was observed. Students were expected to produce two or more drafts, but assessment was based on the first so that, as the teacher stated, her own influences could be eliminated.

During the school visits, no teaching of linguistic, grammatical, discourse or genre features and structures was observed. The teacher explained their omission in her teaching: since students had not seemed to benefit much from their grammar learning before they came to Australia, there was not any point in teaching more.

Socializations in the classroom involved mainly teacher-student exchanges and occasional whispers between learners. Peer interactions between learners were kept minimal. During all class time, including group teaching, students’ seat work, and computer usage, talking between students was discouraged and constantly hushed up.

6.2.2 Mr C, School 2

Mr C was responsible for one Year 11 and two Year 12 classes. While the Year 11 lessons were run in project-related cycles, the Year 12 lessons were separate units, each containing two one-hour halves of students doing SACE exam-related practice and working in the computer lab, or a class teaching session plus some student exercise or computer work. All three of Mr C’s classes were observed and recorded but only lessons in a Year 12 class will be analyzed here. A list of the activities observed in the Year 12 classes during the three-week school visits include:

SACE-related exercises: students doing two sample listening comprehension exercises and two sample writing tests (four hours);

Computer lab work: independent internet research and writing for the summative task of Issue Analysis (six hours);
Class discussions: watching a documentary on global warming, and a group discussion on some listed questions (two hours);

Class teaching: an illustration of the Issue Analysis dialogue; registers and causes and effects in formal writings; and paragraph writing (three hours).

6.2.3 Ms D, School 3

At the time of the school visits, the Year 12 class was preparing for their issue analysis. Students’ presentations were tape-recorded and submitted for external assessment, as a part of their ESL SACE scores. Ms D’s lessons often started with some whole-class teaching (usually 10 to 20 minutes), followed by one-on-one tutoring of individual students. Sometimes students were called, at other times they volunteered, to join the teacher for the individual sessions. As a result of the four-week visits to the school, the video-recordings covered all the teachings and classroom work observed, which amount to a total of approximately 410 minutes, with 90 minutes of whole-class teaching, 183 minutes of individual sessions, 41 minutes of students’ pair work, and 100 minutes of other activities, such as organization, and students working in the computer room.

6.3 MICROGENETIC ANALYSES OF CLASSROOM ENVIRONMENT

In order to present the typical, day-to-day microgenetic occurrences in the three teachers’ classrooms, excerpts containing relatively complete structures of teaching activities will be used.

6.3.1 Structure of task and participation (structural dimension)

This dimension concerns the teacher’s design and organization of classroom task processes. The teacher’s intrapsychological engagement and integration with task structure
and features serve as the precondition for students’ apperceived knowledge of task. The external level encompasses the teacher’s delineation of task features, components, procedures, and roles and responsibilities, etc, before, during, and after task. Speech must be psychologically substantive and pertaining to conceptual and metacognitive operations in the task. It must reveal the teacher’s orientation to the psychological rather than just the behavioural aspects of task. At the internal level, the actual regulative principles, stated or unstated, which govern task unfolding and individuals’ participation are relevant. The mechanisms governing the unfolding of tasks must be coherent and collaborative with the external delineations. This dimension attests to the characterization of language as double-stimulation. For learners’ self-awareness and self-monitored engagement, language needs to provide the stimulation of both goals/directions and means.

A. Ms A, School 1

The following excerpt involves the first ten minutes of a reading lesson in the SACE class, containing the class’s reading of a Letter-to-the-Editor (see Appendix 5) in the Australian Weekend Magazine on the topic of the term, school bullying. Before the present lesson, the class has been through various resources, including three films and some reading materials (school policy on bullying written by the school headmaster; a short story; and some letters-to-the-Editor) on the topic. Activities in the cycle culminate in two final assessment tasks for the term: a written task of a 500-word formal letter to the local newspaper on ‘Do you think it is possible for the problems of school bullying to be completely solved?’, and an oral task of issue analysis. To aid the analysis, the activity process is divided into eight sub-stages as presented in the table below.

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17 In order to present a sense of immediacy of the micro-genetic processes, I will use the present tense throughout the analyses of classroom interactions.
<table>
<thead>
<tr>
<th>Sub-stages of task</th>
<th>Transcript</th>
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<tr>
<td>1-18: starting task, planning of future activities, and motivation / justification</td>
<td>T: (1) Okay, let’s finish what we were discussing yesterday so we can, um. (2) Okay, letters, letters. (3) That’s what we were doing the last one. (4) And then we’ve got two more articles to read and then we focus on the essay, okay, so that we can do some really excellent essay. (5) For some of you I’m a little concerned about your English expression and your writing, and I don’t think it’s good enough. (6) I think, too, that once you’ve done the essay, it’ll make it a lot easier for you to do the oral presentation with me, okay? (7) Because you’ll have a better understanding. (8) And I’ll practice with you. (9) While you’re doing your essay I’ll take each of you outside and practice together, your oral presentation. (10) I’ll ask you lots of questions. (11) If you don’t have the answers, it means you’ll have to go away and find the answers. (12) Alright? So you’ll have a clear idea of how much you know and how much you don’t know. (13) Alright, so let’s have a look at that last one. (14) Remember it’s from the Victorian Minister for Education Services and she is responding. (15) [A student comes in late] Martin, can you get here on time, please? It’s = (16) Martin: = [Inaudible] It’s true. (17) T: Sit down. (18) [Gives Martin a copy of the handout] We’re doing the letters. Okay.</td>
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<td>19-21: explaining ‘claims’</td>
<td>T: (19) [Starts reading aloud the last ‘Readers’ Feedback’ letter in the handout] “School of Hard Knocks” referred to a student attending a Victorian government school. My department has held many meetings with the parent involved and thoroughly investigated the claims made. (20) In other words, what she said was wrong. (21) That’s what ‘claims’ means.</td>
</tr>
<tr>
<td>22-77: teaching the word ‘unbiased’</td>
<td>T: (22) An independent mediator was engaged to ensure the investigations were fair and unbiased. (23) [Teacher pauses and looks up. Nigel is using his electronic dictionary] Nigel, try and follow when I’m reading please, ‘cause I’m trying to help you with the, ah, pronunciation here. (24) I’m biased -- (25) Actually, look it up. (26) Where are your dictionaries? (27) Look up the word ‘biased’. (28) And I think that’s a really good word to know. [Teacher picks up a texter and waits.] Ian: (29) [Inaudible contribution] T: (30) [Turns back to whiteboard and writes ‘biased’] Let’s look up the word ‘biased’ first. (31) So if someone describes you as ‘biased’ … (32) Come on, Victor, where’s your, um, dictionary? [Victor says something and stands and walks to fetch a dictionary] (33) Good boy. (34) Take it out, baby. (35) This is ESL. (36) [To other boys] Look up the word ‘biased’. (37) That’s it. (38) And, the three of you can share [to the three Korean boys, presumably there is only one copy of English-Korean dictionary in the classroom collection]. Martin: (39) [while other students are fetching their dictionaries] Is it this one? T: (40) No, it’s the letters, Martin. (41) Had you been here on time, you’d know [walks back to desk and picks up the handout, showing it to Martin]. (42) It’s this. [Boys come back to seats with dictionaries] (43) You know, I could say something like this to you. (44) I think Greek food is the best food in the world, but I’m biased. Yuan: (45) [In front row of class, leans forward and looks at teacher. Gives a guess at the word meaning but inaudible] T: (46) [Glances at Yuan then continues speaking. Yuan sits back and relaxes in body.] Or I could say I think my family is the best family in the world, but I’m biased. (47) What does it mean? [No response from class. Most students, except for Yuan, are looking down and turning pages of dictionaries.] Ian: (48) [Reads from dictionary] It describes [inaudible] [Teacher glances at Ian but does not respond.] Yuan: (49) Your view is on the one side? It’s not = T: (50) = Okay, so you are giving a view, which is …[pauses] Ian: (51) A bit unfair? T: (52) [Frowns] You think it’s unfair? Sam: (53) [Reads from English-Korean dictionary] A strong point. T: (54) It’s a very strong point. [Turns round and starts writing ‘strong point’ on whiteboard] (55) Okay, so if you’re biased, it is a strong point that you’re doing. (56) But what is wrong, or what is it about the strong point [points pen in hand at Yuan who is now looking down]? (57) That it is, an, an, (58) Yu-</td>
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18 See Appendix 1 for the convention of transcription.
Yuan was on the right side.
Yuan: (59) [Looking up] Hm?
T: (60) You, you were on the right side. (61) What were you saying?
Y: (62) I said your view, your view became one-side and =
T: (63) =Yeah, it’s very ONE-SIDED. Okay? (64) It’s a very strong point and it comes only from the one side. [Turns round and writes ‘one-sided’] (65) Which means, of course, that it is not balanced, okay? (66) Therefore, it’s not balanced, okay? [Draws an arrow next to ‘one-sided’ and writes ‘not balanced’] (67) If it is balanced, um --. (68) You know, I mean, you can get very political. (69) You can say, I can say, you’ve heard me say. (70) The Liberal Government is crap. (71) I really hate what they’re doing. (72) I support the Labour Government. (73) Now you can become very, very one-sided about politics. (74) It’s not a balanced view, okay? (75) So that’s what ‘biased’ means. (76) So they selected someone who was not going to be biased and who was able to go, look at both sides of the story, and then get some sort of results. Okay? (77) So let’s go on.

78-112: teaching the word ‘comprehensive’
T: [Picks up handout and starts reading aloud again.] (78) The so-called “bodyguard” referred to in your article was actually a teacher aide who was paid by the department to assist the student with his education. The Victorian Government takes the issue of bullying in schools extremely seriously and we require all schools to have strategies in place to deal with bullying. We are currently undertaking comprehensive research... (79) What does ‘comprehensive’ mean?
Martin: (80) Understand?
T: (81) No. That’s ‘comprehen-SION’ [ Writes ‘comprehensive’ on whiteboard].
Yuan: (82) Understandable?
T: (83) No. It’s got nothing to do with ‘understandable’ or ‘understanding’. [Class quiet for a few seconds]
Ian: (84) Fair.
T: (85) No, it’s not ‘fair’. (86) ‘Comprehensive’ means? [Motions to be ready to write and waits] (87) Come on, where’s your dictionary? (88) Move around. (89) Turn those pages quicker, Sam. [Class look up dictionaries.]
Nigel: (90) Widening.
T: (91) Wider [mishearing Nigel, sounding excited!] Okay. [Writes ‘wider’ on whiteboard] (92) What does this mean, Nigel? (93) Good answer.
Nigel: (94) [Voice very soft, inaudible, then looks down again]
Yuan: (95) Involve every, every area?
Martin: (96) It spreads all over.
T: (97) Spread? (98) Right, another word would be ‘thorough’. [Writes ‘thorough’ on board.] (99) What does ‘thorough’ mean? (100) If I ask you to do something thoroughly, what does it mean? (101) Thoroughly, comprehensively.
Yuan: (102) Complete?
Sam: (103) All over?
T: (104) Yeah, something like that. (105) It means that you look into something, you look at every detail. (106) If you do a comprehensive research, it means you do it really, really thoroughly. (107) You’ve covered everything. (108) You’ve looked at everything, okay? (109) So that’s what comprehensive means. (110) It’s wider, as Nigel said, but it’s also very thorough. (111) You look at every detail. [Writes ‘look at every detail on whiteboard’.] (112) Alright, let’s go on.

113-117: explaining a sentence
T: (113) Um, so they’re [looking at handout and reading] undertaking comprehensive research on bullying in Victorian schools to look at why some programs and strategies work better than others. (114) So obviously every school in Victoria, well, every school in Australia, has a bullying policy. (115) Now, some of the things that we do at school are working really well, and some of them don’t. (116) So they’re looking at some of the things that work well and the ones that don’t, and seeing what they can do with the results. (117) Okay, [resuming reading] We will use that knowledge to further support schools to create the safest possible learning environment for all of our children.

118-121: concluding results of reading activity
T: (118) Now, your essay topic is, you know, “Is bullying going to continue”, something about bullying. (119) Is it possible to eliminate bullying from school. (120) And what you need to do is, from the visual texts that we’ve seen, the articles that we have read, and come to some sort of, answer, alright? (121) You can use some of these letters, alright?

122-144: discussing ideas
T: (122) Because obviously some people su-, in a way, support bullying, don’t they? (123) Because they said, what’ve they said? (124) Hello [sarcastic tone implying answer to question is self-apparent],
if they support bullying, what did they say, Victor? [Another student speaks softly] (125) Say that again, Hank?
Hank: (126) Cotton-wool child [a term from another Readers’ Feedback letter learned on the previous day].
T: (127) Okay – [looking unsure for a second], the cotton-wool child, that’s right. (128) If you wrap a child in cotton wool, if you protect them too much, they’ll never be able to protect themselves, alright.
(129) So a little bit of bullying, helps the child to grow up and become physically stronger and mentally stronger. (130) What else do they say? [Class quiet] (131) There’re some good strategies here. (132) I mean, they’ve said, if you’re g-, going to deal with a bully you bully back. (133) How do you bully back? (134) One, by hitting them. (135) Where [presses right index finger on nose]?
Martin: (136) Nose.
T: (137) Because? [Presses finger on nose again]
Martin: (138) Bleeding.
T: (139) It bleeds, and that’s where the blood comes out, okay? (140) Another, another strategy that somebody else used was? [Right palm circles in air and moves away from mouth repeatedly]
Yuan: (141) Repeat what they said.
T: (142) Repeat exactly what they said, okay. (143) And make them feel like an idiot. (144) And of course, we saw that [hands clap] in “Mean Creek” [film]. (145) Okay, remember that.

146-149: starting next reading task
T: (146) Alright, boys, next thing. (147) Hey, we’re getting there. [Leans over desk and searches in folder] (148) We are getting there. (149) This is a really short article [taking sheets out from folder].

\[a) \textit{External level}\]

At the external level, Ms A’s explicit organization of students’ participation is contained in the following utterances: utterances 1 to 4, where the teacher puts the present task in temporal connections with past and future class activities; 6 to 12, where the teacher discusses a future activity; 5 and 23, where purposes or motivations of the present reading task are given; and utterances 118 to 121 towards the end of the session, where the teacher concludes the result of the reading session.

When connecting the present task with past and future activities in utterances 1-4 (“Okay, let’s finish what we were discussing yesterday so we can, um. Okay, letters, letters. That’s what we were doing the last one”, and “And then we’ve got two more articles to read and then we focus on the essay, okay, so that we can do some really excellent essay”), the teacher announces importantly that what the class is going to do follows what they did on the previous day and precedes what they are about to do after it. She does not discuss the psychological nature of these activities, contents of the previous learnings, or the intellectual...
relations or cognitive transitions between the tasks, but simply tells their sequential timeframe. Ms A also makes known “For some of you I’m a little concerned about your English expression and your writing, and I don’t think it’s good enough”. Her expressed concern and the negative evaluation of the students’ performance puts her in authority, but offers no insight as to what has specifically caused the worry. ‘English expression and writing’ would easily qualify the focuses of a large range of teaching and learning tasks. The comment by the end of the session that students can ‘use some of these letters’ to ‘come to some sort of answer’ to their essay question achieves a similarly general and ambiguous effect. Nowhere in the session are the (meta)cognitive features or intellectual procedures that pertain to the task at hand or to ESL reading in general described or outlined. The teacher’s discussion of future plans (“And I’ll practice with you. While you’re doing your essay I’ll take each of you outside and practice together, your oral presentation. I’ll ask you lots of questions. If you don’t have the answers, it means you’ll have to go away and find the answers.”) seems impromptu, for in the actual unfolding of the curriculum cycle, this arrangement is not materialized.

b) Internal level

The ambiguity and unsubstantiveness in the external delineations also play out at the internal level. Beginning the activity, the teacher gives out a Letter-to-the-Editor and directly starts to read it aloud. As a precedent of students’ participation, it is not made clear what the students’ engagement will be; for example, if there are specific aspects of the text that students should focus on; if there are questions that they should think about; and what contributions they will be expected to make along the way, etc. Beginning the activity, students’ intellectual participation is thus not explicitly assigned or discussed but presumed.
As the teacher reads on, stops now and then, explaining or asking for meanings of certain language items, the students’ attention is focused on specific aspects of the Letter determined by the teacher. Otherwise, the students are not invited to raise queries about the text. Not only so, when a student, Nigel, resorts to private learning by using his electronic dictionary, he is immediately interrupted (utterance 23). In the unfolding of the episode, while the teacher plays the dominant and decisive role, students are to follow the teacher’s directions in a passive, mechanical manner. A similar teacher-student intellectual relationship is manifested in the following excerpt, where the teacher has a one-on-one ‘conferencing’ with an individual student on his essay draft.

**Excerpt 2. It’s my first draft though**

Ian’s essay starts with “The movie, *Tom Brown’s School Days*, is all boys’ boarding school and it can be a place for bullies. Most of bullies happen in the school and often been done by older students.” The teacher changes ‘is all boys’ boarding school’ into ‘is set in an all boys’ boarding school’, and ‘it can’ into ‘this was’. Now she is making an addition to the same sentence.

T: I would’ve said ‘a perfect place’ [instead of ‘a place for bullies’].

Ian: That’s what I tried to ASK you that day, you SAID that’s fine.


I: I tried to ask you that.

T: Yeah?

I: And you said “Oh, ‘it can be’, that’s fine.” And I was like, “No, it’s not”.

T: Yeah yeah yeah [sounding disbelieving and dismissive]. Ah, no, it could’ve been alright, but this is better. [Continues with corrections] ‘Most of bullies’. ‘Most bullying’. Come on, [raising volume of voice] come on, LISTEN to it. I told you to go and correct ‘bullieses’ and where ‘bullying’ should be. You haven’t done it for me. [Loudly] Am I going to find this the whole way through?

I: No. Not, not =

T: = You’re wasting my time. =

I: = not in that one. Not in that one. No.

T: The next time I find, you’re taking it back.

I: Can I change it now?

T: No.

I: Why not?

T: Okay?

I: It’s my first draft though.

T: [Starts to continue reading] ‘Most …’. IT IS NOT your first draft.

I: It is SO my first draft =

T: = Give me a BREAK.

I: [Takes over sheets and shows to teacher] You write in there ‘first draft’, ‘cause there was two, one for you and one for me, and you write in there ‘first draft’.

T: Okay. Alright (concedes and resumes reading).

[Later, in Ian’s essay, he argues schools have limited effects on growing boys’ personality. After a brief debate between Ian and Ms A about this argument, the teacher finds another confusion of the words ‘bullies’ and ‘bullying’ in Ian’s writing.]

T: [Stops reading and pushes sheets to Ian resolutely] Go away.
The student, Ian, was among those few international students in Ms A’s three classes who were outwardly verbal as well as fluent in general social oral speech\(^{19}\). The active negotiations Ian conducted with Ms A in Excerpt 2 were not typical in the teacher’s ‘conferencing’ with many other individual students. In most students’ interaction with the teacher, their replies were brief and readily compliant to instructions, requests and evaluations. By contrast, Ian contributes to the exchanges more frequently and at length, participating in the negotiation in a similar way to social communications outside school. Trying to get his first draft read through, the student adopts a familiar, mate-like relationship. The projected relationship is apparently taken up by the teacher (shown in her speech, “Yeah yeah yeah”; “Give me a BREAK”; “Don’t care”). But the surface layer of socialization does not have any impingement on the psychological process of the negotiation. Regardless of the surface mode of socialization, the teacher firmly has the final say on who is to do what, when and how in the classroom.

In brief, at the external level of interaction, the task and interaction structure in Excerpt 1 contains formulaic instructions that are lacking in substantive meanings. Comments about the functions and purposes of the reading activity are vague and general; serving weak psychological scaffolding for the students’ self-regulated intellectual participation. Internally, the intellectual nature of the students’ engagement is prescribed to be mechanically reactive to directions, while the teacher plays the role of the leading actor occupying centre stage, responsible for determining the activity’s pace, reason, and method. In this dimension, it is

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\(^{19}\) During the classroom observations, Ian is found to be equipped with good spoken English skills. But as described in Cummins’ threshold theory (1984), his oral speech fluency tends to be confined to general social exchanges and is not readily displayed in academic or subject matter-specific interactions.
difficult to say that the teacher’s intrapsychological engagement serves as the precondition for
the students’ apperceived knowledge of task and its structure.

**B. Mr C, School 2**

**Excerpt 3. Teaching ‘Cause and Effect’**

<table>
<thead>
<tr>
<th>Sub-stages of task</th>
<th>Transcript</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utterances 1-6: Orientation</td>
<td>(1) [Walking about the room and giving out handout] Now the first handout is straightforward. [Inaudible.] (2) As I said it is an introductory piece, and it’s to make sure you do get the idea clearly. Alright? (3) No point going into something complicated to start with and leave people behind. (4) That’s not what we want to do. (5) Some people are reading some people are talking. (6) Guess what that tells us. [Finish handing out materials.]</td>
</tr>
<tr>
<td>Utterances 6-29: Introduction of concepts</td>
<td>(7) Okay, let’s have a look at this one on causes and effects. (8) Now causes and effects are one of the things that you need to be able to deal with in an essay. [Speaking slowly and emphatically] (9) This happens therefore that happens. (10) But many people once they have collected information don’t use it effectively. Alright? (11) So we have many [inaudible]. (12) ‘Therefore’, ‘as a result of this’. (13) Now what you’re doing is connecting something that happens with a result, the effect of that action taking place. (14) Now in the assessment of your writing this is what the examiners are looking for. (15) Can you add one and one and make two? (16) Now in order to do that, to make that construction in your writing, you have to write it in your own words. Okay? (17) Now, many of the articles that you looked up for, for information, are just that, information. (18) Once you take the information, you have to draw connections. (19) You have to show how this results in this, or this effects that. Okay? (20) That’s something you have to do. (21) That’s why when I talk about people making their paragraphs like a jigsaw, all they’re doing is taking this, plus this, plus this equals paragraph. (22) But that’s not really how it works. (23) It’s okay to a certain level. (24) Don’t get me wrong. (25) If you do that and you reach that point then it’s not a bad thing alright? (26) It will still get you a reasonable mark, if a reasonable mark is what you want, and you’re happy with that. (27) If you want to go beyond that, then it needs to be sifted [motions to head] through here. Okay? (28) And this is [holds up handout] a first attempt to give you the tools to do that or to show you how it’s done. (29) Alright, I’ll give you examples and they think oh I can do this, and then when you write perhaps you will use this in your work.</td>
</tr>
</tbody>
</table>
| 30-49: Handout: cause-and-effect essays| (30) Okay, have a read through the front page while I look for my glasses so I can read it too. (31) [Reading from handout is in italics] *Most people are curious.* (32) Isn’t that always the way. (33) *They want to know why something happened. They also want to know what happened as a result of some event or action.* When you want to analyse the reasons (causes or factors) or the results (effects, disadvantages, benefits)... (34) You see it’s also trying to give you a vocabulary to use as well. (35) *...of something, you should use a cause or effect type essay.* (36) Now in many cases you do use this. (37) This happens therefore that. (38) For example, when you answer a question such as, “Why did you decide to major in physics?” you are analysing causes, and when you answer a question such as, “What effects will learning English have on your career?”, you are analysing effects. In academic writing, you will frequently need to examine causes and/or effects. For example, in a physiology class, you might need to discuss the common causes of chronic pain and the effects of physical therapy on patients who go through it. In a history class, you might be asked to analyse the technological causes of the Industrial Revolution or the effects of the Industrial Revolution on family life in England. In an economics class, you might be required to explain the reasons for the high inflation rate in Brazil or the effects of the high rate of inflation on the Brazilian middle class. In an anthropology course, you might need to explore the reasons why many of the world’s languages are disappearing or the effects of their disappearance on indigenous populations. (39) Okay? Now in the essay which you’ve just completed, you did three of those paragraphs. (40) What are the economic effects of tourism on a post-colonial country? (41) What are the social and cultural effects of tourism? (42) What are the economic effects of tourism on a post country? (43) Now that’s what you were doing. (44) In your paragraph you say,
“tourism is not a good thing”. (45) Economic, social and political. (46) And the way you prove to your reader in your essay that tourism is not a good thing is by discussing the effects of tourism on the population. (47) Okay, everybody see how those connect? [Sounding excited, class quiet] (48) Everybody’s dead. (49) Normal response.

50-114:
Handout: cause-and-effect phrases, including ‘because’, ‘because of’, ‘due to’, ‘thus’, etc.

(50) Okay turn the page over now. (51) What you’ll find is a number of different ways of dealing with cause and effect. (52) Now we had this discussion yesterday in class. (53) There are some here I don’t like. (54) Now people say this to me … (55) I don’t like sentences that begin with ‘because’. (56) And people say, “well it’s actually technically okay”. (57) Yes it is. (58) But it’s sort of technically okay for ‘because’, but it’s not technically okay for other words that are the same. (59) So I would prefer you not to use ‘because’. (60) Once you go to University you can use whatever you like. Alright? (61) There are other options here. (62) There are a whole list of different ways of demonstrating cause and effect. Alright? (63) ‘And that is why’, ‘as a consequence of’, ‘as a result of’. (64) The two I don’t like, ‘because’ or ‘because of’. (65) Now for me, personally, I think the sentence should be, “We cancelled the rain -- the soccer game because it was raining”. Okay? (66) Now some of that is the way I’ve been taught English and the way I’ve grown up reading English. (67) Sometimes these instructions exist because of the way people speak. (68) “Why’d you go home?” (69) “Because I was ill.” (70) People don’t say “I went home because I was ill.” (71) In answer to your question, what happens then, is some of the speech, the vocal ways of explaining things creep into written English and they really shouldn’t. Okay? (72) Spoken English, jargon is spoken. (73) When you write it’s something different. Okay? (74) It seems a bit like we have two Englishes but it always was that way. (75) What’s happening now is that that is becoming closer and that doesn’t worry me. (76) Maybe it’s just me, what I’m used to, okay? (77) But I think if you are going into a formal institution like a University where they are, they live more in the past even than we do, and they expect you to write and present things in a particular way I think you’d be better off avoiding them. Okay? (78) ‘Due to’. (79) See I’ve no problem with ‘due to’. (80) That’s fine. (81) Um ‘for this …’ “It was raining. For this reason, we cancelled the soccer game”. (82) That’s alright but yes there’s two sentences there. (83) “Since it was raining, we cancelled the soccer game”. “It was raining; therefore we cancelled the soccer game”. “It was raining; thus, we cancelled the soccer game”. (84) Now ‘thus’ you probably [inaudible] (85) ‘Thus’ is an older type of word that people don’t use very much anymore. Okay? (86) So I would stick with so or therefore. [Matt raises hands; teacher notices but ignores him] (87) You’d also notice a particular construction there. (88) That is a semi-colon. Alright? -- (89) Now. -- This is because, and this is the official explanation, “it was raining” -- is basically a sentence. Okay? (90) What you’re trying to do and this is where English can become a bit of a mind field, is you’re trying to force a particular construction and put the two things together. Alright? (91) So instead of “it was raining so I went home”, which I think they must’a got a comma, aah – (92) Because you were using “therefore we cancelled the soccer game” they want a semi-colon. (93) Now if you didn’t use a semi-colon when you wrote, I don’t think anybody would notice. Okay? (94) Even I probably wouldn’t take any notice of it. (95) It’s an older way of using the language or punctuation that is slowly disappearing. Okay? (96) Like ‘thus’. (97) What’s the other one, the other one is ‘one’. (98) “One needs to think about this”. (99) This was, this, this originated to stop you saying ‘I’ and ‘we’, alright, when you write or when you speak. (100) So this ‘one’ was created. (101) It’s the type of word [inaudible word] of the Queen use to say. Alright? (102) The Queen talks about, ‘we think’, alright, when you write or when you speak. (103) But she’s talking about herself. (104) She often uses, you know [impressionistic] “One was most impressed by the humour at George Bush’s dinner”, (105) The silly old fart. Alright? (106) So, it’s a type of language that appears in certain situations and usually associated with particular people. (107) For us today, if someone started using that we would probably give them a funny look. (108) So it’s probably not something to take up, like people going around saying, “One was not impressed by the physics homework last night”. (109) I’d have to report you to the thought police. Okay. (110) Now. Part of what we’re doing with this, going through this, is to give you options to use, alright? (111) So when you’re doing things someone will say ‘well how can I say this differently?’ okay? (112) [Indicating sheet] There you are. (113) You will find one you like better or a couple that you think fit with you, alright? (114) So maybe ‘thus’ and ‘one’ is not yours.
(115) Now [indicating sheet] underneath that we have a couple of examples of topic sentences that we can use. (116) In this case we’re just looking at a paragraph so we can use some of these constructions -- in our essays. (117) We would not … (118) But some of those words are useful. (119) We wanted another word for ‘cause’ we’ve got ‘reasons’ and ‘effects’. (120) We’ve got different words that we can use now, that’s also handy. (121) So let’s have a look. (122) “There are several causes of / reasons for / effects of - There are several causes of jet lag”. (123) Alright we could also say “There are several reasons for jet lag”. (124) If we wanted to deal with a different part we are writing we could say “There are several effects of jet lag”. (125) “There are three / four / several main reasons why”. (126) Most people have to use that type of construction in their work. (127) “There are three main reasons why I want to get my own apartment”. Alright? (128) Or “Something has had several important effects on you”. Alright? (129) Ah let’s say “The introduction of stem cell research has had several important effects on …” [looking at Matt, who is doing the investigation on stem cell research and had a little discussion on the topic with the teacher the previous day. Matt nods.] (130) Now this is something you might have in your introduction. Alright? (131) ‘Has had many important effects on’, ‘has had a few important effects on’, depending on how many there are. Alright? (132) But you’ve got a choice about what to do.

(133) So if we turn over the page, “Topic: The effects of unemployment”. (134) Ah we’re looking at effects, “There are several effects of unemployment”. Alright? (135) “The causes of depletion of the ozone layer”. (136) ‘There are several causes of’, or ‘there are several reasons for the depletion of the ozone layer’. (137) “The reason you decided to learn English”. (138) “There are several reasons why I decided to learn English”. (139) So these are all examples of [inaudible word]. Alright? (140) I’ve done the first three. (141) You do the next three. (142) Just quick, don’t need to think too much about it. [Students start doing exercises. A few seconds later] (143) T: Then turn over the page. (144) There’s an example at the top, then do the second one. (145) The second one is about ‘the house fire.’ Alright? (146) The first one is about ‘the oil spill’. (147) The second one is about ‘the house fire.’

[Students do exercises for five minutes, then teacher reads out answers. ]

**a) External level**

The explicit organization of the conceptual task can be found in the teacher’s first few utterances: “Now the first handout is straightforward. As I said it is an introductory piece, and it’s to make sure you do get the idea clearly. Alright? No point going into something complicated to start with and leave people behind. That’s not what we want to do” (utterances 1-4).

These utterances do not describe the features, aims, components, etc. of the task. Nor do they explain the nature and method of learners’ participation. Instead of delivering any substantive psychological scaffolding of the task at hand, they transmit only the teacher’s subjective evaluation and judgment of the task’s low level of difficulty. In simply rating of the task as ‘straightforward’ and ‘introductory’, and announcing the ‘point’ of the work is that
it would not ‘leave people behind’, the language shows no intrinsic engagement on the
teacher’s part with the psychological and pedagogical substance of the task. In effect, while
psychologically staying external and uninvolved in the subject matter, semantically the
teacher claims the higher ground of knowledge and authority.

b) Internal level

The factors of teacher-student role partnership and time allocation are not explicitly
discussed but regulative of students’ psychological experiences. The episode unfolds as the
teacher reads out the print material, gives an extended and monologic lecture on the subject
matter, and later announces answers to exercises. In it, the teacher undoubtedly plays the
paramount part in the communication. Only on one occasion does the teacher request to hear
from the students: “Everybody see how those connect?” (47). Receiving no response, the need
of communication is dismissed with sarcasm: “Everybody’s dead. Normal response” (48, 49).
The teacher’s sole role in deciding the pace and tempo of lesson is also confirmed by the
activity’s time allocation. The 40-minute session includes 36 minutes of teacher monologue
and less than 4 minutes of students’ written seatwork. Without a built-in structure for
students’ contributions, the teaching does not have an intrinsic dependency on the students’
thinking and intake.

In general, the structure of task and interaction is found lacking in psychological rigour.
The teacher’s orientation to conceptual task displays no intellectual engagement with the
concepts. Internally, he has complete control over the pace and content of the lesson and
interaction, as manifested in both time allocation and teacher-student role relationship.
**Excerpt 4. What does ‘synthesis’ mean?**

<table>
<thead>
<tr>
<th>Sub-Stages of Teaching</th>
<th>Transcript</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sub-stage 1:</strong> utterances 1-11; Initiation and orientation</td>
<td>(1) T: [Reading from the document of assessment criteria for students’ written outline of their oral presentation] The outline needs to show that the information in the notes, has been synthesized. (2) Big word. (3) What does synthesis mean? (4) We keep talking about this. [Turns round and writes ‘synthesise’ on whiteboard] (5) If you can synthesise information, what does it mean? [No response from students] (6) Remember last year, in year 11, we’re talking about synthesising information. (7) Any guesses what it means? [Class quiet] (8) Better look it up then. (9) ‘Cause it’s in your set of instructions. (10) You need to read them and you need to know what it means. (11) You’ll be given marks for synthesising information.</td>
</tr>
<tr>
<td><strong>Sub-stage 2:</strong> utterances 12-15; Negotiation</td>
<td>(12) KK (student name): Um, all the points and [inaudible] = (13) T: = Yeah. You get all the points and you [dramatically bringing together both hands with fingers open and moving], what do you do with them? (14) KK: Organize? (15) T: Organize them, you – extract the information.</td>
</tr>
<tr>
<td><strong>Sub-stage 3:</strong> utterances 16-17; Solution – conceptual definition</td>
<td>(16) T: It means can you take information from one source and another source and put the information together and, and, analyze it and say something about it. (17) That’s what I’m looking for. Okay?</td>
</tr>
<tr>
<td><strong>Sub-stage 4:</strong> utterances 18-28; Solution – conceptual application</td>
<td>(18) T: That’s why you have to go to at least three sources. (19) I’m not asking you to read one document and then just stand up and tell me what’s in it. (20) There’s no synthesizing then. (21) Somebody else has done all the work. (22) But if you read two or three documents and you have to take notes then you’ll be taking information from two or three different places and presenting an idea to the class. (23) That’s synthesising information. Okay? (24) So, you have to in your outline, be able to talk about one point, one issue and maybe you will use information from two or three sources on that one point. (25) That would mean that you are synthesising information. Do you understand? Okay? Right. (26) You have to synthesize information so the easiest way to show that to me, would be to put in the reference to that information. (27) Remember on, um, Kana’s last, that I showed you on Tuesday, it had the references, it just kept showing you where the information came from. (28) That’s what you need to do.</td>
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**a) External level**

In the excerpt, the class is going through the SACE explanatory document on the Year 12 externally assessed oral presentation. The whole of the task included an oral and a written component: the tape-recorded presentation conducted at school, the written outline of this oral performance, research and reading notes, as well as bibliography.

At the beginning of the episode, the teacher’s initiates by requesting students to ‘remember’ something that they ‘keep talking about’ and something that they talked about the
year before\textsuperscript{20}, and to ‘guess’ what the word means. With no response, the teacher suggests the students look the word up before putting pressure on the situation by pointing out the word ‘synthesis’ is in the assessment manual and students will be given marks for understanding it.

From a mainstream, orthodox interpretation of pedagogic psychology, Ms D’s reminding students that they talked about synthesis in Year 11 could be considered a prompt for prior learning. In asking for guesses, it could be considered that she encourages brainstorming and free associations. In mainstream analyses, teachers’ verbal requests for student thinking and learning behaviour are taken as sufficient stimulation for thinking and learning. However, from the apperceptive perspective postulated here, thinking and learning cannot simply be requested and ‘caused’. They occur only as a resonance of thinking in the engaged partner.

From an apperceptive, interpsychological understanding of classroom transactions, educational effectiveness is predated by the relationship between the teaching and the taught, as we recall the well-quoted line, “Social relations or relations among people genetically underlie all higher functions and their relationships” (Vygotsky, 1981, p.163). To establish an authentic social, i.e., interpsychological, relationship, the teacher’s engagement of his/her own thinking must serve to invite and inspire further thinking. In this light, in understanding the psycho-semiotics of the teacher’s discourse, the requests for students to ‘remember’, to ‘guess’, and to ‘look it up’, for instance, indicate not an orientation to ‘synthesis’ as a thinking process, but mechanical, unmediated processes alien to synthesis as thinking. Pointing out the related assessment value certainly does not deliver any engaged conceptual thinking either.

\textsuperscript{20} According to Ms D, synthesis was taught in Year 11 when she was teaching Bloom’s taxonomy, which included ‘knowledge’, ‘comprehension’, ‘application’, ‘analysis’, ‘synthesis’, and ‘evaluation’. 
b) Internal level

The teaching of synthesis is obviously not a part of Ms D’s original curriculum plan for the presentation project. The day of the episode is the middle of the final week in students’ preparations for the project. The teacher produces the relevant document to clarify a confusion the class had on the previous day about the word limit of the written outline. Afterwards she decides to go through the entire document. The teaching of synthesis thus serves a band-aid function in the unit of class work. This implicit factor in the pedagogic structure corresponds with the absence of explicit organization of the task.

In relation to the chance occurrence of the episode, elsewhere, the teacher repeatedly emphasized that the students should not spend too much time on the written components (outline, reading notes and bibliography) of the project, pointing out they make up only 5 out of the total 20 marks for the assessment.

The passivity in the teacher’s engagement with the concept poses a contradiction with the psychological reality in students’ work, where synthesizing would have been an integral thinking process in all research, learning and writing in preparation for the presentation. But in spite of a lack of meaningful engagement with the concept, by cautioning students to limit their time spent on the task in relation to its credit value, the teacher seems to display the ‘insiders’’ knowledge of the ‘assessment game’.

In arriving at the solutions to the task, students and teacher play incomparable roles. Playing the dominant role in the episode, the teacher identifies and draws attention to the concept of synthesis in the assessment document (utterances 2 and 3); points out its evaluative value (9-11); suggests method of learning, i.e., using the dictionary (8); and provides the final
solution to the problem (15-28). In general, the progress of the activity does not have an intrinsic reliance on students’ active participation.

**Section Overview**

When examining the structural dimensions of various teaching episodes, it is found that, despite differences in conceptual tasks and in explicit discourses, the psychologies of teachings in the three classrooms are similar. In the three teachers’ explicit and verbal organizations of learning, language is general and empty (in Ms A’s case); subjectively judgmental but conceptually detached (Mr C’s case); or assessment-oriented and lacking in intellectual vigour (Ms D’s case). The structural instructions are thus often psychologically unsubstantive, arbitrary and incoherent with conceptual natures and functions. As reflected in the extrinsic and artificial discourse, the analysis indicates that teachers’ own psychological engagements in concepts and tasks do not serve as precedents of learners’ participation. At the internal level, pedagogic approaches, time allocation, and role relationships in the actual unfolding of lessons are equally conflictive with conceptual psychologies. In all three classrooms, teachers decide on the pace, rhythm and reasoning underlying pedagogic activities, subjecting students to passive and first-level participation environments. Overall, teachers’ non-commitment to conceptual psychologies seems to correlate with their strong dominance and control of learner behaviour during the unfolding of tasks.

**6.3.2 Functional systematicity of conceptual instruction (conceptual tool dimension)**

The conceptual tool dimension concerns the teacher’s activity and language in conceptual teaching. Teaching does not entail merely talking and doing things *about* the concept at hand; conceptual functionality must govern the teacher’s activity and speech. The teacher’s intrapsychological engagement with conceptual functionality is the precondition of
apperceived conceptual learning and understanding. Where intrapsychological engagement is the precondition, the teaching speech always mediates L2’s psychological symbolic function, rather than the linear semantic code operation.

At the external level, concepts were examined as to whether or not they were employed in communication and/or problem contexts. At the internal level, first, the coherence between the psychology of concept and that of pedagogic method and activity was examined. Secondly, conceptual instructions were investigated in light of the conceptual systems and structures that language mediated. In the language of conceptual teaching, conceptual functionality is not reflected in linear, associative semantic decodes; it is mediated, with intertextual tension, in the geometrical structure of inter-conceptual relationships. Methodologically, this dimension attests to the characterization of language as the process of verbal thinking (on both teacher and students’ part), rather than the end product.

A. Ms A, School 1

a) External level

Excerpt 1 presents the teaching of several language items in the Letter-to-the-Editor, including the words ‘claim’, ‘unbiased’, ‘comprehensive’, and a clause. For the word ‘(un)biased’, the teacher provides some examples of its use in sentence contexts (utterances 44, 46, and 69-75). For all items, semantic meanings are explained or discussed between the teacher and her students. But none is adopted in teacher-student communications or required to be used as a tool mediating conceptual activity.

b) Internal level – Psychology in pedagogic activities

Although the reading is explicitly stated to help students with English expressions, essay writing, and pronunciation, these statements are not implemented in the methods of
teaching and learning. The reading task unfolds around isolated semantic treatments of a few phrases and clauses, rather than with the text as a cohesive whole. Phrases and clauses are singled out and discussed as independent items; no heed is paid to the structure, function and meaning of the textual whole. Nor is any discursive or grammatical feature of the text studied. Throughout the episode, students do not read aloud or practice pronouncing any of the word or sentences being taught. There is also no encouragement for students to speak in any extended, connected manner, but only to give singular, fragmented or slot-filling utterances.

In Ms A’s lessons, vocabulary is one of the main objectives of teaching and learning, and dictionary use is the method repeatedly emphasized in Excerpt 1 and other lessons observed. Encountering new words in reading materials, the teacher typically enlists students to look up the dictionary and to call out explanations and synonyms, which she selects from, modifies and writes on the whiteboard as the official explanations, which students are to copy and compile in their notes. Language is thus taught in hard and fast semantic terms, not in terms of psychological and conceptual functions. Prior to learning, intellectual negotiations of symbolic constructs do not occur. Using the dictionary in lessons serves to compensate for the inadequacy in the social, psycho-semiotic environment rather than to actively aid it.

c) Internal level – psychology in instructive language

In the reading session, all the language items (the words ‘claim’, ‘unbiased’, ‘comprehensive’, and a clause) are semantically treated. The words and clause are explained or discussed in static isolation as if ‘meanings’ were a concrete property of words. Between language and meaning, a one-to-one linear relationship is typically represented in teaching.
For example, the teaching of the word ‘claim’ appeared in the following textual context in the handout: “School of Hard Knocks’ referred to a student attending a Victorian government school. My department has held many meetings with the parent involved and thoroughly investigated the claims made”. Before reading on, the teacher explains: “In other words, what she said was wrong. That’s what ‘claims’ means” (utterances 20 and 21). The teaching achieves the purposes of ‘decoding’ the word in question and informing students of its semantic equivalent. The fulfillment of these purposes sees the completion of the teaching. In the explanation, a complete and linear equation is established, i.e., ‘claims = what she said was wrong’. The one-to-one relationship between the word and meaning, building a one-dimensional psychological system, is typical of a semantic code approach to language teaching. By contrast, in a psycho-semiotic approach, the teacher aims not at semantics but at psychological symbolic functions of language. Concepts are presented not in linearity with their semantic decodes; they function in relations with other concepts in a coherent structure, where semiotic functional significances are mediated but not prescribed.

This linear, unstructured language mediation leads to semantic and grammatical distortions in the explanation. Semantically, the teacher’s explanation manifests but a local, partial semantic association; and grammatically, ‘what she said was wrong’ as a clause cannot equate in operation with ‘the claims made’ as a noun phrase in a syntactic context. It is not postulated here that the teacher should have looked up the word so as to offer the ‘correct’ semantic explanations. ‘Correctness’ and ‘incorrectness’ in teaching and learning are surface manifestations, not psychological operations. From the perspective of their genetic history, distortions in teaching are predated by psychological structure and mediation of a certain
nature. For language to become a psychological tool in students, the speech of teaching needs to mediate the very process, not the product, of verbal thinking in both teacher and students.

The second word taught is ‘biased’. The same pedagogic orientation to semantic decoding is adopted in this episode. Initiating learning, the teacher sends the class to look up the word ‘biased’. She makes a point of students using the dictionary by putting the lesson on hold till all have fetched their copies. In the process of students turning the pages of their dictionaries, Ms A gives two applicative examples (utterances 44 and 46), which could operate to contextualize symbolic thinking about the word. But the teacher’s further exchanges with students are governed by the relationship between ‘biased’ and its fixed, ‘correct’, and specific denotations. After a number of students’ nominations of the word’s semantic meanings, the teacher announces the solution.

| T: (63) =Yeah, it’s very ONE-SIDED. Okay? (64) It’s a very strong point and it comes only from the one side. [Turns round and writes ‘one-sided’] (65) Which means, of course, that it is not balanced, okay? (66) Therefore, it’s not balanced, okay? [Draws an arrow next to ‘one-sided’ and writes ‘not balanced’] (67) If it is balanced, um --. (68) You know, I mean, you can get very political. (69) You can say, I can say, you’ve heard me say. (70) The Liberal Government is crap. (71) I really hate what they’re doing. (72) I support the Labour Government. (73) Now you can become very, very one-sided about politics. (74) It’s not a balanced view, okay? (75) So that’s what ‘biased’ means. (76) So they selected someone who was not going to be biased and who was able to go, look at both sides of the story, and then get some sort of results. Okay? (77) So let’s go on. |

The explanation establishes the equivalence between ‘biased’ and two other words, ‘one-sided’ and ‘unbalanced’. Further, with an example, the teacher explains that these words can be used to describe a person’s political views. Before finishing, she paraphrases the original sentence in the Letter-to-the-Editor so as to further break down the meaning of the word in question. Essentially, the teaching of vocabulary operates to consolidate and supplement what students find in their dictionaries. The teaching presents elaborate and detailed explanations; nonetheless, it evolves around words as independent entities with
compatible meanings. It does not mediate the dynamic functionality of words in diverse
textual and psychological contexts.

In teaching about the next word, ‘comprehensive’, the teacher replicates the procedure
where students look up the dictionary and nominate equivalent expressions, which the teacher
selects from and paraphrases to suit the word’s usage in the present text. She explains that
‘comprehensive’ means ‘thorough’; for ‘thorough’, she asks further guesses of meanings. Her
final explanations are:

T: (104) Yeah, something like that. (105) It means that you look into something, you look at every detail. (106) If you do a comprehensive research, it means you do it really, really thoroughly. (107) You’ve covered everything. (108) You’ve looked at everything. (109) So that’s what comprehensive means. (110) It’s wider, as Nigel said, but it’s also very thorough. (111) You look at every detail. [Writes ‘look at every detail’ on whiteboard.] (112) Alright, let’s go on.

As in previous teachings, the decoding of semantics is pursued, so that a linear
relationship is established between the word in question and its very specific paraphrases and
replacements. Psychologically, the word in isolation denotes a certain set or range of
meanings regardless of context or individual intention. Meaning is presented as a natural
property of the word, rather than the emergent consequence of language in an expression of
thinking.

In contrast, students could be, for example, guided to think in connection with the
original textual context, and / or provided with further syntactic applications of
‘comprehensive’, ‘comprehension’, and ‘comprehend’, on which base they are requested to
deduce meanings. The latter approach establishes the psychological principle that the
meaning of language is acquired in systems of functionality; and that meaning is constructed
with intention and imagination.
However, attesting to the psychological vitality of language could be numerous other pedagogic approaches. The purpose of this study is not to defend a particular pedagogic theory or to prescribe a specific pedagogic manual. The essential question, as it concerns us here, is not one of ‘pedagogy’, but its psychological mechanism. Between the semantic decoding and the psycho-semiotic paradigms of language teaching, the difference lies in the relationship between language and thinking. In the latter, educational effectiveness arises first from the teacher’s engagement with language as thinking. In alignment with this, in the dimension of functional systematicity, the study seeks to interpret the teacher’s ongoing verbal thinking process in pedagogic activity and speech. In engaged processing of language, the specific pedagogical approach is a matter of individual teachers’ creativity in immersion with the social space.

Towards the end of the teachings in Excerpt 1 a clause (‘undertaking comprehensive research on bullying in Victorian schools to look at why some programs and strategies work better than others’) is explained in paraphrase: “So obviously every school in Victoria, well, every school in Australia, has a bullying policy. Now, some of the things that we do at school are working really well, and some of them don’t. So they’re looking at some of the things that work well and the ones that don’t, and seeing what they can do with the results” (utterances 113 to 117). The treatment of the clause is the same as the teaching of the previous words. The attempt is to decompose and spell out in detail the semantic meanings. No attention is paid to the structural function (grammatical or psychological) of the clause. It is difficult to imagine how the non-functional, purely semantic teaching could contribute to students’ future operations with the language.
In a different lesson that was observed, Ms A explains the differences between the word ‘bully’ and its variation forms.

**Excerpt 5. ‘Bully’, ‘bullies’, and ‘bullying’**

<table>
<thead>
<tr>
<th>Utterance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yuan: (1) What’s the different between ‘bullying’ and ‘bully’?</td>
</tr>
<tr>
<td>T: (2) ‘Bullying’ would be the ah, the actual process, of doing it. (3) And then a ‘bully’ is the person.</td>
</tr>
<tr>
<td>Y: (4) ‘Bully’ is the person.</td>
</tr>
<tr>
<td>T: (5) Oh, ‘bully’ can also … (6) TO bully, TO bully is a verb.</td>
</tr>
<tr>
<td>Y: (7) Eh.</td>
</tr>
<tr>
<td>T: (8) Okay?</td>
</tr>
<tr>
<td>Y: (9) And, and can we say the bullies … (10) Can we say ‘bully’ is a noun?</td>
</tr>
<tr>
<td>T: (11) The bullies are?</td>
</tr>
<tr>
<td>Y: (12) Noun?</td>
</tr>
<tr>
<td>T: (13) A noun? (14) Yeah, yeah. ‘Bullies’s the plural.</td>
</tr>
<tr>
<td>Y: (15) But, as in =</td>
</tr>
<tr>
<td>Martin: (19) [Loudly from the back of the rows] What about ‘bullies’?</td>
</tr>
<tr>
<td>T: (20) [Ignoring Martin] ‘Bullying’ can be a noun and a verb, okay? [Writes ‘bulling (n/v)’] (21) Eh, Yan’s bullying Ms A, made her very unhappy. Alright? (22) But Yan enjoyed bullying Yu-an. (23) Yuan, I’m trying to get your name right. Okay? (24) So it’s both a noun and a verb, okay? (25) If you put ‘the’ in front of it, it is a noun. (26) The bullying, or Yan’s bullying, or Ms A’s bullying, okay?</td>
</tr>
<tr>
<td>Yan: (27) So if you put ‘the’ in front of ‘bullying’, = it is a noun.</td>
</tr>
<tr>
<td>T: (28) = If you put ‘the’ in front of any verb, it is a noun. (29) If you put ‘the’, ‘a’, and ‘an’ in front of a verb, it is a noun, okay? [Yan nods repetitively] (30) So that’s how it goes. (31) ‘Bullies’ is the plural of the noun.</td>
</tr>
<tr>
<td>Yan: (32) So ‘bullying’ and ‘bullies’ is actually the same.</td>
</tr>
<tr>
<td>T: (33) Yeah. Yeah.</td>
</tr>
<tr>
<td>Martin: (34) So, what about the person that, that bullies someone?</td>
</tr>
<tr>
<td>T: (35) Okay, that’s the bully. (36) It’s either ‘the’ or ‘a’ bully. [writes ‘the/a’ in front of ‘bully’] (37) You can’t use ‘an’. [Noises in class] (38) Because you only put ‘an’ when the word that follows that starts with a vowel. [Class noise continues] (39) It all depends on how you use it, okay? (40) All of you should have the dictionary next to you when you’re doing this. (41) You are making me unhappy when you don’t have one. (42) So, do that.</td>
</tr>
</tbody>
</table>

From utterance 2 to the last, the language of teaching mediates the following associations in sequential order: ‘bullying = the actual process of doing it’ (2); ‘bully = person’ (3); ‘to bully = verb’ (6); ‘bully = noun’ (16); ‘bullies = noun plural’ (17); ‘bullying = noun/verb’ (20); ‘the/a/an + bullying = noun’ (25); ‘the/a/an + any verb = noun’ (29); ‘bullies = noun plural’ (31); ‘bullying = bullies’ (32-33); and ‘the person that bullies = bully’ (34-35).

The whole teaching process is constituted of eleven linear associations, one after another, where partial and ad hoc relations are asserted as whole and complete equations. A systemic,
functional structure does not govern the relations either between the words and their decoding explanations or between the individual associations. Giving rise to the linear associations and the disintegrated system that are mediated is the absence of structural engagement on the teacher’s part. The distortions in the teaching, i.e., ‘the / a / an + verb = noun’, and ‘bullies = bullying’ (because ‘Bully / bullies = noun / verb’ and ‘Bullying = noun / verb’) are ‘man-made’. They are consequences of the speech development driven by the semantics of speech itself rather than by intrapsychological mediation in verbal thinking.

B. Mr C, School 2

a) External level

While the reading session in Excerpt 2 evolves around a list of vocabulary in a text, the episode in Excerpt 3 concerns the conceptual operation of ‘cause and effect’ in essay writing. The teaching proceeds in a number of sub-stages. In sub-stages 1 and 2, general orientations and definitions of the concepts are given. In stage 3, part of a handout is read out, which gives examples of ‘cause-and-effect’ type of essay. In stages 4 and 5, cause and effect phrases and sentence patterns listed in the handout are gone through. In the final stage, students are assigned the written exercises in the handout. The episode contains almost exclusively the teacher’s monologic lecture. Concepts are not adopted in communicative exchanges, and except for the seatwork in the final stage of teaching, conceptual operation in problem-solving is otherwise minimal.

b) Internal level – psychology in pedagogic activities

At the internal level, the conceptual mechanism of cause and effect is not reflected in the psychological operation of the instruction. The conflict between the psychology of the concepts and the pedagogy is manifested in the initial enactment of cause and effect, the
pedagogic activities, the nature of teacher and students’ psychological labour, and the psychology of the text material adopted.

At the beginning of the episode, the teacher announces that the concepts are new and ‘introductory’. This does not acknowledge the fact that, for Year 12 students, the concepts will have long permeated both everyday reasoning as well as most if not all school disciplinary studies. The initial conceptual enactment contextualizes cause and effect narrowly and exclusively, thus dismissing the active participation of students’ existing resources, and suggesting that the concepts are so far possessed only by the teacher and the text.

In the main teaching stages, a handout is read aloud and listed phrases and sentence patterns of causes and effects are gone through. Extensive explanations of why certain phrases and expressions are more or less appropriate than the others. The explanations are given according to, one, the way the teacher ‘was taught English and grew up reading English’; two, ‘the way people speak’; and three, the ‘particular ways of writing and presenting things’ that people expect ‘in a formal institution like a University where people live more in the past even than we do’. No conceptual psychological operation is inherent in the explanations. It is emphasized that the English language works the way it does because of the way it does. Within the operation of language, there is no law of conceptual thinking, but arbitrariness as possessed by the teacher as a native speaker and people in ‘formal

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21 It is an important characteristic of L2 education that many of the concepts dealt with in the discipline are likely to be parts of students’ previous social, educational and L1 experiences. L2 teachings of these concepts thus must be oriented towards their higher-level generalizations and bringing about qualitative, structural changes in conceptual functioning. First-level, dumbing-down teachings of word-world conceptual semantics are not only unnecessary but psychologically dysfunctional. In current L2 education and research, it is felt, changes in fundamental orientations (Chapter Four) are of contemporary importance.
institutions’. Despite the teacher’s statements of conceptual thinking at the beginning of the lesson, the internal aspect of the teaching betrays the verbal preaching.

In terms of the psychological nature of the teaching labour, teaching proceeds as a faithful reproduction of the handout, providing first-level and semantic explanations of isolated language items. As the teacher reads out the complete handout word by word and announcing answers to the exercises, little integrative, reflective interaction with the text or the students is manifested. The unreflective participation in the pedagogic process coincides with, as previously analyzed, the detachment from the conceptual task at the verbal level.

The classroom environment also prescribes a first-level and unmediated nature of students’ psychological labour. In almost the entire episode, students sit and listen to the teacher’s monologic lecture. Students are not encouraged to externalize or negotiate conceptual thinking; minimal exercises are assigned towards the end of the lesson, except for which, there is no other context for conceptual employment in problem solving. In general, the classroom context prescribes an elementary and passively reactive engagement on the students’ part.

The handout chosen for the purpose of the lesson is another element worth pondering. The handout, which the teaching has come to bear entirely upon, is composed of illustrative expressions of cause-and-effect relationship between raining and the cancellation of a soccer game such as “It was raining, and that is why we canceled the soccer game”, and “As a consequence of the rain, we canceled the soccer game”. The causal language given as illustrations in the handout contains no more than a primary, factual-level relationship. The text material displays quite a departure from the mentally sifted, integrative type of thinking the teacher has called for students to perform. Also, the first-level causal connections in the
text do not provide adequate scaffolds for the synthetic, analytical constructions students are required to conduct in Year 12 research and writing tasks.

c) Internal level – psychology in instructive language

With regards to the conceptual systems mediated in the teacher’s language, cause and effect are defined as: ‘This happens therefore that happens’, and ‘connecting something that happens with a result, the effect of that action taking place’. The language mediates three pairs of linear and one-dimensional connections: this happens → that happens; something that happens → a result; and the action taking place → the effect. In terms of the semantic content transmitted in the language, the teaching is ‘correct’, and the language seamless and self-fulfilled. In its psycho-semiotics, however, the language effects no intertextual and semiotic tension. The component meaning units (this, that, happens, take place, result, effect, etc) are repetitive and synonymous in semantic meanings. Within the three sets of connections, the meaning is also repetitive and largely similar. The compilation of synonymous units in speech generates weak semiotic tension and limited additive interaction between meaning units. Individual units add little to the multiplicity of one other or to the richness of the textual whole.

Giving rise to weak psycho-semiotic tension in the instructive language is the presentation of the abstract concepts, ‘cause and effect’, in static isolation. As is consistent with other aspects of the teaching, where the concepts are enacted in an exclusive, unconnected manner, the conceptual definition here attempts a semantic decode of ‘cause and effect’ in themselves as independent, self-standing entities. The concepts are not mediated in a system of interrelationships where their functionality and psychological tool dynamics are brought to life. To do so, active conceptual structural connections in the teacher’s
intrapsychology are preconditions. As a resonating consequence of the teacher’s intrapsychological dynamics and structural tension in the teacher’s language, structural psychological momentum would otherwise be incurred in students. But, contrary to this, linear, verbalist, and contrived decoding of abstract and comprehensive concepts such as cause and effect achieves limited communication of conceptual thinking.

Mr C goes on to give instructions for cause-and-effect writings: students are to ‘use information effectively’, ‘add one and one and make two’, ‘to make a construction’, ‘to write it in your own words’, and ‘to take information and draw connections’. They are not to ‘make a jigsaw’ or to ‘take this, plus this, plus this equals paragraph’. It is said that ‘it needs to be sifted [motions to head] through here’.

All of these instructions can be taken as referring to a wide range of meanings; none seems to pertain to any substantive psychological mechanism. In association with the evasiveness in the individual instructions, units and the whole of speech are mutually indifferent. But it is not postulated here that the teacher should use more explicit and specific words so as to pinpoint and nail down what students should do. In trying to teach children literary words, Tolstoy laments the impossibility of forced semantic translations and explanations.

These experiments have convinced me that even for a talented teacher, it is impossible to explain the meaning of a word. The explanations that untalented teachers are so fond of cannot be more successful. To explain a word such as “impression”, you must replace it either with another equally incomprehensible word or with a whole series of words whose connection with it is as incomprehensible as the word itself (1903, p.143; cited in Vygotsky, 1987, p.170).

Essentially, the direct, causal form of intervention focuses on the word or concept as closed off within itself. The approach is for the teacher to chew up and then feed the student with the ‘processed’ product. It attempts to break down the concept so that it will fit in the
existing psychological system of the developing individual. This is reflected in the teaching of ‘cause and effect’ here, where the abstract concepts are replaced with other general and evasive words. In doing so, it disregards and betrays the structural systems intrinsic in functional significance of the concepts.

Vygotsky proposes that “[a] different form of interference, a more subtle, complex, and indirect method of instruction, will lead this developmental process forward to higher levels” (1987, p.171). In a non-direct and mediated method, scientific concepts must be presented in well-defined, structural systems where the psychological functionality of concepts is done justice to. In understanding the concepts, the student must understand their psychological structural organizations, in which process, a series of complex, self-regulative, and abstract psychological acts must be performed.

Here, although the language of teaching seems to be ‘talking about’ cause and effect, it does not perform the psychological operation itself. Words in teaching are related in external semantics; but in the relationships between words, utterances and between units and whole, the underlying psychology of cause and effect is absent. The weak semiotic tension between speech units and between units and whole arises from the speaker’s peripheral instead of structural engagement with the concepts.

Further down the track, the attempt to squarely and specifically prescribe ‘cause and effect’ understanding leads the teacher farther and farther away from the psychology of ‘cause and effect’. In sub-stages 4 and 5, where relevant phrases and sentence patterns are gone through, the thinking aspect of ‘cause and effect’ vanishes from the teaching entirely. Some of the teachings on cause and effect phrases are reproduced below.

(50) Okay turn the page over now.  (51) What you’ll find is a number of different ways of dealing with cause and effect.  (52) Now we had this discussion yesterday in class.  (53) There are some here I don’t like.  (54) Now people say this to me … (55) I don’t like sentences that begin with ‘because’.  (56) And people say, “well it’s
The attempt to concretize and decompose concepts leads the teaching to more and more specificities and eventually to a complete antagonism between language and thinking. The only logic that can be argued in language is ‘the way the teacher has been taught and grown up reading English’ and ‘the way universities expect students to write in particular ways’. In the gradual progression of all stages of the teaching, the psychology of teaching is consistent. From initial orientation, general definitions, to specific instructions and finally written exercises, the approach is one of decoding, decomposing, and causally determining conceptual learning. The psychology of cause and effect is not reflected in the tension and relationships in speech, nor in the psychology of pedagogic activities.

A. Ms D, School 3

a) External level

Excerpt 4 records the teaching of the concept of ‘synthesis’. At the external level of conceptual instructions, the teaching proceeds in four sub-stages. The conceptual task is first initiated and given orientation and motivation; then, conceptual meaning is negotiated between teacher and student; in the final stages, the teacher provides the solutions of
conceptual definition and application. At this level, the teaching constitutes an episode with complete structure and staged progression.

*b) Internal level – psychology in pedagogic activities*

At the internal level, the psychology of synthesis is not reflected in the psychology of pedagogy. The word ‘synthesis’ is picked out from an assessment document in the final week of students’ project and, in about eight minutes, the teaching involves semantic explanation and instructions for how to ‘best show’ synthesis in writing. The teaching serves as a band-aid function in the curriculum unit, enacting the concept as an external imposition on students’ work, rather than an intrinsic part in researching, constructing and writing of the presentation. Teaching involves minimal (two teacher-student exchanges) negotiation before the teacher offers conclusive semantic explanations of the ‘big word’ and instructions on behavioral manifestations of synthesis. The pedagogic process is governed not so much by the psychology of synthesis as by direct, mechanical transmission.

*c) Internal level – psychology in instructive language*

After brief exchanges with the student, the conceptual definition is given in utterances 15-17: It means ‘to extract the information’; and ‘It means can you take information from one source and another source and put the information together, analyze it and say something about it. That’s what I’m looking for. Okay?’ Similar to previous teaching episodes, the teaching here establishes no context or web of functional relationships for understanding the psychological dynamics of synthesis. The concept is taught in isolation, with general semantic decoding as the main approach. In the explanation of synthesis, the language operates to ‘translate’ and replace the ‘big word’ with ‘simpler’ words. As in Ms A and Mr
C’s classrooms, the semantic decoding mediates a one-to-one relationship between language and meaning or understanding.

Immediately after the conceptual definition, in the fourth sub-stage reproduced below, the teacher instructs about applications of the concept.

(18) T: That’s why you have to go to at least three sources. (19) I’m not asking you to read one document and then just stand up and tell me what’s in it. (20) There’s no synthesizing then. (21) Somebody else has done all the work. (22) But if you read two or three documents and you have to take notes then you’ll be taking information from two or three different places and presenting an idea to the class. (23) That’s synthesizing information. Okay? (24) So, you have to in your outline, be able to talk about one point, one issue and maybe you will use information from two or three sources on that one point. (25) That would mean that you are synthesizing information. Do you understand? Okay? Right. (26) You have to synthesize information so the easiest way to show that to me, would be to put in the reference to that information. (27) Remember on, um, Kana’s last, that I showed you on Tuesday, it had the references, it just kept showing you where the information came from. (28) That’s what you need to do.

The teacher does her linguistic best in speaking in plain, specific, and simple language to instruct how the very abstract concept can be displayed in students’ writings. The instructions, paraphrasing one another, give increasingly concrete semantics in order to limit and lay bare the exact meanings intended. The meaning of ‘synthesis’ as an independent, hard-and-fast word is decoded and exhausted so that a mathematical formula-like stipulation is formed: ‘synthesis = go to at least three sources + extract information + use information from different sources on one topic’. From an ‘explicit teaching’ perspective based on social semiotic theories (e.g., ACER, 2006), this would be the best way to achieve equity in educational provisions, because all students could be ensured to ‘understand’ the concept. From the psycho-semiotic perspective advocated here, however, such specific, decomposing and exhausting instructions run the exact risk of misrepresentation. The explanation of synthesis is impossible just as the definition, ‘water = hydrogen + oxygen’, and the depiction of an elephant to a blind person as an animal that has a large trunk, two tusks, and four thick, round legs.
In terms of the ‘speech relationships’ (Vygotsky, 1987, p.272) between words or meaning units, semantically the individual utterances in the teacher’s speech progresses seamlessly, without ambiguity. Underlying the full and complete progression of semantics is automatic, first-level psychological relationship between one utterance and another. It is the “speech that consists of rejoinders. It is a chain of reactions” (Vygotsky, 1987, p.272). The speech is marked by a list of absolute assertions: ‘It means’, ‘That’s what I’m looking for’, ‘That’s why you have to’, ‘I’m not asking you to’, ‘There’s no synthesizing then’, ‘That’s synsethi--’, synthesizing information’, ‘That would mean that you are synthesizing information’, and ‘That’s what you need to do’.22 Psychologically, a synthetic thinking operation does not govern how one utterance follows from another. In terms of pedagogic effects, such chain-reaction speech discourages psychological momentum in students and does away with the need for active structural comprehension.

Linear and verbalist teaching of concepts are not only psychologically futile; they are also destined to distort. As the explanations go on, the teacher talks herself further and further into the conceptual aberrations that the key to synthesizing lies in multiple sources of information and that there is no synthesis in one piece of reading. Direct and causal presentation of concepts makes inevitable meaning distortions, for concepts do not exist in a one-to-one relationship with language. The teacher’s conceptual language is best not understood as ‘correct’ or ‘wrong’, but should be considered with regards to the mediation process of verbal thinking.

22 From a social semiotic perspective, the difficulty with the teacher’s speech would lie in the assertive tenor and the lack of modalities (such as may, might, probably, I think, etc) in the language. From a Vygotskyan psycho-semiotic stance, however, the issue is not with semantics manifestation in general, but with the lack of tension between semantic units and the absence of psychological momentum in the intertextual relationship.
Section Overview

In all three classrooms, a semantic decoding approach is adopted. It is assumed in this approach that knowing the semantic, dictionary meanings of the word equates to learning about the psychological operations embodied in the concept. In practice, the teachings give concrete semantic explanations or paraphrases of language but, in both pedagogic activities and speech, the psychological functions of concepts are not reflected. Teachers teach ‘about’ language and concepts without teaching ‘with’ language and conceptual operations. In contrast to the semantic approach, where language and thinking are separated phenomena, there is a psycho-semiotic approach, which underlines language as meaning and thinking in systems of functionality. However, the focus of this study is not pedagogic theories and applications, but teachers’ communications of conceptual psychological operations. Pedagogic manifestations arise from psychological engagements. In alignment with this, in the dimension of functional systematicity, the study seeks to interpret the teacher’s ongoing verbal thinking process in pedagogic activity and speech.

Student thinking must be elicited with verbalized thinking itself in teaching. This is based on the fundamental belief that educational socializations are apperceptive, rather than merely conscious and perceptive processes. Accordingly, in investigating classroom communications, the interpretations attempt to transcend the exterior semantics to look at the psychological mechanism that governs utterances.

In association with the attempt to decode ‘meaning’ within words isolated from thinking, teachers’ instructive language, as a rule, displays no psycho-semiotic tension between meaning units and between units and textual wholes. Instructive language does not establish geometrical inter-conceptual relationship structures. Because of the linear, repetitive
relationships between units in instructive language, teaching does not mediate a space or an existence beyond language. With language mediating the mere sum total of utterances, language is used to ‘cause’ and prescribe learning and understanding. On the other hand, in language with tension, and in textual contexts larger than the added totals of words, language mediates and inspires imaginative constructions of understanding. With regards to the conceptual tool dimension in the three participating teachers’ classrooms, conceptual pedagogies and instructive language do not reflect engagement with conceptual psychology.

6.3.3 Interpsychological encounter (social conceptual dimension)

This dimension encompasses the interpersonal dialogic process during teaching and learning. As with the previous two dimensions, teachers’ intrapsychological engagement is emphasized as the essential precondition for change first in the social space then in the students’ engagement. Specifically, the teacher’s participation in dialogue must be mediated by his/her synchronous engagement with both concept and student’s psychological structure. As a result, individuality, concept, and socialization are three aspects of one integral whole in the dialogue. This serves as the precondition for student’s apperceptive engagement and learning in society.

For interpersonal structural encounter, teaching cannot simply be transmitted without negotiation. Students must be enabled to sufficiently externalize their conceptual understanding and associations. Teachers need to show the ability to ‘stay’ with students’ speech and thinking and to provide structural ‘mirroring’ for students’ self-regulation and reorganization. It is also important that conceptual socialization be not limited to teacher-student exchanges but occur between peers. These are investigated at the external level of classroom exchanges.
At the internal level, the semantics of the teacher’s speech is governed by his/her synchronous engagement with text / task and with the dialogic partner’s psychological structure. In responding to students, the teacher’s speech should be conceptually and structurally mediated. Because of this, the teacher’s speech does not progress readily from the semantics of students’ speech, but from the psychological structures. The teacher’s response should not relate to the student’s utterance as in a simplistic S-R habitual chain; rather, it should be connected to the student’s speech at psychological structural level. Also, the teacher’s conceptual structural responses to individual students would contribute to the progression of collective dialogue; thus there would be conceptual developments between students’ utterances in whole-class discussions. This dimension attests to language characterized as social genesis, where student development in dialogues is not externally transmitted but projected within the psycho-semiotics of the teacher’s speech. The teacher’s response includes and transforms students’ psychological operations by turning what is apparently inadequate, incomplete, or semantically incorrect into what is socially and conceptually relevant and connected.

A. Ms A, School 1

a) External level

At the external level of the interaction in Excerpt 1, student utterances are brief and fragmented, often interrupted before externalization of thinking is allowed to fully unfold. At both stages of the teaching, i.e., reading the Letter-to-the-Editor and the short discussions afterwards, students are often confined to making contributions in less than complete sentences. Students do not contribute to the direction of the collective communication. The teacher is responsible for identifying all items of discussions. Also, only the social
transactions between the teacher and students are legitimatized in the classroom while peer interaction is discouraged and prevented frequently and regularly in all observed lessons.

b) Internal level

In Excerpt 1, three words and one clause are taught. With the word ‘claim’ (utterances 19-21) and the clause (utterances 113-117), at the absence of teacher-student exchanges, their explanations come from the teacher’s individual system, not interpersonal integration. The words, ‘biased’ (utterances 22-76) and ‘comprehensive’ (utterances 78-112) are discussed between teacher and students before their semantic explanations are offered.

For readers’ convenience, the excerpt of exchanges on ‘biased’ is reproduced below:

| T: (22) An independent mediator was engaged to ensure the investigations were fair and unbiased. (23) [Teacher pauses and looks up. Nigel is using his electronic dictionary] Nigel, try and follow when I’m reading please, ‘cause I’m trying to help you with the, ah, pronunciation here. (24) I’m biased -- (25) Actually, look it up. (26) Where are your dictionaries? (27) Look up the word ‘biased’. (28) And I think that’s a really good word to know. [Teacher picks up a texter and waits.]  
Ian: (29) [Inaudible contribution]  
T: (30) [Turns back to whiteboard and writes ‘biased’] Let’s look up the word ‘biased’ first. (31) So if someone describes you as ‘biased’ … (32) Come on, Victor, where’s your, um, dictionary? [Victor says something and stands and walks to fetch a dictionary] (33) Good boy. (34) Take it out, baby. (35) This is ESL. (36) [To other boys] Look up the word ‘biased’. (37) That’s it. (38) And, the three of you can share [to the three Korean boys, presumably there is only one copy of English-Korean dictionary in the classroom collection].  
Martin: (39) [while other students are fetching their dictionaries] Is it this one?  
T: (40) No, it’s the letters, Martin. (41) Had you been here on time, you’d know [walks back to desk and picks up the handout, showing it to Martin]. (42) It’s this. (43) [Boys come back to seats with dictionaries] (44) I think Greek food is the best food in the world, but I’m biased.  
Yuan: (45) [In front row of class, leans forward and looks at teacher. Gives a guess at the word meaning but inaudible]  
T: (46) [Glances at Yuan then continues speaking. Yuan sits back and relaxes in body.] Or I could say I think my family is the best family in the world, but I’m biased. (47) What does it mean? [No response from class. Most students, except for Yuan, are looking down and turning pages of dictionaries.]  
Ian: (48) [Reads from dictionary] It describes [inaudible]  
[Teacher glances at Ian but does not respond.]  
Yuan: (49) Your view is on the one side? It’s not =  
T: (50) = Okay, so you are giving a view, which is …[pauses]  
Ian: (51) A bit unfair?  
T: (52) [Frowns] You think it’s unfair?  
Sam: (53) [Reads from English-Korean dictionary] A strong point.  
T: (54) It’s a very strong point. [Turns round and starts writing ‘strong point’ on whiteboard] (55) Okay, so if you’re biased, it is a strong point that you’re doing. (56) But what is wrong, or what is it about the strong point [points pen in hand at Yuan who is now looking down]? (57) That it is, an, an, (58) Yu-, Yuan was on the right side.  
Yuan: (59) [Looking up] Hm?  
T: (60) You, you were on the right side. (61) What were you saying?  
Y: (62) I said your view, your view became one-side and =
In 29, Ian takes a guess at the word meaning, which is rejected because he has not looked it up in the dictionary. With the teacher’s example in 44, Yuan makes an attempt in 45, which is ignored. In 46, the teacher’s second example is not considered relevant to the process by the class for most are busy turning the dictionary pages. In 48, Ian reads out something from the dictionary but is not acknowledged. Then Yuan makes another guess and this time it is picked up. The teacher restructures Yuan’s utterance, in elicitation of a specific answer on her mind. Ian’s guess with ‘A bit unfair’ does not correspond with the particular response the teacher has in mind although it is perfectly reasonable considering the original textual context “An independent mediator was engaged to ensure the investigations were fair and unbiased.” In 53, Sam reads from the dictionary and it is accepted and written on the whiteboard. But the teacher is still trying to ‘find’ her anticipated answer within the students’ thinking, so in 58 she asks Yuan to repeat his previous utterance, remarking that he was ‘on the right side’. This serves to block off any other ‘random’ guesses from students and to close in on the ‘official’ answer. Finally, in 63 Ms A materializes the initial, predetermined solution, i.e., ‘biased’ means ‘one-sided’ and ‘unbalanced’, squarely and precisely.

Between the students’ and the teacher’s utterances, the exchanges manifest quick semantic oscillations. The students’ contributions are either correct or not; they are not connected in the developmental continuum of psychological structures. The unstructured organization in the teacher’s responses to students is the reason for the distortions when the
otherwise functional thinking of students is rejected in the absolute search for precise understandings.

The exchanges on ‘comprehensive’ is also reproduced for readers’ convenience:

Responding to the students, the teacher’s speech includes simple rejections such as “No. That’s ‘comprehen-SION’”; “No. It’s got nothing to do with ‘understandable’ or ‘understanding’”; and “No, it’s not ‘fair’”; urging the class to turn the dictionary pages quicker; a positive acceptance, “Wider! Okay. What does this mean, Nigel? Good answer”; and then announcing the final answer “Spread? Right, another word would be ‘thorough’”. In all these responses, the teacher’s language consistently mediates concrete specificities, unregulated by the internal connections. The teacher’s and the students’ utterances differ in semantics, but not in conceptual organization. No structural reasoning is laid out in the social space in the teacher’s rejecting, accepting or ignoring contributions. In the absence of structural encounter, student contributions serve as mere pretexts for the teacher’s ‘correct’
and final answers to questions. They precede the teacher’s final solutions in time but not in psychology. The students’ thinking does not provide the source and drive for the development of dialogue. Underlying the exchanges are teacher and students operating within their individual, independent systems, rather than mutual engagement.

Also because of the absence of structural intervention, between the students’ contributions and thinking, there is no logical connection or progression. From Martin’s (80) “Understand?” to Yuan’s (82) “Understandable”, to Ian’s (84) “Fair?”, to Nigel’s (90) “Widening”, Yuan’s (95) “Involve every, every area?”, Martin’s (96) “It spreads all over”, Yuan’s (102) “Complete?”, and finally Sam’s “All over?”, the psychological organization which governs the semantics of students’ contributions does not develop. Between the individual students, there is no conjointly developed meaning. The teacher’s final explanation, ‘thorough’, only adds further to the unregulated list of semantics put out in the social space.

Both the discussions on ‘biased’ and ‘comprehensive’ proceed with Ms A instructing students to look up the dictionary, rejecting any contributions originated from the students’ independent processing, selecting and rephrasing what the students read out from dictionaries and then writing the answers on the whiteboard. Implied in such use of dictionaries is that the meaning of language is an existence that is concrete and solid, something that is simply ‘out there’ in the dictionaries. Prioritizing external, conventional semantics as listed in dictionaries, this teaching approach actively prevents all ‘thinking’ elements from entering classroom socialization processes. It hijacks students from a direct, frontal and meaningful engagement with the textual context the words operate in. It does away with the teacher’s need to actively engage in the language’s functionality. Moreover, it does away with the
interpsychological negotiations that need to predate the intrapsychological learning. The
dictionary thus plays the role of a solid wall between the English language and individual
thinking, and in the encounter of individual psychologies.

As a native speaker, Ms A’s language proficiency does not necessarily entail conscious
awareness of the operation of the language (Chapter Four). In fact, the analyses have shown
that the teacher’s speech mediates spontaneous, rather than scientific conceptual structures.
However, although there is ample room for scientific conceptual reorganization on both the
teacher’s and the students’ parts, the teaching operates to replace students’ spontaneous
concepts with those of the teacher’s. In preventing conjoint conceptual negotiations, social
communications lead to mediations of impoverished rather than enriched psycho-semiotics of
language.

In utterances 118-121, the reading session moves to a stage of general discussion of the
students’ recent readings of Letters to the Editor and of how the readings can be applied in
essay writing. The excerpt is reproduced below:

(118) Now, your essay topic is, you know, “Is bullying going to continue”, something about bullying. (119) Is it
possible to eliminate bullying from school. (120) And what you need to do is, from the visual texts that we’ve
seen, the articles that we have read, and come to some sort of, answer, alright? (121) You can use some of these
letters, alright? (122) Because obviously some people su-, in a way, support bullying, don’t they? (123) Because
they said, what’ve they said? (124) Hello [sarcastic tone implying answer is self-apparent], if they
support bullying, what did they say, Victor? [Another student speaks softly] (125) Say that again, Hank?
k: (126) Cotton-wool child [a term from another Readers’ Feedback letter learned on the previous day].
(127) Okay -- [looking unsure for a second], the cotton-wool child, that’s right. (128) If you wrap a child in
cotton wool, if you protect them too much, they’ll never be able to protect themselves, alright. (129) So a little
bit of bullying, helps the child to grow up and become physically stronger and mentally stronger. (130) What
else do they say? [Class quiet] (131) There’re some good strategies here. (132) I mean, they’ve said, if you’re
g-, going to deal with a bully you bully back. (133) How do you bully back? (134) One, by hitting them. (135)
Where [presses right index finger on nose]? artin: (136) Nose.
(139) It bleeds, and that’s where the blood comes out, okay? (140) Another, another strategy that somebody else
used was? [Right palm circles in air and moves away from mouth repeatedly] m: (141) Repeat what they said.
(142) Repeat exactly what they said, okay. (143) And make them feel like an idiot. (144) And of course, we saw
that [hands clap] in “Mean Creek” [film]. (145) Okay, remember that. T: (146) Alright, boys, next thing. (147)
Hey, we’re getting there. [Leans over desk and searches in folder] (148) We are getting there. (149) This is a
By this final stage of class discussion, the class has finished reading seven Letters-to-the-Editor in the Weekend Australian Magazine, all on the issue of school bullying (Appendix 5). The discussion contains quick oscillations between the teacher’s questions and the students’ brief, fragmented answers. Not only is student speech bracketed into singular, fill-in-the-blank utterances, it is also confined by the teacher’s language as well as hand gestural cues in arriving at pre-anticipated answers. Intellectual scaffolding takes up the appearance of a game of charades.

The teacher directs the semantic development of the whole discussion, which is concerned with simplistic and mechanical reproductions of the readings. Students are asked to ‘remember’ ‘what people have said’ in the letters, not what they ‘think’ or ‘how’ these readings can be translated to writing. Although the teacher talks about ‘using’ the letters in essay writing, no discussion covers any writing-related issues, with the conceptual development from reading to writing treated as completely unproblematic. The contents of the readings, as with the dictionary in previous stages, serve as a wall obstructing interaction between language and individual thinking and preventing rather than enabling the encounter of individual thinking.

B. Mr C, School 2

a) External level

The episode in Excerpt 3 contains entirely Mr C’s monologic speech, with no student externalization or teacher-student negotiation of conceptual understanding. Neither is there any opportunity for peer interaction between the students.
b) Internal level

In the absence of teacher-student verbal interaction, Mr C’s communications to the class involve a) his verbalized interaction with the text; and b) self-dialogues where the teacher interacts with internal images of students. In these two aspects, the intrapsychological mediation in Mr C’s speech by a) the text and b) the students can be analyzed.

b.1) Interpsychological encounters between teacher and text

Classroom communications between teacher and students are commonly mediated by text materials of various modalities (written, visual or audio). Understanding classroom interpsychological interactions involves not only understanding teacher-student but also teacher-text and student-text interactions. A handout is used for teaching cause and effect. When reading out the introduction section of the handout, for example, the teacher’s verbalized interactions with the text are observable:

“Most people are curious. Isn’t that always the way” (31, 32); and
“When you want to analyze the reasons (causes or factors) or the results (effects, disadvantages, benefits) … You see it’s also trying to give you a vocabulary to use as well. … of something, you should use a cause or effect type of essay. Now in many cases you do do this. This happens therefore that” (33-37).

Reading and talking aloud, the teacher then makes a connection between the current topic of teaching and another recent curriculum activity:

“Okay? Now in the essay which you’ve just completed, you did three of those paragraphs. What are the economic effects of tourism on a post-colonial country? What are the social and cultural effects of tourism? What are the economic effects of tourism on a post country? Now that’s what you were doing. In your paragraph you say, “tourism is not a good thing”. Economic, social and political. And the way you prove to your reader in your essay that tourism is not a good thing is by discussing the effects of tourism on the population. Okay, everybody see how those connect? [Sounding excited; class quiet] Everybody’s dead. Normal response” (39-49).
In the main teaching stages, the teacher reads out lists of cause-and-effect phrases and sentence patterns in the handout, announcing, as he continues, which ones he approves of and which ones he dislikes. For example,

| 55-60 | “I don’t like sentences that begin with ‘because’. And people say, “well it’s actually technically okay”. Yes it is. But it’s sort of technically okay for ‘because’, but it’s not technically okay for other words that are the same. So I would prefer you not to use ‘because’”. Once you go to University you can use whatever you like. Alright?”; |
| 64-67 | “The two I don’t like, ‘because’ or ‘because of’. Now for me, personally, I think the sentence should be, “We cancelled the rain -- the soccer game because it was raining”. Okay? Now some of that is the way I’ve been taught English and the way I’ve grown up reading English. Sometimes these instructions exist because of the way people speak”; |
| 79-80 | “See I’ve no problem with ‘due to’. That’s fine”;
| 81-82 | “Um ‘for this …’. It was raining. For this reason, we cancelled the soccer game. That’s alright but yes there’s two sentences there”;
| 84-86 | “Now ‘thus’ you probably [inaudible] ‘Thus’ is an older type of word that people don’t use very much anymore. Okay? So I would stick with so or therefore. [Matt raises hand; teacher notices but ignores him]”; |
| 87-95 | “You’d also notice a particular construction there. That is a semi-colon. Alright? -- Now. -- This is because, and this is the official explanation, ‘it was raining’ -- is basically a sentence. Okay? What you’re trying to do and this is where English can become a bit of a mind field, is you’re trying to force a particular construction and put the two things together. Alright? So instead of ‘it was raining so I went home’, which I think they must’a got a comma, aah – Because you were using ‘therefore we cancelled the soccer game’ they want a semi-colon. Now if you didn’t use a semi-colon when you wrote, I don’t think anybody would notice. Okay? Even I probably wouldn’t take any notice of it. It’s an older way of using the language or punctuation that is slowly disappearing. Okay?”; and |

Summarizing the lengthened, protracted discussions, Mr C comments that the purpose of going through the lists is ‘to give students options’ in order to ‘say things differently’; and that as a result, students ‘will find one they like better or a couple that they think fit with them’ (110-113).

Throughout the main teaching stages, the teacher reads and stops in-between, commenting and evaluating on what has just been read out. Despite the apparent critiquing and at times cynical tone adopted in these comments, the teacher’s role is subordinated to that of the handout. The print material governs the nature, the content and the direction of the teaching. In spite of the difference in the teaching topics, Mr C’s encounter with the text resembles that of the first teacher, Ms A. In both classrooms, the teachers’ labour is
dominated by the written texts and the dictionary. There is not, in a genuine sense, a structural, integrative interaction between teachers and texts. The texts serve to obfuscate, rather than facilitate, the teacher’s verbalized thinking; they block, rather than assist, the teacher’s meaningful encounter with students. The latter is of course more obvious in Mr C’s lesson where the teacher assumes all the talking in the classroom.

Typical in classroom socializations is a three-way psychological interaction between the teacher, the students and the text (Diagram 10).

Diagram 10. Three-Way Interaction between Teacher, Student, and Text

In Chapter Two, it was highlighted that the key to authenticity in the three-way process is simultaneity or synchronicity. Both of the human participants must interact with integration and structural mediation of the text. Specifically, the teacher’s interaction with students needs to be mediated by his/her simultaneous *intrapsychological* interaction with the text; and his/her interaction with the text needs to be mediated by the *intrapsychological* interaction with students. The same must be required of students’ participation by classroom speech environment. Students need to externalize and socialize with their integrative learning. In learning the text, thinking needs to be guided by teacher’s mediation. In any of the three ways, interaction between any two participants must be internally and structurally conditioned by the third participant. Therefore, the interaction between the ‘human’ participants can also be presented as in Diagram 11 below.
In the teaching of cause and effect in Excerpt 3, this simultaneity in teacher-text interaction is not established. By contrast, the teacher’s continuous verbalizations fill in and crowd out teacher-student and student-text interactions.

b.2) **Internal aspect of the monologic teaching: teacher’s self-dialogue with projected images of students**

Having analyzed the intrapsychological mediation in the teacher’s speech by text, we now examine how the teacher’s speech is intrapsychologically mediated by students. The apperceptive communicative effects of speech, monologic or dialogic, need to be interpreted internally. In both dialogues and monologues, the speaker communicates with an inner image of the audience or listener. In monologic speech, e.g., in lectures or public speeches, in order to incorporate the voice of the apperceived communication partner, a form of self-dialogue is often employed in the place of verbal exchanges. Self-dialogues are used on seven occasions in Excerpt 2, in which, the intrapsychological mediation in Mr C’s speech by the students can be analyzed.

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1. “Alright, I’ll give you examples and they think oh I can do this, and then when you write perhaps you will use this in your work” (29);
2. “There are some here I don’t like. Now people say this to me … I don’t like sentences that begin with ‘because’. And people say, ‘well it’s actually technically okay’. Yes it is. But it’s sort of technically okay for ‘because’, but it’s not technically okay for other words that are the same” (53-57);
3. “In answer to your question, what happens then, is some of the speech, the vocal ways of explaining things creep into written English and they really shouldn’t. Okay? (70);
4. “What’s the other one, the other one is ‘One’” (96);
5. “So it’s probably not something to take up, like people going around saying, ‘One was not impressed by the physics homework last night’. I’d have to report you to the thought police. Okay (107-108);
6. “So when you’re doing things someone will say ‘well how can I say this differently?’ okay? [Indicating sheet] There you are” (110-111);
7. “‘Ah let’s say ‘The introduction of stem cell research has had several important effects on …’ [looking at Matt, who is doing the investigation on stem cell research and had a brief discussion on the topic with the teacher the previous day. Matt nods.] Now this is something you might have in your introduction. Alright?” (128-129).
An informed image of the student is reflected on the seventh occasion. On the day previous to the present lesson, Matt, one of the local ESL-background students, discussed briefly with Mr C his investigation project on stem cell research. In a tacit form, resource from this earlier interaction is included in the teacher’s monologic speech.

On all the other six occasions, however, the self-dialogues serve purely rhetorical functions, assisting the smooth and unproblematic progression of the teaching. With the self-dialogues, teaching transits in-between stages and topics and the monologue acquires the external outlook of social communications. But in the internal aspect, speech is either peripherally informed by social resources or improvised by the teacher independently. Internally, the teacher’s speech is not mediated by students’ psychological structures.

C. Ms D, School 3

a) External level

At the external level of the interaction in Excerpt 8, student externalization of thinking is not actively elicited, but occurs by chance. Only one student, KK, participates in the exchanges with Ms D, and no further student participation is sought. The student’s utterances (“Um, all the points and =”; and “Organize?”) mediate incomplete unfolding of thinking. Also, the negotiations of conceptual understanding are between teacher and student; no peer-interaction is incorporated in the process.

b) Internal level

The teaching of ‘synthesis’ differs from the previous teaching episodes in that the pedagogic process does not incorporate any textual medium. Unlike in Ms A and Mr C’s cases, where a Letter-to-the-Editor and a handout are used as contexts for discussions, the exchanges here about the meaning of synthesis are decontextualized.
The brief negotiation between Ms D and the student KK on what synthesis means is reproduced here.

```
T: … (7) Any guesses what it means? [Class quiet] (8) Better look it up then. (9) ‘Cause it’s in your set of instructions. (10) You need to read them and you need to know what it means. (11) You’ll be given marks for synthesizing information.
(12) KK (student name): Um, all the points and [inaudible] =
(13) T: = Yeah. You get all the points and you [dramatically bringing together both hands with fingers open and moving], what do you do with them?
(14) KK: Organize?
(15) T: Organize them, you – extract the information.
```

The communication involves swift, semantic oscillations, rather than encounter between structural systems. KK’s tentative, incomplete utterance (12) is taken over mid-sentence, guided towards an anticipated direction by both the teacher’s question (13) and a hand gestural cue. KK’s singular-word answer in utterance 14, ‘Organize?’, obliges with the teacher’s ‘fill-in-the-blank’ request. It is acknowledged but then soon replaced with the teacher’s own ‘extract the information’, which fulfils the previous gestured cue and the answer the teacher had had in mind. As a result of the teacher-student exchanges, the teacher does not depart from her individual system.

If allowed, KK’s contributions, ‘All the points and’ and ‘Organize’, could start the externalization and systematization of existing associations. Preferably, ensuing teacher-student discussions should elicit connectivity in understandings and practices so that the general discussion at this curriculum stage does not only attend to the semantics of synthesis but to the psychological processes it mediates in the teacher and students’ systems. Through mutual attendance, synthesis would be the very texture of socialization. But in the brief semantic oscillations, the exchanges do not result in the teacher’s departure from her individual system.
Section Overview

At the external level of the social conceptual dimension, students rarely engage in extended or even complete externalizations of thinking. Moreover, students are sometimes actively oriented with verbal and gestural cues to brief, fragmented and fill-in-the-slot utterances. Teacher-student exchanges mediate semantic oscillations between individual systems, where teachers do not ‘stay’ with students’ thinking but constantly rush off to their own speech. Utterances exchanged are not governed by structural comprehensions and integrations. In accepting or rejecting students’ utterances, often no conceptual justification is offered. With or without student participation in discussions, teachers’ speech operates to fill in for and replace students’ speech and thinking. In between teachers’ and students’ utterances, conversations do not progress in conceptual structural organizations. Teachers’ speech progresses readily from students’ in the S-R habitual chain that is formed in the spontaneous native-speaker-like semantic proficiency. In exchanges, students’ utterances predate the final ‘correct’ answers in time but not in psychology; students and teachers’ utterances are connected arbitrarily rather than structurally.

6.3.4 Internal order of interaction (historical dimension)

The internal order of interaction dimension underlies all classroom communications at various stages; it is the central mechanism of socialization in which all the previous dimensions are integrated. Presenting the fundamental interface between teaching and learning, the internal order of interaction delineates the totality of a teacher’s legitimate intervention of learning.

At the external level, meaning developments in socialization cannot be directly caused by the teacher and, at least sometimes, students must be responsible for making conceptual
connections and advancing dialogic developments. At the internal level, this dimension distinguishes between the mediated and the unmediated, S-R mechanism. As a result of teachers’ mediated intervention, students’ speech development is elevated through dialogues but remains a psychologically unbroken and continuous process. This final dimension accounts for the history of the micro-genetic development of classroom environment; it unites the past, present, and future of speech development in the shared social space.

A. Ms A, School 1

a) External level

In the episode where the Letter-to-the-Editor is read, the teacher, Ms A, assumes the dominating role in the participation structure, solely responsible for deciding on the pace, direction, and reason in the task and communications. The teaching of the vocabulary and expressions in the Letter proceeds from a semantic decoding perspective; in relation, teacher-student communications revolve around concrete, external definitions as specified by dictionary and the teacher. In the semantic paradigm of language teaching, it is unlikely that students’ psychological operations of language intrinsically motivate the progress of classroom socializations.

b) Internal level

At the internal level, the structural, conceptual tool and, social conceptual dimensions are united in the sense that a central mediated/unmediated mechanism governs all stages of task and communications. In the structural dimension in Excerpt 1, the teacher’s speech delineating the organization of the reading (e.g., utterances 1-4: “Okay, let’s finish what we were discussing yesterday so we can, um. Okay, letters, letters. That’s what we were doing the last one. And then we’ve got two more articles to read and then we focus on the essay.”)
mediates an orientation towards behavioural aspects of the task and is void of any psychological or developmental substantiveness. The ambiguity of the verbal organization is echoed in the actual unfolding of the task. While the teacher is in complete control over the process, nowhere in the task unfolding is students’ intellectual engagement scaffolded. In this dimension, it is difficult to say that teacher’s intrapsychological engagement serves as the precondition for learners’ apperceived knowledge of task and its structure.

In the conceptual tool dimension, the teaching approach of singling out and discussing semantic, dictionary meanings of words and expressions is in contradiction with stated goals of task and with language as conceptual operation. In the speech explaining words and expressions, typically linear, definitive associations are mediated of language and meaning/thinking. Thus, in terms of the functional systematicity of conceptual teaching, peripheral, rather than structurally dynamic, engagement with language is also mediated.

In the social conceptual dimension of the episode, the dictionary and the contents of the readings obstruct instead of facilitating authentic interpsychological encounter. Teacher-student exchanges represent quick semantic oscillations of what is contained in the written materials. Learners’ contributions are often confined to filling in gaps in the teacher’s prepared semantic chains. In general, the teacher’s intrapsychological engagement with the reading task and students does not predate students’ engagement.

All three of the dimensions are governed uniformly by an internal order of interaction; it is not likely that classroom socialization changes from time to time in the central mechanism of teachers’ intrapsychological mediation. If teachers’ intrapsychology can be considered as a cause of the effects of teacher and students’ performance and participation in the social process, cause and effect are essentially inseparable. Cause does not lead to an external and
independent effect in temporal sequence; the two are mutually penetrative and synchronically emergent in social events. The effect is within the cause, and the cause within the effect.

For example, in the middle of Excerpt 1, the lesson is interrupted when students have to go and fetch their dictionaries. This interruption is not an independent factor of, say, the students’ lack of organization or independence. The effect of student behaviour is germinal within the absence of task and participation structural scaffolding and the teacher’s active assumption of control. Underlying teacher and students’ participation, there is not a common apperception of the task structure and goal.

In the conceptual tool dimension, the teaching of the words ‘claim’, ‘biased’, ‘comprehensive’, and ‘bully/-ing/-ied’ develops distortions. This is not the causal consequence of lack of knowledge on the teacher’s part. The misrepresentations in teaching are embryonic within the peripheral engagement with language operation. The psychological mechanism governing the conceptual teaching is that of S-R; in this mechanism, the teacher’s speech is self-driven by its own semantics. Along the definite and linear trajectory, the teacher talks herself and the students into confusion.

B. Mr C, School 2

a) External level

Since the teaching of cause and effect is conducted monologically, Mr C is apparently responsible for all the meaning development in communications. Not only do students not externalize their conceptual understandings, their performances in the written seatwork also go unchecked as the teacher announces the answers in a hurry before the lesson time is up. All results of teaching are arrived at without social negotiation.
b) Internal level

The structural, conceptual tool and social conceptual dimensions share their internal interactive order, characterized by the teacher’s unmediated intrapsychological engagement. In the structural dimension of the teaching, while the teacher has full control over the lesson’s development, students are prescribed to enter into the classroom socialization as blank slates – in the sense that the concepts in question are defined as entirely new and unfamiliar and that existing understandings of students are not made an intrinsic part of classroom socialization.

In the dimension of functional systematicity, teaching establishes external and peripheral engagement with the concepts but the psychological functionality of cause and effect is not reflected in the teaching activity or language. Teaching the allegedly ‘straightforward’ concepts of cause and effect, the teacher performs a primary shadowing of the equally first-level handout. While worrying about ‘not leaving people behind’, the teacher does not display any conceptually mediated engagement with the subject matter. In contrast with the instructions for students’ integrative conceptual thinking, the teacher’s own pedagogic practice leaves it effectively unfulfilled. Conceptual teaching speech attempts the semantic decoding of what the concepts mean, mediating linear, ad hoc, and verbalist associations (e.g., ‘This happens therefore that happens’; ‘connecting something that happens with a result, the effect of that action taking place’). Finally, in the social conceptual dimension of the monologic lecture, structural intrapsychological mediation by the text or by the students does not underlie communication either.

The students’ remaining silent throughout the 40 minute episode (except on one occasion when a student, Matt, raises his hand but is ignored by the teacher occupied in
speaking) is actively constructed in all three dimensions. It is an emergent effect embryonic within the teacher’s unmediated engagement.

As the lesson gradually unfolds, in the main teaching stages, the teaching speech wanders further and further from the main topic and purpose of the task (e.g., when the teacher drones on about how the word ‘one’ is used exclusively by the royal family, etc). This departure is the result of the self-driven speech semantics in the teaching. The psychological mechanism governing the conceptual teaching is that of S-R; in this mechanism, teaching develops deflection. In all dimensions, the monologic lecture operates in the manner of a self-fulfilled prophecy. Teacher and student performances in the classroom are germinated from the history of the teacher’s intrapsychology.

C. School 3, Ms D

a) External level

Brief exchanges between Ms D and a student, KK, occur in the discussion of ‘synthesis’. While KK’s speech is fragmented and her thinking unable to unfold, Ms D’s speech travels in an enclosed, self-fulfilling circuit. She nominates the ‘big word’ for discussion, determines the semantic rather than conceptual nature of the learning, invites students to contribute but confine them to singular word utterances, before which she provides the final answer, prescribing the behavioural manifestations of ‘synthesizing’. From the beginning of the episode to the end, meaning development is motivated by the teacher’s independent system. In spite of their semantic exchanges, teacher and student’s systems do not have an authentic crossfire.
b) Internal level

The various dimensions of the teaching reflect a uniform intrapsychological mechanism. In the structural dimension, the discussion is initiated impromptu during an unplanned review of an assessment document in the last week of students’ project preparation. Teacher and student talk about the concept in a general, decontextualized manner, and in association with less than a quarter of the total assessment credit value. The concept is arbitrarily isolated from any psychological operation, and from the actual processes of students’ research and writing. In eliciting student contribution, the teacher’s speech mediates behavioural, rather than psychological, orientation to the understanding of synthesis. In the teacher’s conceptual explanation and instructions, the same behavioural orientation governs the speech, which mediates a series of assertive, absolute, and linear associations. In the process of a few sentences, the semantics of the teaching speech drives itself into distortion. In the social conceptual dimension, Ms D and KK conduct quick, oscillating transactions of words, which serve as the pretext for the teacher’s final solution. In all dimensions, the teaching observes the S-R mechanism; the intrapsychological engagement that is the precondition for student engagement is inert and peripheral.

The cause of the teacher’s intrapsychology and the effect of the socialization process are not temporally sequential but synchronically emergent. Cause and effect are not essentially separable or independent factors in the social process. The manifestations of this historical view of classroom occurrences have been analyzed in episodes of whole-class communications. Before ending the section, an episode of teacher-student, one-on-one discussion will be presented and interpreted in the same dialectic historical view.
The meeting between Ms D and the student concerns the latter’s preparations for the oral presentation. Students have been instructed to choose social, cultural, or historical topics they are interested in to research and analyze. A wide range of issues have been studied by the students, including global warming, Chinese politics, world population, cosmetic surgeries, homosexuality, etc. The student in the excerpt, Eve, has chosen to research and present on teenage abortion. From a Vietnamese migrant family and having received years of schooling in Adelaide, Eve appears to have good English oral proficiency. At the time of the recording, the student has conducted research and readings, and has written paragraphs on the presentation. As a result of the research and thinking, the student entered the meeting with prior knowledge on the topic.

At a general review stage of teaching and learning, even more apparently so than at other stages, both teacher and student converse as knowing individuals. The main focus of the teacher’s labour should be to mediate, through dialoguing, the internal (re)organization in student’s conceptual system. Semantic provisions or transmissions must be subordinated to psychological structural mediations.

**Excerpt 6. Teacher-Student Meeting on Student’s Research on Teen Abortion**

<table>
<thead>
<tr>
<th>Sub-Stages of Interaction</th>
<th>Transcript</th>
</tr>
</thead>
</table>
| Stage 1: ‘Why’ya doing something about the United States’ | T: (1) So away ya go [indicating to student she can start telling about her research].  
S: (2) I’m going to tell you about the rate of teen abortion =  
T: (3) = What do you mean about the ‘rights’ of?  
S: (4) The ‘rate’, the ‘rate’.  
T: (5) The RATE.  
S: (6) The rate [repeats].  
T: (7) How many?  
S: (8) [Silent]  
T: (9) Is this just in Australia? (10) In South Australia or =  
S: (11) =United States.  
T: (12) United States [critical]. (13) Why’ya doing something about the United States? (14) How is that relevant to what’s going on here is what I’m saying. (15) Have you found some documents on the United States?  
S: (16) Yeah [hands some printouts to teacher]. |

Teacher introducing new topics / directions in interaction

(1)  
(2)  
(3)
T: (17) Let’s have a look. (18) What does this mean [points to one of the sheets]? 
S: (19) [Inaudible]…the populate…[inaudible]…that’s 15 to 17 years old. 
T: (20) Right. (21) So what can you tell from looking at this graph? (22) How can you 
interpret that graph? 
S: (23) Um from um 1975 to um 1980 then um = 
T: (24) =What happened between 1975 and 1980? 
S: (25) Well um 30.6 female and = 
T: (26) = The trend. (27) What I’m asking you is what was the trend between 1975 and 
1985? (28) Look at this one. (29) 15 to 17 year olds, which [line] is that? 
S: (30) This one [pointing to a line in graph]. 
T: (31) This one. (32) What can you tell me looking at this graph? (33) What was the trend 
of teenage pregnancies? (34) What happened in = 
S: (35) = High. 
T: (36) -- High. (37) And then what happened after 1985? 
S: (38) Um, decreased. 
T: (39) Why? (40) Do you know? (41) Why has it gone down? 
S: (42) Government rules. 
T: (43) Rules, laws? (44) What, did they make it illegal? 
S: (45) [Inaudible] 
T: (46) You see my problem is that I don’t know anything about abortion laws in the United 
States. (47) I know about them in Australia. (48) But if you don’t know about it you’re 
making it really hard for yourself. (49) Do you know what it means to be legal and illegal? 
S: (50) Yep. 
T: (51) So is abortion legal in the United States? 
S: (52) [Nods] 
T: (53) It is? (54) Definitely is? [Student nods again] (55) One hundred percent? (56) Doesn’t matter what the age is? [Student nods again] (57) So it’s similar to Australia then? 
S: (58) Similar law? (59) It’s not illegal in Australia [teacher checks emphatically and 
repeatedly]. 
S: (60) It’s legal. 
T: (61) But, my understanding is that a person, a teenage girl, needs to have two doctors’ 
consent. (62) I’m not sure. (63) Ok, so what …  What do you want to talk to them about? 
S: (64) I wanted to talk about the positive and negative of abortion in teenagers. 
T: (65) OK, can you tell me what’ya think some of the positives about having abortions 
legal. 
S: (66) No stigma. (67) Teenage girls are not ready to be a mother. 
T: (67) They MIGHT not be. (68) You can’t say they aren’t, but they might not be. 
S: (69) They might not be mothers [student pushes arm against table]. 
T: (70) You’re saying that it would be an UNPLANNED PREGNANCY? 
S: (71) Mm [nods]. 
T: (72) So on the one side you want to have ‘unplanned pregnancy’ [stands up, goes to 
whiteboard, writes ‘unplanned pregnancy’, and sits down]. OK? (73) You understand that, 
what ‘unplanned’ means? (74) It happens um … (75) Like the word planned. (76) They 
weren’t using birth control or whatever. (77) Ok so you’ve got an unplanned pregnancy. 
(78) So you’re saying that if it was an unplanned pregnancy and the girl’s not ready to be a 
mother then abortion should be a choice. (79) Is that what you’re saying? (80) OK, so 
that’s considered a positive to you is it? 
S: (81) It’s positive. 
T: (82) Unplanned pregnancy, so you’re going to make that positive. (83) Ok, so tell me 
another positive. 
S: (84) [Inaudible] really good reasons [student shows pages to teacher]. 
T: (85) Pardon? 
S: (86) Have really good reasons. 
T: (87) Yeah? 
S: (88) [Pushes page to teacher] 
T: (89) No, you tell me. (90) Don’t read it out. (91) You just tell me.
S: (92) [Looks down at page uncertainly]
T: (93) Or negatives.  (94) Can you think of negatives?
S: (95) Might be a risk.
T: (96) Risk.  [Stands and goes to write ‘risk’ on whiteboard]  (97) What sort of risk?
S: (98) Infection.
T: (99) Oh, risk of infection.
S: (100) [Inaudible word and ignored by teacher]
T: (101) Are you going to talk about, um, morals and ethics, that sort of thing?  (102) Do ya know what I mean?  (103) Whether it’s right or it’s wrong?
S: (104) Yeah.
T: (105) Are you going to talk about that?
S: (106) [Inaudible – perhaps ‘The emotions’]
T: (107) ‘Cause this is, this is kind of like physical type of reasons [pointing to whiteboard], isn’t it?
S: (108) Yeah.
T: (109) Where the [writes ‘physical’ on whiteboard] …  (110) Well certainly that [points to ‘infection’ on whiteboard] is a physical reason to not have an abortion.  (111) Is that what you’re saying?  (112) But equally I could say to you that having a baby is a risk, too.  (113) Some women die from having babies.  (114) They bleed to death.
S: (115) Do they [smilingly]

Stage 3: ‘change the topic to Australia’

T: (116) Yeah [emphatically].  Might be three in a thousand but still happens.  (117) See, I’m a bit concerned that you haven’t got the [inaudible word – perhaps ‘final’] issue yet.  (118) You’ve only got from now until the end of next week to get this together, so…  (119) Have you got statistics to help you with this?
S: (120) Statistic?
T: (121) Statistics.  (122) Numbers.  (123) How many teenage abortions are happening.  (124) You’ve got this [pointing to the graph student brought with her].  (125) This tells you that it’s, ah, decreasing, but you can’t tell me why it’s decreasing.  (126) Because I think that might be different.  (127) I think that in Australia that might be increasing.  (128) I’m not sure.
S: (129) In Australia.
T: (130) Yeah.  But I’m just wondering why it’s going down.  (131) You should know why.
S: (132) Um [flips the pages of her copious notes].
T: (133) There must be a reason.  (134) Must be something happening.
S: (135) [Shows teacher her notes, maybe saying something, but inaudible if she is.]
T: (136) Can I have a look at what you’ve done here?  (137) Where did you get this from?
S: (138) The internet.
T: (139) Yeah, I can SEE you got it from the internet.  (140) But what’s the site?
S: (141) [Inaudible] website.
T: (142) Website.  (143) What is the website?  (144) Who wrote it?
S: (145) I have no idea [speaks quickly], but [inaudible – perhaps ‘link’] on my computer.
T: (146) Oh, because it needs to be, like I’ve been saying, you have to have it being a reputable website.  (147) One that has a good reputation.  (148) “Trends data bank” [scans and reads].  (149) It looks as if it’s well researched.  (150) It looks to me as if it’s ok.  (151) It says ‘government issue’.  (152) It looks like it might be a report for an agency, a government agency.  (153) [Points to a word in sheet] Do you know what ‘Hispanic’ means?
S: (154) It means Spanish.
T: (155) Spanish.
S: (156) Yeah a lot of Spanish migrants in America.  (157) So when you’re reading it, that’s actually what they’ve done here.  (158) They’ve done generally the population and then the Hispanics.  (159) Like the one migrant group [pointing to graph].  (160) So they’re actually comparing it.  (161) I think this is a very complex report.  (162) I think that you need to find some things that are a bit easier to understand.  (163) This is very deep.  (164) It looks like it’s a report for a government agency.  (165) And I think maybe you need to = [student interrupts]
S: (166) = This is my research [flicking many pages of notes and printouts].
c) External level of teacher-student meeting

The approximately 15-minute interaction could be divided into three sub-stages. In the first stage, the teacher queries why the student has obtained American rather than Australian information and resources in her research\(^{23}\). In the process, doubts are raised as to whether the student knows her materials. In the second stage, the student is asked to explain the main ideas of her research, i.e., the positive and negative aspects of teenage abortion. In the final stage, the teacher successfully persuades the student to abandon her previous preparations and start her study anew on the Australian situation.

During the interaction, the student, Eve, has never been allowed to fully discuss and externalize her work and thinking. On a few occasions, her speech is cut short mid-sentence (utterances 3, 7, 12, 26 and 67); and as shown in the table, on 39 occasions, the teacher introduces new topics and directions, steering and diverting the trajectory of the conversation.

\(^{23}\) The teacher did not discuss the reason for objecting to Eve’s study on American teen abortion. As mentioned earlier, there was no restriction to students’ choice of topics, and most students in the class were doing research on international affairs outside Australia.
In utterance 2, the student begins the externalization of her understanding on the researched matter: “I’m going to tell you about the rate of teen abortion =”. This is interrupted by the teacher and diverted to, respectively, the student’s pronunciation of the word ‘rate’, the national origin of her information, the interpretation of one specific graph in her printouts, more specific information in the graph, such as statistical trends in different eras, and then the legality of teen abortion. A series of teacher-initiated exchanges later, the student starts for a second time to discuss her findings: “I wanted to talk about the positive and negative of abortion in teenagers” (utterance 64). This second attempt is also the final one in the student’s movement to self-directed externalization.

Shortly after this utterance, the student is again led astray. From the modification in the tenor of her language, to the term ‘unplanned pregnancy’ introduced and explained by the teacher, to the question of ‘morals and ethics’, to the physical risk of giving birth, to the matter of statistics, to the reputability of the internet sources, to the meaning of the word ‘Hispanic’ in one of the student’s sheets, and finally the up-datedness of the information, the teacher continually feeds the exchanges with varied and scattered topics. Several times, the student’s frustration is observable in speech and body language. For example, in utterance 35, the student cuts short the teacher’s question, in the spirit of the didactic contract followed in the conversation. In utterances 84 and 88, the student pushes her sheets to the teacher, making implicit refusals to speak further. In utterance 166, the student makes a more explicit resistance with “This is my research”, flicking the pages of her printouts, notes and writings. When the teacher finally dismisses her prior efforts and requests her to start anew, the student expresses her perplexity in utterance 173.
The student twice starts to present the general ideas in her research (utterances 2 and 64) but is interrupted each time. Gradually, her speech changes from complete sentences, to short clauses, then to singular words and then simple compliances. By the end of the conversation, she is reduced to feeble repetitions of words in the teacher’s speech. Generally, at the external level of the discussion, the student, who is supposed to be presenting her research results to the teacher, has not contributed to any of the developments of the interaction. On the other hand, from the initial, to the second and the final stage, the teacher has travelled in a self-fulfilled circle. From the very early stage of the discussion (utterance 13), the teacher has expressed the disagreeability of the student’s research resources. Many question-and-answers later, the teacher eventually returns to her original position and dismisses the student’s work to date, convincing her she has not done her work properly.

*d) Internal level of teacher-student meeting*

Constantly interrupted, impeded, and diverted in her externalizations, it would be difficult to conceive that the student’s internal process has remained continuous and unbroken. From the teacher’s stance, her repeated steering and feedings with first-level semantics suggests no deep, authentic engagement with the psychological structure and pathway underlying the student’s speech. The 15-minute interaction sees, on the one hand, the teacher increasingly claiming the position of the one with knowledge, and on the other hand, the student actively and systematically converted from the knowing to the unknowing, and from the thinking to the unthinking individual.

The complete conversion of the student is perhaps attained in utterances 115-118, from which point, the teacher has stopped listening altogether and officially started ‘teaching’. Essentially, from the beginning, the teacher enters into the interaction, believing the student
has not appropriately done her task. Then whilst talking, she actively seeks to prove this to be true. Eventually, she finds her worries justified and expresses her concerns: “See, I’m a bit concerned that you haven’t got the [inaudible word – perhaps ‘final’] issue yet. You’ve only got from now until the end of next week to get this together, so…”

Contrary to the surface and semantic level, where the teacher dispenses information busily and ‘actively’, at the psychological level, the engagement is inert and peripheral. In the 15-minute conversation, the teacher’s participation mediates the S-R habitual mechanism. No heed is paid to the structural system and organization of the student’s learning. In between the student and the teacher’s utterances, the connections are automatic and primary. From beginning to end, student and teacher’s systems remain in parallel lines, without crossfire, mutual infusion or change.

The teacher’s intrapsychology as the acausal origin accounts for the micro-genetic history of the teacher-student interaction, where the failure of the student is projected and actively scaffolded. In an acausal way, the history of the teacher’s intrapsychology and the now of teacher-student socialization converge.

**Section Overview**

The synchronicity of internal and external, past and present, and cause and effect characterizes human ontogenetic developments. In ontogeny, both the beginning and the end of development must be present in analogous forms to the history of human evolution (see also Chapter One on phylogeny and ontogeny). The co-presence or synchronicity is achieved when the social, external processes of teaching and teacher socialization are internally and structurally mediated. The intrapsychological mediation presents the function of the phylogenetic ideal form. In the dimension of the internal interactive order, various
dimensions of teaching and teacher socialization share the common mechanism of S-X-R or S-R.

From a dialectic historical view, cause and effect in ontogenetic social processes are essentially inseparable. Cause does not lead to an external and independent effect in temporal sequence; cause and effect are mutually penetrative and synchronically emergent in social events. The effect is within the cause, and the cause within the effect. The cause we investigate in the historical dimension is the intrapsychological mediation in the teacher. From the very logical beginning, the teacher’s inner mediation or its absence is the seedbed of the nature of the teacher’s and students’ speech and participation. The internal order of interaction is argued to be the totality of a teacher’s legitimate educational intervention. Outside the internal interactive order, a teacher’s endeavour is met with either submissiveness or mechanical causality.
CHAPTER SEVEN
CONCLUDING DISCUSSIONS

7.1 SUMMARY OF RESEARCH AND FINDINGS

This study reviewed and dialogued with Vygotsky’s developmental psychology, epistemology and psycho-semiotics, where development results from the dialectic integrations between phylogeny and ontogeny, consciousness and unconsciousness, society and individuality, all of which are mediated by the relationship between language and thinking. Based on the reflective dialogue, Vygotsky’s developmental psycho-semiotics was extended to discussions of an educational psycho-semiotics. At the core of the study was the problem of how teaching influences learning in a mediational way, particularly, how the dialectic speech-thinking relationship is reflected in teaching and teacher socialization. This study endeavoured to produce a three-fold response to this problem, involving a theoretical, an instrumental, and an interpretive analytical component.

Theoretically, it was argued that whilst the simultaneity of interpersonal infusion and intrapersonal integration underlies individual development, the synchronicity of intrapsychological and interpsychological communications must define the quality of teaching and teacher-initiated socialization. An acausal, apperceptive cycle (teachers’ intrapsychology – interpsychology – students’ intrapsychology) was identified as the fundamental educational mechanism. Reflecting this fundamental mechanism were four structural principles in the higher (i.e., mediated) forms of teaching and teacher socialization. These were task and participation structure, functional systematicity of conceptual teaching, interpsychological encounter between teacher and students, and the internal order of interaction.
In the principle of task and participation structure, it was contended that teachers’ intrapsychological integration of task goals and structures must predate their lesson organizations. The integration of task goals and structures is then communicated to students in speech and with the actual task unfolding in a mediated way. Thus communicated, task goals and structures become the shared apperception between teachers and their students. Only when tasks are apperceptively shared, do they function as inner regulation for students’ participation. In contrast, task goals and structural features that are not intrapsychologically integrated by teachers are always communicated, whether in speech or in activity, externally, mechanically, causally, and thus often in conflict with conceptual learning psychology. Classroom tasks based on causal and self-conflictive organizations hinder learners’ self-regulative participation.

In the principle of functional systematicity of conceptual teaching, it was argued that conceptual functionality must define the psychology of teaching speech and activity. Teachers’ intrapsychological operations with language as the tool of thinking serve as the basis of effective and authentic communication. Communication that is governed by language’s conceptual functionality provides the source for apperceptive comprehension in learning. By contrast, when the object of teaching is merely what is talked about but does not operate as a psychological tool in teaching speech and activity, its communication is likely to be mechanical, linear, and causal. Such communication encourages static reproductions rather than apperceptive and creative internalization.

In interpsychological encounter, teachers’ simultaneous engagement with task/concept and students’ psychological structures must be the foundation for their exchanges with students. Teachers’ and students’ utterances should not be related only in semantics but
should be connected in psychological structures according to the proleptic principle. In
proleptic dialogues, language functioning as a psychological tool defines the very texture of
socialization. Teacher-student transactions would not be a matter of replacing the ‘wrong’
with the ‘correct’, but the apperceived exchanges between language-mediated thinking
systems. Thinking and learning would be inspired instead of being commanded or prescribed.

The internal order of interaction distinguishes between the mediated and unmediated,
the S-X-R and the direct S-R mechanism. The internal order of interaction underlies all
phases of activities and communications in a classroom. Bringing together the past and the
present, it accounts for the microgenetic history of teaching and teacher socialization. The
internal order of interaction also delineates the totality of a teacher’s legitimate and effective
educational intervention, which implies, essentially, that teaching and teacher socialization are
a battle from within, not from without, and that teaching and teacher socialization involve
more intrapsychological structural interactions than external, causal prescriptions.

As the study was conducted in the discipline of English as an Additional Language,
Vygotsky’s developmental theory on language and thinking and its particular implications for
L2 education were considered. Differences in perspectives on the relationship between
language and thinking separate the semantic code-decode and the symbolic, conceptual
approaches, which deal with respectively the word-world and the word-word relationships in
additional languages. In the conceptual symbolic approach to additional language teaching
defended here, scientific concepts and spontaneous concepts, as two opposite ends of one
developmental continuum, encounter and merge in mutual learning. Scientific concepts,
typically characteristic of teacher operations and spontaneous concepts, typically
characteristic of student operations, differ in functional organization, not in terms of
correctness. For better understanding of interpsychological environment of learning, Vygotsky’s original notion of scientific concepts in reference to learner psychology was extended to the psychology of teaching and teacher socialization. Four features of scientific conceptual functionality were described, which corresponded with the structural principles of mediated teaching.

In the second, instrumental component of the study, a tentative heuristic tool was devised. The instrument encompasses four dimensions of teaching and teacher socialization, each composed of external and internal levels of manifestations. The external level referred to the semantic level of teaching speech and behavioural level of teaching activities. The internal level referred to psychological relationships and organizations regulating the enactment and unfolding of teaching and teacher socialization speech and activities. As the heterogeneous, but not antagonistic, components of a dialectic whole, the external and internal levels relate in tension. Each composed of external and internal levels, the four dimensions and their specific manifestations were seen not as static, reductionist dissections, but as organic units of an integrative whole.

The four dimensions were identified and defined in alignment with the educational psycho-semiotic principles as well as with Vygotsky’s key considerations in research methodology. Respectively, the structural, conceptual tool, social conceptual, and historical dimensions were devised to examine teaching and teacher socialization as double-stimulation, as the process rather than product of thinking, as genesis rather than phenomena, and as history instead of status quo. It was anticipated that this instrument could contribute to researcher, teacher and trainee teacher reflections on the essential, apperceptive processes in the diverse, multifaceted, and ever-changing classroom microgenesis.
The third and final component of the study responded to the central question of speech-mediated teaching and teacher socialization with interpretive analyses of classroom data collected from three senior secondary ESL teachers at three Adelaide schools. Episodes of teaching and teacher-student conversations were interpreted from the four dimensions at external and internal levels so as to shed light on the acausal, apperceptive mechanism that moves from teachers’ intrapsychology to teacher-student interpsychology. These analyses explicated the applicability of the theoretical and instrumental components in understanding daily classroom realities.

Overall, despite surface differences in curriculum contents, tasks, semantics of teachers’ speech, and student clienteles, analyses showed that the mechanism of teacher intrapsychology – interpsychology – student intrapsychology could be used in understanding teaching and teacher socialization across school and classroom settings. In the structural dimension, analyses showed that teachers’ own psychological engagements with tasks often were not preconditions for students’ participation. As a result, teachers’ speech often was ambiguous and unsubstantive, or revealed an orientation towards the extrinsic and behavioural rather than the psychological aspects of tasks. At the internal level, task unfolding and participation structure were often in conflict with the psychological operations of conceptual learning. Teachers’ lack of intrapsychological engagement was also reflected in the conceptual tool dimension. Here, a semantic decoding approach, as opposed to a psychological semiotic and symbolic approach, was found to operate in the three classrooms. That is, teachers taught and talked ‘about’ the meanings of language and concepts, but such meanings were not delivered in the mechanism of teaching activities or the psychological organization of teaching speech. Commonly, teaching prescribed static, linear, and arbitrary
decodes of vocabulary, expressions, and concepts as independent entities. In doing so, the speech of teaching mediated weak intertextual tension. Within teaching speech, meaning units were often synonymous and repetitive rather than mutually interactive; they added to one another and the textual whole in quantity rather than in quality. In general, the underlying psychology of teaching and speech was not governed by conceptual functionality. In the social conceptual dimension, teachers’ engagement with students’ psychological operations and organizations did not underlie their responses to students’ speech. Teacher-student exchanges often manifested quick semantic oscillations; and teachers’ speech proceeded from students’ in an automatic S-R chain. The relationship between utterances exchanged was not governed by structural comprehension or mutual integration. Between teachers’ and students’ utterances, the semantics flowed readily and seamlessly, generating little intertextual tension. Where teaching was conducted in monologue only, structural mediations by text and students were not found either. In the historical dimension, the uniformity of non-mediation in the various dimensions was discussed. The non-mediation historically accounted for students’ passive participation, for teachers’ misrepresentations in conceptual teachings and for developmental trajectories in teacher-student conversations. The analyses showed that teachers’ and students’ performances were effects impregnated within the internal order of interaction as cause. This third component of the study was interpretive in nature, rather than predicative. Such interpretive study cannot replace the study of students’ actual developmental process and results.

In replying to the central problem of the research, i.e., how does teaching influence learning in a mediational way, or how is speech-thinking relationship reflected in teaching and teacher socialization, the theoretical, instrumental, and analytical components of the study
did not proceed in a temporal sequence. The research methodology adopted was likened to an equation between two unknowns. This was necessary because of the essential differences in the study’s conceptualization of teaching and teacher socialization. First, this study differed from the mainstream in the conceptualization of teaching and teacher socialization. Contrary to orthodox conceptualization of teaching and socialization as the causal origins of learning, this study maintained an acausal and apperceptive understanding of the research problem. It was held that educational influences originate from teacher’s intrapsychology, which is then mediated in teacher-student interpsychology before being internalized in students’ intrapsychology (Chapter 2). The object of examination was thus not the external semantics and behaviour, but the totality of external and internal levels as an interactive and collaborative whole.

The nature of the problem went hand-in-hand with the research instrument, which could not be located in the literature at the time of research. The devised instrument examined speech and thinking, and external and internal levels in teaching and teacher socialization as heterogeneous, rather than homogeneous, processes in mutual interaction and complementariness. The instrument, with four dimensions and two levels, was established to distinguish between a direct and causal S-R mechanism and an acausal, mediated, S-X-R organization which governed teaching activity and speech. With regards to the peculiarity in research methodology, this study did not present a final, conclusive answer to the problem, but a foundation for future research. Borrowing Vygotsky’s words, the study of mediation in teaching and teacher socialization provided “[o]nly the initial point, it is understood. Not an iota more” (Vygotsky, 1997c, p.41).
7.2 DISCUSSIONS

Essentially, the study attempted to understand as well as interpret the psychological mechanism of educational mediation in classroom teaching. It postulated that in mediation, teaching and learning function as resonating processes. This means, for teachers to act as the mediator of student thinking and learning, their educational endeavour and communication must begin from within, with their own intrapsychological engagement. Specifically, communication about task structure and organization, teaching of the meaning and function of language, and exchange with students must all begin with intrapsychological engagement with such dimensions. Historically, underlying all attempts at bringing about change must be teachers’ awareness of their own intrapsychology as the origin of interpsychological resonation. In its theoretical, instrumental, and analytical components, the study uniformly depicted teaching and teacher socialization as unity of history and presence (phylogeny and ontogeny); consciousness and unconsciousness; and society and individuality. It answered the question of ‘How’ in the teacher-student relationship through an account of a complex, non-linear, synchronic and dynamic whole.

In its conceptualization of language as discursive data, this study stood as a departure from both the cognitivist, universal conception and the critical, poststructuralist conception of social speech. In the cognitivist conception, language and thinking are seen to exist in an absolute, one-to-one relationship. In a poststructuralist view, language has little to do with thinking but has much to do social, cultural, and political ideology. Despite being two extreme opposites in the view of language operation, both schools, indeed, hold a mechanistic view of the relationships between language and (psychological vs. sociological) meaning. Shifting towards the paradigm of dialectic monism, this study presented an analytical method
of speech in mediational relationships with thinking. Discourse was analyzed as the dialectic whole of external and internal levels of communication in terms of intrapsychological dynamics and interpsychological transactions in synchronicity. Such discourse analytical method acknowledged that authentic human connection occurs neither at the surface semantic level, as is suggested by the cognitivist school, nor at the peripheral unconscious level, as proposed by the critical poststructuralist school. Instead, it recognized that authentic interaction occur in the apperceptive, interpsychological encounter, made possible by the fusion of history and presence, consciousness and unconsciousness, and society and individuality. In this recognition, social environment is conceptualized as a qualitatively different entity from the mere sum total of separate individuals.

In its educational theories, this study was not a postulation of some specific pedagogic skills or techniques with which teachers must be primed and trained in order to practice accordingly in the classroom. Fundamentally, what was advocated in the study pertained to the essential mechanism of all authentic human communication, i.e., communication that mediates, interacts with, and develops meaning and thinking. In such communication, all individuals have engaged and experienced (at least occasionally) in life. In other words, the study concerned not what pre-service training, what theoretical affiliation, or what professional capacity that teachers exercise. Above all else, it highlighted and re-interpreted Vygotsky’s oft-quoted statement that “[s]ocial relations or relations among people genetically underlie all higher functions and their relationships” (Vygotsky, 1981, p.163). It defined authentic teacher-initiated social relations as the synchronicity of interpersonal and intrapersonal processes.
Moreover, in advocating for an organic relationship between teaching and learning, this study also implies an ecological relationship between teaching and the social context in which it is situated. Due to the limitation in scope, the interaction between teachers and their environments of professional practice was not dealt with. Nevertheless, in arguing that effective educational social relationship is acausal and mediated in nature and that it operates as an irreducible social interface apperceived by teacher and student, this researcher was strongly opposed to the view that teaching is a matter of individual capacity or self-accountability. From the apperceptive view, it is clear that teaching does not involve merely a conscious ‘rational choice’. Teachers’ intrapsychological mediation, as the problem of research, is far from merely an act of conscious volition or good intentions. It is a holistic, inter-functional operation involving the structure of the psychology. As such, it reflects a lifelong, ongoing development of the personality induced and nurtured by its relationship with its ecological environments.

On the other hand, although the wider contexts of teaching were not included in the scope of the study, both personal experiences and field research taught the researcher that, often, educational systems and social contexts across cultures actively encourage and scaffold educators’ infinite recycling of existing knowledge in its static form. Systematically, teachers are encouraged to develop structural disintegration between professional and psychological experiences and between life inside and outside classrooms. From both personal experiences and field research in China and Australia, the researcher was struck by how the job was frequently about meeting varied and numerous requirements for visible, quantifiable results. More than once during data collection, it was also felt how teaching was at times more a physical than psychological or intellectual struggle (a typical example is the case of Ms A,
who often arrived at school at eight and leaves at 7 or later in the evenings). Social contexts influenced both the ‘designed-in’ level of classroom practice and the ‘micro contingent’ level (Hammond & Gibbons, 2001). In a sociological study of education, the unmediated conditions that the system establishes for its members’ labour are likely to be reproduced in the individual members’ experiences and relationships with each other. Thus, from a macrosociological perspective, teachers’ intrapsychological mediation investigated in the study would seem a mission impossible. From a psychological perspective, however, education is the cause of producing the possible out of the impossible and incubating the potential out of the non-existing. For this cause, teachers’ intrapsychological mediation is pivotal. This spells out the paradox that so many teachers face day in, day out. One can only hope that, at some point, turning the impossible into the possible would also define the task of policy-makers.

### 7.3 LIMITATIONS AND FUTURE DIRECTIONS

A main feature of the study was the concurrent development of theories, the instrument and the interpretive analyses. For its purposes, the research represented an equation between two unknowns and an organic process with inter-corresponding components. The research problem and questions, theories, methodology, analytical instrument, and the interpretive study were developed in mutual reliance. The analyses of the data were not so much to verify an established instrument as to help develop and explicate its meanings. The advantage of this structural design for the present study is simultaneously its limitation in light of future research. In future studies, verifications and refinements of the theories and instrument are in order. For example, the specific manifestations and compositions of the four dimensions of classroom environment may be improved in terms of simplicity, clarity, sensitivity and
systematicity. Decidedly, this study was a beginning of a systemic approach to an educational psycho-semiotic understanding of classroom environment.

In future research, the theory and instrument should be applied in broader contexts, including teacher and student participants from more diverse backgrounds. Due to time constraints, the study only covered three teachers, three schools with a limited range of socio-economic statuses, and ESL student clienteles (mainly international and Asian) in Adelaide, Australia. For the refinement of theories and the instrument, these need to be verified in different cultural settings (e.g., in non-native-speaking countries), involving teachers, schools and students of different backgrounds (such as migrant, refugee, and Aboriginal student clienteles), within other disciplinary areas, and across educational sectors and levels. In addition, teacher practitioners’ action research on self-reflective and interactive processes will also make important contributions to the development of the field. For understanding an essential psychological mechanism of teacher-student interaction, the abundance and diversity of applications have direct bearings on the explanatory powers of theories and instrument.
APPENDIX 1

TRANSCRIPTION CONVENTIONS

CAPITAL Indicates emphatic stress

*Italic* Indicates readings of texts

… Indicates utterance is unfinished

-- Indicates short pause

-- -- Indicates long pause

\[\text{A: ***=}\] Two equal signs at the end of Speaker A’s and the beginning of Speaker B’s utterances

\[\text{B: =***}\] indicate A and B speaking simultaneously

[inaudible] Indicates utterance is inaudible

[***] Notes on tones, gestures, postures, and facial expressions, etc when speaking
Dear Mr Headmaster,

I write as the Research Supervisor of a PhD candidate (Miss Charlotte Liu) in the School of Education at the University of Adelaide. I would like to ask whether your school would be prepared to allow Miss Liu to conduct research in one or two ESL classrooms at PAC, preferably at the Years 10 and 11 levels.

The research is part of a comparative English as an Additional Language (EAL) Classroom Interaction Study, in which the language discourse of the lessons will be analysed linguistically, in order to better understand the students’ language learning processes. Data has already been gathered from English language classrooms in three Chinese schools. The intention is to gather comparable data in three Adelaide schools to enable a comparative analysis of data from Chinese and Australian classrooms. The research has the approval of the University of Adelaide’s Research Ethics Committee.

Basically, the participation of your school would involve the researcher attending the ESL classes for about 12 lessons (a 2-4 week period, depending on the number of lessons per week). She would video the lessons (as the best way of getting good quality sound recording of the lessons) and make observation notes of student involvement. She would also seek permission to interview the teacher(s) and some students to supplement her understanding of the lessons involved.

Attached to this letter are two sheets outlining what the project involves and the conditions of participation, in regard to ethics requirements. I am happy to discuss the details further with you.

I appreciate that, in addition to your overall approval of the project, it will be necessary for you to discuss this with the ESL teachers concerned, to find out whether they would be prepared to be involved in the research.

I would be most grateful for your positive response of this request. I can assure you that Ms Liu is one of our most talented and hardworking research candidates, of outstanding integrity. She has had considerable experience as an English language teacher and has excellent language skills in both English and Chinese.

Thank you for considering this matter.

Yours sincerely,

Margaret J. Secombe
Adjunct Senior Lecturer
School of Education
University of Adelaide
APPENDIX 3

RESEARCH INFORMATION SHEET
FOR TEACHERS, STUDENTS, AND PARENTS / GUARDIANS

This information sheet refers to the study on English language classroom entitled:

EAL (English as an Additional Language) Classroom Interaction

Research Project Outline

This research project is part of a PhD study that aims to document teacher-student verbal interactions in the EAL classroom in the countries of China and Australia. The study compares classroom interpersonal exchanges from both a cross-cultural and a cross-school perspective. Findings of the study will shed light on

a) characteristics of classroom learning environments that are supportive of learner development

b) effective English language teaching strategies and

c) differences in classroom environments and teaching strategies between schools.

Data for the study, in the form of researcher’s notes, classroom recording transcriptions, and interviews, will be gathered from EAL teachers and students.

Participation in the Research Study

Data collection for the study will take place over about a year’s time from 2006 to 2007. EAL teachers from three schools will be invited to participate. Data to be collected from schools will include interviews (with teachers, schools administrators, and students), classroom observations (fieldnotes will be taken), audio or video recordings of classroom teaching and learning (whether audio or video recordings are to be taken are to be negotiated with all school participants).

Interviews with teachers and students will be necessary so as to supplement the researcher’s observations with classroom members’ perspectives, understandings of school and classroom learning environment.

The timeline for data collection is as follows:

Classroom observation and recordings: 3 – 4 weeks, may vary depending on frequency of lessons.
Interview: in between lesson observations; as a guide, this continual process may last approximately a few hours in total.
All data collections will be conducted at the school site of the participant or at a location negotiated between the participant and the project researcher.

**Conditions of Participation**

* Individuals agreeing to participate are free to withdraw at any time.

* You will need to sign a Consent Form to participate in the research.

* The agreement also ensures participants of confidentiality in the treatment of any data they provide for the study through the researcher’s observations, lesson recordings, or interviews. Names of participants or of their schools will not be disclosed in any publications resulting from the study.

* The University of Adelaide has approved the research. Should you as a participant in the research experience any problems associated with the project please consult the project coordinator, Dr. Margaret Secombe, ph 8303 5892. Dr. Secombe is the Principal Supervisor of the PhD study.

For further details on the University of Adelaide Human Research Ethics Committee independent complaints procedure please see the notice distributed to potential participants entitled ‘Contacts for Information on Project and Independent Complaints Procedure’.

**Findings from the Research Study**

Findings from the study will be made available to the Department of Education and Children’s Services and to participants on request. Findings of this study are expected to be available at the end of 2007.

Any general questions relating to this research can be directed to Ms Charlotte Hua Liu, Project Researcher and PhD student, School of Education, The University of Adelaide, SA, 5005.

Miss Charlotte Hua Liu,
Contact details in Adelaide: ph. 83035692, mob. 0423610408,
Email: charlotte.liu@adelaide.edu.au

Thank you very much for your interest and cooperation in this research project.
APPENDIX 4

CONSENT FORM FOR TEACHER AND STUDENT PARTICIPANTS

1. I, ……………………………………………………………. (please print name)

   consent to take part in the research project entitled:
   EAL (English as an Additional Language) Classroom Interaction

2. I acknowledge that I have read the attached Information Sheet entitled:
   Information Sheet for Teachers, Students and Parents / Guardians

3. I have had the project, so far as it affects me, fully explained to my satisfaction by the research worker.
   My consent is given freely.

4. Although I understand that the purpose of this research project is to improve the quality of teaching, it has
   also been explained that my involvement may not be of any benefit to me personally.

5. I have been given the opportunity to have a member of my family or a friend present while the project
   was explained to me.

6. I have been informed that, while information gained during the study may be published, I will not be
   identified and my personal results will not be divulged.

7. I understand that my classroom processes will be audio / video recorded (please write which
   ___________), that my voice or images may be included in the recordings, and that my speech in
   class may be transcribed as data accordingly.

8. I understand that I am free to withdraw from the project at any time and that this will not affect my school
   learning, now or in the future.

9. I am aware that I should retain a copy of this Consent Form, when completed, and the attached
   Information Sheet.

   ……………………………………………………………………………………………………………………………
   (signature)  (date)

WITNESS

I have described to …………………………………………………………. (name of subject)

the nature of the research to be carried out. In my opinion she/he understood the explanation.

Status in Project: Researcher

Name: Charlotte Hua Liu

…………………………………………………………………………………………………………………………
 (signature)  (date)
NOTE: This figure is included on page 234 of the print copy of the thesis held in the University of Adelaide Library.
Most people are curious. They want to know why something happened. They also want to know what happened as a result of some event or action. When you want to analyze the reasons (causes or effects) or the results (effects, disadvantages, benefits) of something, you should use a cause or effect type of essay. For example, when you answer a question such as, "Why did you decide to major in physics?" you are analyzing causes, and when you answer a question such as, "What effects will learning English have on your career?" you are analyzing effects.

In academic writing, you will frequently need to examine causes and/or effects. For example, in a physiology class, you might need to discuss the common causes of chronic pain and the effects of physical therapy on patients who go through it. In a history class, you might be asked to analyze the technological causes of the Industrial Revolution or the effects of the Industrial Revolution on family life in England. In an economics class, you might be required to explain the reasons for the high inflation rate in France or the effects of the high rate of inflation on the Brazilian middle class. In an anthropology course, you might need to explore the reasons why many of the world's languages are disappearing or the effects of their disappearance on indigenous populations.
The Language of Causes and Effects: Useful Phrases and Sentence Patterns

Transition Signals That Indicate a Cause or Effect Relationship

and that is why
as a consequence of
as a result of
because
because of consequently
due to
for this reason
since
so
therefore
thus

It was raining, and that is why we canceled the soccer game.
As a consequence of the rain, we canceled the soccer game.
As a result of the rain, we canceled the soccer game.
Because it was raining, we canceled the soccer game.
Because of the rain, we canceled the soccer game.
It was raining. Consequently, we canceled the soccer game.
Due to the rain, we canceled the soccer game.
It was raining. For this reason, we canceled the soccer game.
Since it was raining, we canceled the soccer game.
It was raining, so we canceled the soccer game.
It was raining; therefore, we canceled the soccer game.
It was raining; thus, we canceled the soccer game.

The following sentence patterns are useful in writing topic sentences and thesis statements for cause or effect paragraphs and essays.

1. There are several causes of reasons for __________
   effects of

   There are several causes of jet lag.

2. There are ______ main reasons why __________
   _____

   There are three main reasons why I want to get my own apartment.

3. ______ has had ______ important effects on ______
   _______ effects on ______
   _______ effects on ______
   _______ effects on ______

   My parents' divorce has had several important effects on my life.
1. Topic: The effects of unemployment
Thesis statement: ________________________________________

2. Topic: The causes of depletion of the ozone layer
Thesis statement: ________________________________________

3. Topic: The reasons you decided to learn English
Thesis statement: ________________________________________

4. Topic: The effects of forest fires
Thesis statement: ________________________________________

5. Topic: The effects of culture shock
Thesis statement: ________________________________________

6. Topic: The reasons for eating a balanced diet
Thesis statement: ________________________________________
DEscribing CAUSES AND EFFECTS

Look at the news photographs below and on page 105 and write sentences about causes or effects. Use a variety of expressions.

Example

a. Many fish and water birds died because of the oil spill.

b. Due to the oil spill, sea life in this area has been devastated.

c. As a result of the oil spill, thousands of dead lobsters have washed up on the beach.

1.

a. ___________________________

b. ___________________________

c. ___________________________
WRITING A PARAGRAPH ABOUT CAUSES

Read the following conversation between two friends.

MARK: Hi, Janie. How long have you been here?
JANIE: It seems like hours, but I actually didn’t get here until 9:30. The lines are so long, and half the courses I wanted are already closed.
MARK: I’ll bet you wish you’d preregistered.
JANIE: I have to, but I was planning to change my major and I didn’t know what courses I’d need this semester.
MARK: So, you’ve decided not to go into anthropology after all! What happened?
JANIE: I realized the job prospects weren’t too good for an anthropologist with only a B.A. degree.
MARK: What about graduate school?
JANIE: I thought about that, but I really want to start working right after graduation. Maybe I’ll go to grad school in a few years, but for now I want something more practical.
MARK: I can relate to that. That’s why I’m majoring in engineering. Anyway, what department are you switching to?
JANIE: Believe it or not, I’ve decided to go into nursing.
MARK: That’s great, but it’ll be a big change after anthro.
JANIE: I know, but I’ve always liked working with people and helping others. When I was in high school, I did a lot of volunteer work at the local hospital.
MARK: Well, good luck with your new career. I guess we won’t be in any of the same classes this semester.

Using information from the conversation, write a paragraph that describes the reason Janie is changing her major. Be sure to include a topic sentence and transitions. Write your paragraph on a separate piece of paper.

ANALYZING AN ESSAY ABOUT CAUSES

The essay below discusses possible causes of the extinction of dinosaurs. Read the essay.

The Extinction of the Dinosaurs

For almost 140 million years, dinosaurs and other large reptiles ruled the land, sky, and sea. Dinosaurs came in sizes and shapes suited to every corner of the world. Then, approximately 65 million years ago, these huge reptiles died out and mammals took over the Earth. Few mysteries have ever excited the imaginations of scientists as much as this great extinction that killed off all
the dinosaurs. Over the years, scientists have developed many theories to explain the causes of the disappearance of the dinosaurs and the other great reptiles. Three possible causes are a change in the Earth’s climate, disease, and the Earth’s collision with a large asteroid.

Some scientists believe that the number of dinosaurs declined and eventually disappeared due to a change in the Earth’s climate. During the Cretaceous period, the climate was tropical. Research indicates that at the end of the Cretaceous period, the temperature dropped and the climate became much colder. For this reason, some of the plants that the plant-eating dinosaurs ate died. The death of the plants would cause many of the plant-eaters to die too. As the plant-eating dinosaurs died off, so did the meat-eaters who fed on them. The colder climate may have caused problems for the dinosaurs in other ways, too. Because of their size, many dinosaurs were too big to hibernate in dens. They also lacked fur or feathers for protection against the cold. As a result, the dinosaurs were unable to adapt to the new cold conditions.

Another possible cause for the extinction of dinosaurs is disease. Some scientists think that diseases killed off the dinosaurs when large groups migrated across land bridges between the separate continents and infected one another with new diseases. As the Cretaceous period went on, more and more land bridges started to appear on the Earth. Because the oceans were drying up and dinosaurs were able to walk across the land bridges, they began to spread new diseases.

A third cause for the extinction of dinosaurs is the asteroid theory. According to this theory, the extinction was much more sudden and catastrophic. In the late 1970s, scientists discovered evidence for the abrupt end to the Age of Dinosaurs. Dr. Louis Alvarez and his colleagues arrived at a revolutionary hypothesis to explain the extinction of dinosaurs. They suggested that about 65 million years ago, the Earth was struck by a huge asteroid. The asteroid was destroyed in the explosion, and billions of tons of dust were thrown up into the air. A thick cloud of dust blocked out sunlight for a long time. Consequently, plants were not able to make food, and they died. The lack of plants killed off many of the plant-eating dinosaurs, which then caused the death of the meat-eating dinosaurs that preyed on them. The darkness caused temperatures to fall below freezing for many months. As a result, this sudden change in climate, the dinosaur populations became smaller and smaller.

It seems that no one theory adequately explains why dinosaurs died out. Perhaps dinosaurs simply could not adjust to the changes that were taking place on the Earth toward the end of the Cretaceous period. Perhaps it was a combination of causes that contributed to the end of the Age of Dinosaurs.
Work with a Partner

Answer the following questions with a partner.

1. What three main causes does the author suggest to explain the extinction of the dinosaurs?
2. What techniques are used in the introduction and conclusion?
3. What cause or effect transitions did the author use to connect the ideas in the essay? Underline them.

ESSAY PLAN: CAUSE OR EFFECT

The guidelines below will help you remember what you need to do in each part of a cause or effect essay.

**Introduction**
1. Provide background information about the situation you are analyzing.
2. Describe the situation.
3. State whether you plan to discuss its causes or its effects.
4. Identify the main causes or effects.
5. Write a thesis statement that states the focus of your essay.

**Supporting Paragraphs**
1. State the first (second, third) cause or effect in the first (second, third) paragraph.
2. Support the first (second, third) cause or effect with facts, examples, statistics, or quotations.

**Conclusion**
1. Summarize the main causes or effects.
2. Draw a conclusion, or make a prediction.

**TIP**

When you write an essay, you must think about how you are going to order the supporting paragraphs. Which paragraph should come first, second, and third? One common way is to organize the paragraphs according to order of importance. For example, in an essay about causes, you can begin with the most important cause and end with the least important cause.
Writing Essays about Causes

You are a reporter for a health magazine. Your assignment is to write an article on the topic of the causes of heart disease.

Preparing

Read the assignment and discuss it with a partner.

You have just conducted an interview with a cardiologist, Dr. Harvey Snyder, and have written the following introduction:

Heart disease affects so many people that it has become a serious concern for medical science. The heart is a complex organ that is vulnerable to hereditary as well as environmental risks. Cardiologists think of these risk factors as either major or minor causes of heart disease.

Dr. Snyder has identified a number of risk factors associated with heart disease. He has grouped these risk factors into major and minor causes. Here are your notes from the interview:

MAJOR CAUSES OF HEART DISEASE:

1. Family history—you are at a higher risk for developing heart disease if your parents or grandparents have had it.
2. High blood pressure—causes the heart to work too hard and can damage arteries.
3. High cholesterol levels—dangerous because fatty deposits build up in blood vessels.
4. Diabetes—can lead to hardening of the arteries and heart attacks.
5. Smoking cigarettes—smokers are two or three times more likely to have a heart attack than non-smokers.

MINOR CAUSES OF HEART DISEASE:

1. Having a Type A personality—becoming easily stressed, being overly competitive, aggressive, and intense.
2. Having a sedentary lifestyle—not getting enough exercise.
3. Obesity—being extremely overweight and having a poor diet.
Writing

On a separate piece of paper, write a draft of two supporting paragraphs. Discuss the major causes of heart disease in one paragraph, and the minor causes in the other paragraph. Also write a conclusion for your article. You might suggest ways to lessen the risks of heart disease by adopting a healthier lifestyle and good personal habits. Then copy your entire article, including the introduction, body, and conclusion onto another sheet of paper.

Revising and Editing

Exchange drafts with a partner. Use the checklists on pages 76 and 77. Discuss any suggestions that your partner has for revision and editing. Make sure that your partner has provided enough support for each cause and that he or she has connected ideas with transitions. Write or type a revised version of your essay.

B. You are taking an introductory business course. You have been asked to analyze the following case and determine the causes for the failure of a restaurant called the Undergrad Grill.

Prewriting

In small groups, read the case and study the drawings of Restaurant Row and the Undergrad Grill. Pay attention to the menu and the sign on the door of the Undergrad Grill.

On April 15, Tom Higgins opened a new restaurant at Benson University. He called it the Undergrad Grill. Tom had wanted to open a restaurant at Benson for several months but was waiting for the right location to become available. He was very pleased when he was able to rent suitable space on Restaurant Row. He figured that this would be a great location and well with the high rent and all the renovations he needed to do on the building. Since he wanted to open the restaurant as soon as possible, he hired the first people he could find to do the renovations and painting. He ended up overpaying the workers because he wanted to get the job done as quickly as possible. When the time came to open, he didn’t have enough money to do much advertising. However, since his restaurant was surrounded by many other restaurants and since over 25,000 undergraduates and graduate students were looking for a place to eat, Higgins was certain his restaurant would do well even without advertising. After placing several help-wanted ads in the local newspaper, Higgins hired two waitresses to work for him. He couldn’t afford professional chefs, so he hired several students to do the cooking.

Unfortunately for Higgins, the competition was more intense than he had anticipated. After two months, his restaurant was doing poorly. One of his waitresses had quit, and the number of customers was decreasing.
Bibliography


