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Vygotsky’s psycho-semiotics
Charlotte Hua Liu

Vygotsky’s psycho-semiotics

Theories, instrument and interpretive analyses

Edited by Frith Luton
To

Professor Kevin M. Marjoribanks,

My professor and mentor

It all began in that wall-less 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 replies from you will be the most awesome of all.
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INTRODUCTION

The Questions of Research

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 psychologies is not collapsible. While Vygotsky focused mainly on learning and development, proposing that speech mediation of thinking is the mechanism of intrapsychological development, he left largely undiscussed the matters of interpsychological transaction in teaching as well as the precise mechanism of psychological mediation. Large space for exploration is left in Vygotsky's works on questions such as 'What kind of language mediates thinking?', or 'What are the characteristics of mediational speech?'; and 'What is the process of mediated interpsychological encounter?'

Based on reflective review and dialogue with Vygotsky's developmental psycho-semiotics, this book presents a view of educational psycho-semiotics, which concerns the mediational mechanism of teaching in the social environment of learning. Essentially, it asks the questions, 'How does teaching influence learning in a mediational way?' and 'How is the dialectic speech-thinking relationship reflected in teaching and teacher socialisation?'. Around these central problems, the book endeavours to give a threefold reply.

Firstly, it seeks to explore theoretically, in light of Vygotsky’s language-mediated psychology of learning and development, the mechanism of language-mediated teaching and teacher socialisation with students. To fulfil this goal, it also asks what some of the structural principles of the higher forms of teaching are. Secondly, this book provides a systematic, applicative instrument for future research and reflective practice. This instrument identifies key dimensions that depict the mediated nature of teaching and teacher socialisation and retain the integrative whole of speech and thinking. Thirdly, the book also offers applied examples where real-life classroom data is analysed using the interpretive...
instrument. In analyzing the classroom transcriptions, the question is asked, ‘How are teacher intrapsychology and mediation reflected in the diverse and ever-changing classroom lives?’.

What the study did not do
Of the dialectic unity of teaching and learning, Vygotsky mainly focused on the latter component. This text, extending Vygotsky’s legacies, focused on the former. This text is concerned with understanding the mediational mechanism of teaching and teacher-initiated socialisation as classroom environment. What it is not concerned about is the study of learning and development as consequences or results of teaching and teacher socialisation. 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.

This study is exploratory and interpretive of conducive educational mechanisms and 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 account of the educational psycho-semiotic process. For this reason, the interpretive analyses, for example, were more about explicating the theories and the instrument than about making evaluations of teaching effects.

Thirdly, this study did not generate a pedagogic manual prescribing hard and fast rules of thumb for teachers’ practices. Instead, this researcher would like to think of this volume as descriptive of psychological and reflective mechanisms that are held dear to teaching. The question of pedagogy is one that is left to individual teachers’ creativity arising from their integrated reflection.
Lastly, the study is interested in classroom micro-genesis of interpsychological processes. It analyses episodes of relatively complete classroom *conceptual* activities and interaction. Because of the limited scope of the study, it does not attempt to capture the complete profiles of teachers’ and students’ classroom experiences or of their school environments.

**Significance of the study**
Among the plethora of research on teaching and teacher-initiated socialisation, this study embraced a distinctive view of its research problem. In its three-fold pursuits, this book presents a comprehensive and systematic endeavour at a holistic and dialectic psycho-semiotics of teaching and teacher socialisation. This endeavour is made as an extension of Vygotsky’s developmental psycho-semiotics concerning speech and thinking in the psychology of learning. Together, the theoretical, instrumental, and analytical components of the study depict teaching and teacher socialisation as unity of history and presence (phylogeny and ontogeny); consciousness and unconsciousness; and society and individuality. This study addresses the question of ‘How?’ in teaching-learning relationship as a complex, nonlinear, synchronic and dynamic whole, in contrast with the studies that assume the causal and deterministic effects of teaching and teacher socialisation.

Secondly, this study approaches its data in a way different from mainstream discourse studies. In its conceptualisation of discursive data, this study stands as a shift towards the paradigm of dialectic monism. Following a departure from cognitivist, universal conception of language to a post-structuralist, situationalised conception of language in social contexts, a Vygotskian approach to language or discourse analysis involves yet another shift 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 that 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 challenges the traditional role of the researcher in orthodox methodologies. In the theoretical, instrumental and analytical components, the study delineates 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) of teaching and teacher socialisation, this researcher presents a consideration of not just the readily observable occurrences or surface semantic messages in communication, but an appreciation of the psychological and conceptual organisation which underlies 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 in learning, see 3.1). The researcher’s mind is required to encounter that of the research participant in a structurally meaningful way. In contrast to the perceptive research that requires, in the pursuit of objectivity, the researcher’s self be removed from the research process; the apperceptive research takes as precondition the researcher’s integrative self-transformation in and through contact with participants and data.
CHAPTER 1  EPISTEMOLOGICAL CONTEXTS

To understand classrooms as learning environments, it is essential to appreciate the interpsychological relationship initiated in teaching and teachers’ socialisation with students. Taking such a stance where social relationship is viewed as a synchronous, multi-levelled and dynamic process, this initial chapter presents a fresh scrutiny of some of the most fundamental and widely contentious issues concerning classrooms as societies. Particularly concerning us are: the relationship between speech and thinking; the role of unconsciousness in ontogenesis; consciousness and unconsciousness in speech; and, finally, the social, psychological environment of 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. Conceptualisations of the relationship between speech and thinking involve two opposite views. On the one hand are language-code (e.g., social constructivist and many social semiotic) theories, which claim a direct, causal influence of language on learning. On the other is Vygotsky’s developmental psycho-semiotics (cf. Robbins, 2001), which outline an interactive and acausal relationship between speech and thinking. Criticising the first position, Fox (2001, p. 28) is correct in arguing that a causal, exclusive speech-thinking relationship denies the roles of the sensori-motor and various implicit channels of learning.

Another variant of this extreme socialisation 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).

Fox not only points out the existence of implicit or unconscious learning unexpressed by language; he is even sceptical about how language, “built out of brute physical sounds or visual marks, or similar alternatives”, can, at all, be “the material out of which most constructivists seem to want to build knowledge” (2001, p. 28). Liu and Matthews (2005) observe that the upholders of language-coded learning and their critics often do not differ in their causal epistemological root. Whether one argues of the causal power or the irrelevance of language for learning, in both arguments, language and learning are perceived as intrinsically inert properties. It will be shown later (see Section 1.3), for example, that in social semiotics, such paradox is indeed true.

While language is considered a paramount determinant of learning, both speech and learning are considered as unconscious processes unrelated to conscious thinking. Fundamentally, both advocates and opponents of the causal relationship between language and learning agree on a separatist paradigm of the external sign and the internal process. Despite surface variations, language and thinking are perceived as fundamentally independent and mutually exclusive at both ends of the opposition.

By contrast, defended in this psycho-semiotic study is a dialectic monist perspective (cf. Robbins, 2001), where learning is defined by the integration of language as a psychological, symbolic system and thinking. In the psychological, symbolic system, language and thinking form an irreducible whole that is qualitatively different from the independent, external linguistics or the unmediated thinking process.

In this unified whole of language and thinking, the basic, meaningful unit is not word or thinking alone, but word meaning, the psychological integration of the two. As described by Vygotsky, word meaning is 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. In the same way that one cannot
genuinely comprehend the property of water by reducing its molecules
to separate hydrogen and oxygen, one cannot reduce beyond word
meaning without a great loss in understanding (Vygotsky, 1987). The
development of word meaning and that of thinking are two aspects of
the same unified process.

In this holistic view of language-mediated thinking and develop-
ment, research revolves essentially around language as ‘a verbal act
of thought’ (Vygotsky, 1987, p. 47), or verbal thinking. In the current
study, research concerns language-mediated thinking in teaching and
teacher-initiated socialisation in the classroom.

Essentially, verbal thinking involves a dialectical leap from the
unconscious, sensori-motor perception.

[…] 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 qualita-
tively different way in thinking than it is in immediate sensation. This qualitative
difference is primarily a function of a generalised reflection of reality. […] 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).

1.2 Unconsciousness in Ontogenesis

To understand the full dynamics of human potential as it is seen by
Vygotsky, we must trace back to the objective, historical resources of
human phylogeny. The holistic view of the human mind involves both
consciousness and unconsciousness as interactive processes in psycho-
logical structural development. This view fundamentally underlies our
understanding of effective teaching and teacher socialisation.

With his theoretical edifice built on the dialectic analogy between
ontogeny and phylogeny, Vygotsky views individual development of
personality on the continuum of mankind’s history. In understanding
individual potential of development, history and the present are studied
as an interactive component of a dialectic unity.
In the development of the child, two types of mental development are represented (not repeated) which we find in an isolated form in phylogenesis: biological and historical, or natural and cultural development of behavior. In ontogenesis both processes have their analogs (not parallels). This is a basic and central fact, a point of departure for our research: differentiating two lines of mental development of the child corresponding to the two lines of phylogenetic development of behavior. This idea, as far as we know, has never been expressed; nevertheless it seems to us to be completely obvious in the light of contemporary data from genetic psychology, and the circumstance that it has thus far stubbornly escaped the attention of researchers seems completely incomprehensible (Vygotsky, 1997c, p. 19).

Unique to the structural development of human psyche is the fact that what progressed in succession in the collective history occurs as a single, merged process in ontogenesis. With ontogenetic development regarded as a ‘modified recapitulation of phylogenetic development’, ‘the evolution of consciousness by stages is as much a collective human phenomenon as a particular individual phenomenon’ (Neumann, 1970, p. xx).

In the analogy to phylogenesis that is ontogenesis, history is deeply entangled in the cultural / psychological and biological development in the current life. Researchers must thus consider ‘everyday human behavior from the point of view of this long history’, ‘which spans many thousands of years’ (Vygotsky, 1981, pp. 156–157).

In the historical view of individual potential, the mind is a multilayered, hierarchical structure, comparable to ‘geological fissures’, which ‘disclose different strata of some complex formation’ (Vygotsky, 1997c, p. 23).

In my opinion, one of the most fruitful theoretical ideas genetic psychology has adopted is that the structure of behavioural development to some degree resembles the geological structure of the earth’s core. Research has established the presence of genetically differentiated layers in human behavior. In this sense the geology of human behavior is undoubtedly a reflection of “geological” descent and brain development (Vygotsky, 1981, p. 155).

Examples of the genetically, i.e., developmentally differentiated layers of human behavior are mental functions in the state of conscious awareness and those in dreams. ‘In dreams, […], one can observe the ancient primitive mechanism of complexive thinking, the concrete fusion,
condensation, and shifting of images’. ‘[The study of dreams] does away with the prejudice that generalisation in thinking emerges only with the most developed form of thinking, only with thinking in concepts’ (Vygotsky, 1987, p. 155).

Because of the co-existence and co-functionality of history with ontogeny, individual development is not a process where one progresses from the unconscious to the conscious before reaching the stage of synthetic integration. The historical structure and the conscious structure develop simultaneously and interactively. As a result of conscious intervention in dream analysis, for example, dreams develop and archetypal images evolve. Consequently, through dreams, the psyche is exposed to greater influence from the historical and transpersonal level and is less influenced by the personal level. The evolution of the historical structure of the mind then leads to integrative development of conscious awareness.

The same phenomenon of integration between consciousness and unconsciousness underlies not only the general process of individual development but also every act of imaginative generalisation in thinking but the formation of all mental connections, abstractions, and generalisations. In the formation of concepts, “imagination and thinking are opposites whose unity is inherent in the very first generalisation, in the very first concept that people form” (Vygotsky, 1987, p. 78).

Thus, in the developmental process of the mind, the interactive integration of the heterogeneous structures is the essential mechanism of individual growth. “Being integrated with the conscious, the historical unconscious finds new forms of expression. Merged with the phylogenetic, consciousness is allowed sustained, coherent growth. Between the historical unconscious and the contemporary conscious there is now a newly formed centre in the whole of the mental functioning structure” (Matthews & Liu, 2008, pp. 24–25).

In the historical view of individual development, effective teaching and teacher socialisation take on drastically different outlooks from classroom communication merely for the benefit of students’ conscious learning. In the former, where interaction between the historical unconscious and the conscious is believed to be the origin of authentic growth, teaching and teacher socialisation are generated simultaneously
and concurrently as the teacher’s inner, reflective processes of the object of their speech and activity. The teacher’s speech that unfolds simultaneously as inner processes works to inspire and resonate with their audience’s reflective and integrative processes. It works to initiate the encounter between conscious and unconscious sources of learning. By contrast, where learning is believed to occur in conscious domains only, the teacher speaks and organises classroom activities so as to transmit, represent and reinforce the intake of ideas. While the reflective teacher uses the external listener to activate inner dialogues; the teacher who teaches to the conscious mind speaks and acts exclusively towards an external audience, isolated from the inner self.

In the latter case, learning and development are considered solely as an ontogenetic process, the process of the formation of the personal and conscious self. In this process, the innate and historical resources enabling the imaginative, self-guided connections are not acknowledged or utilised. The historical view of development differs in its educational approach to dialoguing from within and mediating, rather than mandating thinking.

1.3 Consciousness and Unconsciousness in Speech

From an educational psycho-semiotic perspective (cf. Robbins, 2003), speech is the psychological symbolic tool mediating thinking dynamics. Language is of interest in its capacity to enable the interaction between the self and the other, between the other within and the other without, and between consciousness and unconsciousness. While not all words have meaning or thought, words that make possible the intention and the action of ‘seeing behind’ an idea is the focus of Vygotsky’s study of semiotics (Zinchenko, 1997, p. 214). Language in its reflexive capacity mediates the revolutionary, as opposed to the natural and organic, pathway to growth.

In relation, the social environment that Vygotsky deems as the origin of growth is the social exchange that is constituted of inter- and
intrapsychological reflexivity. It denotes, by no means, social relationships dictated by organisational or institutional structures. A study of language mediating interpersonal engagement and intrapersonal reflection is totally incommensurable with a study of language as an institutional process. Obviously, paradigmatic differences exist between the two. While the study of inter- and intrapsychology as a connected whole operates in a holistic, universalistic paradigm, the study of speech and thinking as dictated by social class and institution operates in an atomistic and separatist one.

Initiated by Wertsch (1991), the proposal is to link Vygotsky’s description of speech with social institutional process. Echoing Wertsch, 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 organisation”. Essentially, what is postulated here by social semioticians to amend Vygotsky’s theory of speech and thinking is an approach to language in correspondence with, or more precisely, subordinated to a theory of social organisation and institution. The theory of speech-thinking is collapsed with the theory of social structures. In a social semiotic perspective, language is not an active process in itself but merely a conveyor of class ideology.

At the base of a social class-language theory has to be 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).

Thus, language is considered to perpetuate socially derived unconsciousness, for
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).

The identification of language with institutional environment and situated unconsciousness poses certain conditions on what can be deemed ‘authentic’ speech. From a social semiotic position, researchers must catch speakers or writers in their unconscious moments, free from self-monitoring.

[…] 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).

Evidently, the social semiotic approach to language is diametrically different from Vygotsky’s study of speech and its mediation of thinking and reflective awareness. Fundamental to the former are the theses that: a) individuals are unconscious; b) language is composed of unconscious options and choices that individuals inherit from their immediate class and institutional environment; c) class and organisation are superstructures dominating individual choices and interaction; and d) in understanding language, the subject matter is language use in its unconscious, unguarded state and language’s allegiance with social structure, which is revealed in class-branded linguistic features. To Vygotsky, on the other hand, the subject matters of research are: a) individuals as historical beings, who are capable of will, reflection, and conscious awareness; b) verbal thinking in its active, reflexive and engaged state; speech that does not enable self-reflection and regulation is not authentic speech; and c) features of social relationship and environment that allow individuals to surpass history and transcend culture.
Although both the social semiotic and the psycho-semiotic stances are legitimate approaches to speech, the two are incommensurable. This is simply because of the fundamental difference in the subject matter of their research: while social semiotics seeks to understand class and institutional processes, Vygotsky is concerned about the unification of communication and generalisation, i.e., the transcendental potential in language. For the purpose of understanding individual growth in this context, the latter is by far more relevant.

A social semiotic study thus focuses on variations in meaning-making associated with alterations in linguistic and semantic features. In this school of thinking, both language and individual psychology in socialisation are no more than unconscious acts unrelated to active thinking. Only when this is true, can language and psychology form a causal, one-to-one relationship. Also, only when both language and psychology are considered inert, unconscious acts, can the study of language be equated with the study of class ideology.

Such theory may be useful for explaining a society of complete and perfect perpetuation of power and class differentiation where no change has been and will ever be possible. But it is futile in understanding the social phenomena of change and individual development. For the same reason, such theory may be used in criticisms against past and present control and inequality but it does not make us feel less lost about the way ahead in our societies. The fundamental paradox underlying this school of thinking – while active thinking is discounted and isolated from language, on the other hand, language itself is theorised to account for the whole of human psyche – determines that it is not adequate for comprehending the speech-thinking mechanism associated with qualitative, psychic growth.

By contrast, in a psycho-semiotic study of 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 organisation between meaning units (detailed discussions in Chapter Two).
In the presence of an observer and in self-consciousness, individuals may well be able to manipulate the surface field, tenor, and mode (Halliday, 1994) of speech. But to alter the nature of verbal thinking requires a structure of self-reflection entirely different from self-consciousness in the common sense of the word. The researcher’s understanding of social relationship is not based on linguistic structures and choice of words, but on the reflective tension and psychological dynamics between meaning units (Chapter Two).

The view of unconsciousness held in social semiotics is rooted in the early Freudian conception of the unconscious as the dark, shadowy, undesirable counterpart of consciousness. Similarly in Freudian interpretation of dreams, images and symbols form a causal, one-to-one relationship with meanings. Through education, unconsciousness as the deterrent of rationality must be suppressed, eradicated, and replaced by 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 way of combating the unaware teaching which is largely due to teachers’ own inadequacy in linguistic rules and reading strategies. Teachers’ knowledge, however, is a necessary but not a sufficient condition for effective teaching. Emphasis for direct transmission of hard-and-fast 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 and imaginative elements that are 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. Instead, 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. In both the process and the result of teaching, from the beginning to the end, language functions as psychological tools first in the teacher’s then in the student’s thinking, mediating interfunctional connections and psychological (re)organisations.

Both the mechanism and result of this teaching differ from 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 in an intrapsychological-interpsychological-intrapsychological cycle of resonation (Chapters Two and Three). In a social semiotics-informed pedagogy, teaching and learning result in the ability to decode and encode language in light of social and ideological conventions. It aims at bringing about impressionistic changes in the external world composed of a mass of unconscious individuals. In an educational psycho-semiotics, language is 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 epistemology; whereas socio-semiotics practises 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 interpsychology.

1.4 The Problem of the Social 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 conceptualisation 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 particularly by those not affiliated with the school of thinking. Critiques go on to make charges of a “blinker 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’, ‘generalisation’, 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 decontextualised 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 organisation (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-psychic 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-dialectic-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 its 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).

Aligned with the epistemology rooted in the archetypal unity of human and world, social environment is defined as the unity of intra- and interpsychological socialisations. The unity of intra- and interpsychological interaction is made possible by the symbolic system of
an internal-external dual nature. The symbolic use of language in the mediation of thinking enables group members’ social participation that occurs simultaneously in the external and the internal worlds. Such synchronous interaction leads to the individual’s yielding, neither to the Freudian reality principle nor to the pleasure principle, but to the need of integrative growth. In this process, “Consciousness must […] turn inwards. As the discriminative organ it has to function just as efficiently in respect of the objective psyche inside as of the objective physis outside” (Neumann, 1970, p. 341).

An interpsychological environment is thus a social dynamic greater than the sum total of separate individual members. It is the social unity in which individuals share a common history. The interpsychological is not some fantastic, mythical state. As Neumann (1972) points out, the integrated group is in the original uroboric situation. It is, indeed, archetypal. Our ontological socialisation, when driven by archetypal forces of unity, provides not just a backdrop or context, but the very origin of individual development (Vygotsky, 1994b).

A case of mother-infant interaction testifies to this. In the event of a toddler’s pointing at an object with a finger:

[…] at first the indicatory gesture is simply an unsuccessful grasping movement directed at an object and designating a forthcoming action. […] Here we have a child’s movements that do nothing more than objectively indicate an object.

When the mother comes to the aid of the child and comprehends his/her movement as an indicator, the situation changes in an essential way. The indicatory gesture becomes a gesture for others. In response to the child’s unsuccessful grasping movement, a response emerges not on the part of the object, but on the part of another human. Thus, other people introduce the primary sense into this unsuccessful grasping movement. And only afterward, owing to the fact they have already connected the unsuccessful grasping movement with the whole objective situation, do children themselves begin to use the movement as an indication. The functions of the movement itself have undergone a change here: from a movement directed toward an object it has become a movement directed toward another human being. The grasping is converted into an indication. Thanks to this, the movement is reduced and abbreviated, and the form of the indicatory gesture is elaborated. *We can now say that it is a gesture for oneself* (Vygotsky, 1981, pp. 160–161, original italics).
The history of the formation of the indicatory gesture is the same history of the interpsychological infusion. Also, in a moment both temporary and permanent, the history of the mother merges with that of the baby (the shared psychology is permanent because the connection is archetypal). In the interpsychology, the mother becomes because of what she produces for her child; the child becomes because of what he/she produces for the mother. “We could therefore say that it is through others that we develop into ourselves and that this is true not only with regard to the individual but with regard to the history of every function” (Vygotsky, 1981, p. 162). In the same manner, “The mastering of nature and the mastering of behavior are mutually linked, just as man’s alteration of nature alters man’s own nature” (Vygotsky, 1997c, p. 55).

In the mother-infant dyad, the meaning potential is existent originally in both the adult and the child. But it takes for the adult (with what Vygotsky terms the ‘ideal form’ of phylogenetic development) to activate the meaning potential, attending reflectively to both the social situation and within herself. Her reaction based on this reflexivity thus activates the symbolic potential of the original finger indication. Meaning is not introduced from without but from within; this is true for both the adult and the child. For the mother, she does not transmit meaning mechanically, i.e., by telling the baby what the indicatory gesture means. For the baby, the primordial connectivity with others, the world, and the self was already there, energising the formation of all symbolic meaning, for ‘sym-bol’ means nothing else but ‘to bring together’. “Did our eye not contain the sun’s power, how could it perceive the sun at all?” (Goethe’s line, cited in Güggenbuhl-Craig, 1971, p. 90).

Chapter Overview

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,
the notion of the learning environment in Vygotsky’s account is defined as interpsychological relationships. Fundamentally, what contributes to 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 presents one such effort in comprehending and systematically extrapolating the interpsychological mechanism in teaching and teacher socialisation as the learning environment.

Basically, to objectively understand the development of the whole person, we must abandon the egoistic belief of an isolated ontological life. We must begin by understanding all individual life in its present state as an intrinsic continuation of the collective past. We must be also able to see how history operates essentially in all the imaginative connections, abstractions, and generalisations the mind produces in all moments of authentic learning. We will then understand that all such psychological developments, however small and trivial they may seem to an unreflective mind, are significant steps in progressing towards our unity between the worlds inside and outside, and are thus resonating with the progression of humanity as a whole.

In the historical perspective adopted by both analytical and developmental psychologies, the collective, archetypal origin is alive in the geological structure of the contemporary mind. In ontogeny, the unconscious and the conscious develop simultaneously and interactively. In the original state of uroboris, there is the perfect unity of individual and group, consciousness and unconsciousness, human and world. In the ontogenetic state of separation between the systems, this archetypal unity continues to drive our development towards re-integration.

In this context, the development of the individual personality originates from the connectivity of interpsychology and consciousness and unconsciousness. Such connectivity is made possible by the synchronicity and multiplicity of the symbolic system. For a student of social relationships as the origin of development, history is generated from within. What is produced in the social space is first produced in oneself. By and large, this view of the unity of the past and present, individual and society, intra- and interpsychology is the basis of our ensuing chapters.
CHAPTER 2 INTRAPSYCHOLOGY AND PSYCHOLOGICAL STRUCTURE OF SEMIOTICS

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 the 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, 1998). 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.

2.1 Language as Symbols

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 recognises 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 characterised 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 behaviourism 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 borrows an example from the interpretation of subtexts by Stanislavskii, the theatre educator (Vygotsky, 1987, pp. 282–283):

<table>
<thead>
<tr>
<th>Text of the play</th>
<th>Parallel desires</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sophia:</strong></td>
<td><strong>Wants to hide her confusion.</strong></td>
</tr>
<tr>
<td>Oh Chatskii, I am glad to see you.</td>
<td></td>
</tr>
<tr>
<td><strong>Chatskii:</strong></td>
<td><strong>Wants to appeal to her conscience through mockery. Aren’t you ashamed! Wants to elicit openness.</strong></td>
</tr>
<tr>
<td>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></td>
</tr>
</tbody>
</table>
Liza: But, sir, had you been behind the door, 
Not five minutes ago, 
You’d have heard us speak of you, 
Miss, tell him yourself! 
Wants to calm Chatskii and to help Sophia in a difficult situation.

Sophia: It is always so – not only now. 
You cannot reproach me so. 
Wants to calm Chatskii. 
I am guilty of nothing!

Chatskii: Let’s assume it is so. 
Blessed is the one who believes, 
And warm his life. 
Let us cease this conversation.

Using this theatrical example, Vygotsky demonstrates that, in order to understand the full interpsychological 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.

The external-internal multiplicity is a feature of language functioning in symbolic capacities during verbal thinking. External and internal socialisations interact, enabling self-reflective and self-integrative development. The increasing capacity of communication between various aspects of the psychology accompanies the process of individual development.

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 vary greatly.¹ The true

¹ 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 characterised by conventional signification rather than true symbolism.
symbolic functioning of language emerges only in the last general stage of the development of verbal thinking, where thinking and speech are not 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 individual developmental processes, 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 Nine). 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 socialisation acts and processes, and operates as the socio-psychological mediator for all participants’ continuing psychological and personality development.

2.2 Inner Speech as Intrapsychological Interaction

Inner speech is the speech of intrapsychological dialogues, which accompany reflective and integrative development. In order to understand socialisation 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,

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2 It should be pointed out that the object of the present study is not inner speech, but the psychological nature of teaching and teacher socialisation. The latter is considered as the social psychological origin for the development of the former.
in social play. It is found that earlier in life (at about three years of age) 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 seven 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 socialisation increases, Vygotsky contends that egocentric speech does not disappear in the developmental process. Instead, as socialisation increases it grows more and more inward. From Piaget’s view, if socialisation causes self-talk to decrease and disappear, egocentric speech would become more and more comprehensible. But if socialisation contributes to the development of inner speech, egocentric speech would correspondingly become increasingly abbreviated and unsocial as socialisation develops. Socialisation 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 agrees 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 interpsychological 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 internalisation 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., internalisation, 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 internalisation, meaning given interpersonally is organised 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 internalisation, meaning has acquired a symbolic status in the intrapsychology.

2.3 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 partly 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 a 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 tacit or 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 (see Diagram 2 on Page 29).

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

![Diagram 2. Adapted square for the question-and-answer game](image)

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process involved are the core of learning in language, and math, science as well as most other school disciplines. 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).

Chapter Overview

Among the basic tenets of Vygotsky’s psycho-semiotics are: first, speech is dual in nature. Speech is simultaneously an external and an internal communication; in other words, it is both interpersonally and intraper-sonally social in function. Second, the dual aspects of language do not coincide; they differ in nature and developmental origins. Third, 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, history and present, and as such, its profound connection to the very nature of being.

In explicating Vygotsky’s psycho-semiotics, this chapter has described the process of verbal thinking as a dialectic unity of the
external (linguistic) and the internal (psychological) as concurrent and interactive processes. When an individual is attempting to put thinking into words and thereby clarifying his/her thought, the interaction between the linguistic and the psychological processes is what initiates the intrapsychological reflective process of inner speech.

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: predicative abbreviation, where speech is organised by meaning. Because of the common feature of meaning organisation, inner and external speeches are enabled to interact and unite. 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. Characterised 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.
CHAPTER 3 INTERPSYCHOLOGICAL INTERACTION

“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 it is interpreted by many post-structuralist writers. Rather, social relations refer to the authentic encounter between thinking minds. As suggested in the previous chapter, such interpersonal relationship is where intrapsychological reflection is initiated.

In Chapter Four, a theory of interpsychological transaction is discussed. Teaching and learning are postulated to be conjoint, apperceptive processes. Proximal learning environments are characterised by an acausal and apperceptive cycle that begins in the teacher’s intrapsychology. The intrapsychology of the teacher as the mediator of learning makes a difference first in the teacher-student interpsychology, and then in students’ intrapsychology. The tripartite cycle is the central premise of the present educational psycho-semiotic theory.

3.1 Apperception and 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 recognise 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 organisation 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. 147–148, 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. 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, 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 (Harris, 2000, p. 192).
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 two, 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 socialisation and evasion from social reality, Harris suggests joint pretence displays precisely children’s attunement to engagement with sociality and analytical reality. It is argued that engagement in pretence situations represents infusions of logical 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 external semantics, but also in the whole intertextual network and psychological organisation of the semantics.

It has been branded the impossible ‘Fodor paradox’ that learning of the self-regulated nature involves ‘knowing’ what we do not yet ‘know’. 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 One. 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.
3.2 Apperceptive Socialisation

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

In joint play, for example, 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 or she is alone. Second, egocentric speech is vocalised 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 socialisation 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 socialisation, 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 situa-
tion where the possibility for vocalisation 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 recognised, 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 under-
standing 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. Firstly, in all social communications, the simultaneous
engagement with the dialogic partner and with oneself underlies com-
municative authenticity. Similar to egocentric socialisation, 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 socialisation, interpsychologi-
cal encounter is often made possible in a structured activity environ-
ment, 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 invest-
ments. No less than any adult business, children in games are serious,
dedicated participants and interactants. Interpsychological connections
are seldom consequences of abstract contemplation or decontextualised introspection, but are often mediated by conjoint engagements in structured task environments. Goals and conceptually organised 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 socialisations 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 characterised 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. 273–274).

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, it has been 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.

Previously, the notion of social environment was discussed and it was contended that environment 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 socialisation is the origin of development. Thus to Vygotsky, the ideal form of socialisation and learning in social contexts does not occur unless there is profound psychological encounter and infusion.
3.3 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 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, initiated by the mother.

Hearing the ‘hellos’ repeatedly used to address to her, the baby then imitates this. 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 socialisation 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 very well of the way mothers converse with their non-verbal 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 envisages, utilises, and realises 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 non-verbal 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 socialisation.

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 organisation 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 organisation 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 polarisation 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 recognised that the baby plays a structurally active role as well. Explicating
on the phenomenon of projective identification, Ogden (1986) emphasised 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 utilise. 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.

3.4 Proleptic Teaching

In the 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
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projection presents the basic mechanism of teacher effectiveness and of the teacher-student relationship from which development is originated.


[...] 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).

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 resonation with the teacher’s intrapsychology.

Diagram 3 depicts the proleptic process from teaching to learning:

![Diagram 3. Psychological mechanism of proleptic teaching](image-url)
In proleptic projection, both the teacher and student interactants play structurally active roles. Firstly, 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 organisational 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, or 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 organisation 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. Both the process as well as the 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 organisation 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 Five on scientific and spontaneous concepts). The matter with conceptual functionality does not concern the right versus 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 being right or wrong, but one of psychological organisation and functional systematicity.
The student is the other active party in the projective process, challenged to continually structure and restructure his/her conceptual organisation. 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 utilised in dialectic 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.

Chapter 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 socialisation 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 that is mediated by the speaker’s own intrapsychological reflexivity. Intrapsychological dynamics are apperceptively communicated and resonates with the other’s intrapsychological process. This acausal, apperceptive socialisation 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 socialisation involves the simultaneous intrapsychological and interpsychological communications. Next, specific dimensions of teacher-initiated psycho-semiotic relationship with students will be systematically elaborated.
CHAPTER 4  CLASSROOM PSYCHO-SEMIOTICS

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 mental development have also wavered between the two separatist notions. In the previous two chapters, 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 explicated.

Four specific dimensions are identified for interpreting the teacher’s intrapsychological engagement which precedes social interaction and student engagement. The main challenge in any attempt at detail extrapolations of a holistic process, it is recognised, 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 socialisation 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 dimension); interpsychological encounter (social 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 the linguistic or semantic plane of teacher and students’ speech, and also readily observable classroom behaviour. The internal level involves
the psychological organisation 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 the
psychological organisation and mechanism that underlie the socialisation
of a particular nature; inner speech is the internal level of authen-
tic verbal thinking communication. Specifically, it is argued that inner
speech in the teacher gives rise to authentic social communication,
which inspires and resonates with students’ inner speech.

4.1 Structure of Task and Participation
(Structural Dimension)

The basic premise of the study is that, in a proximal learning environ-
ment, teachers’ intrapsychological engagement should be the precondi-
tion of students’ thinking and development. Social relationship in the
classroom, as represented in the teachers’ intrapsychology – interpsy-
chology – students’ intrapsychology cycle, can be examined in four
dimensions. Among them, this structural dimension concerns teach-
ers’ communication and enactment of the structure and organisation of
classroom processes. At the external level, teachers’ intrapsychological
engagement can be reflected in their verbal communication to students
when initiating, sustaining, and concluding tasks and participation. At
the internal level, this is revealed in the actual psychological mecha-
nism regulating task unfolding. Teachers’ engagement at the external
and internal levels of the structural dimension communicates appercep-
tively to students the psychological environment of the task and indi-
vidual involvement.

In this section, discussions will proceed from the interpsychologi-
cal origin of the structure of task and participation and what this implies
for an applied understanding of the classroom, to teachers’ mediation at
external and internal levels.
4.1.1 Interpsychological origin of the structural dimension

The structure of task and participation is a psychological scaffold, rather than an external or objective entity. This means that it does not pose a concrete, exterior framework, prescribing and dictating individual participation and behaviour. It also means that it is not constructed singlehandedly by one or some parties of participants and then deliberated to and observed by others. For individual engagement in the social activity, the structural environment is synchronously apperceived by the participants.

As in children’s pretend games, all participants enter into a psychological consensus which is co-constructed and then updated apperceptively throughout the process. The synchronous apperception is a result of conjoint engagement in task as well as social, mutual engagement with 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.

When applied to understanding classroom practices, because teachers’ intrapsychological engagement is a holistic, integrative process, the structural dimension cannot be interpreted in isolation from other dimensions such as the conceptual tool and the social conceptual dimensions, of teachers’ engagement. In itself, task and participation structure is not conceptualized as an independent dimension exerting causal influences on learning regardless of the other dimensions.

In fact, it will later be made clear that, in the cycle of teachers’ intrapsychology-interpsychology-students’ intrapsychology, all four dimensions (structural, conceptual tool, social conceptual, and historical) operate in interdependence on each other. Moreover, in an integrative perspective of the relationship between teaching and learning, such interdependence between the dimensions indeed constitutes the catalyst
factor that essentially defines the educational and psychological quality of each dimension.

Returning to task and participation structure, it is not only argued that this dimension cannot be considered in isolation from other dimensions, but also it is true in the present study that the integration of this and other dimensions is the key definitive factor in our interpretation of classroom practices. This understanding is in contrast with a conventional view of task structure as the external regulation of learning. For example:

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 [...] 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, R., 2003, p. 201).

From a purely curriculum-design stance, an emphasis is made on the different intended effects of various task features on learner behaviour. But curriculum design is but one of a multitude of factors in educational intervention, and one whose actual effects cannot be considered in separation from the individual psychology. Although it is ostensibly indisputable that, in a statistical equation, for instance, the variable of task structure seems to account for certain probabilistic outcomes in learner behaviour; the problem that draws researchers’ attention has long ceased to be the direct causal effect of any one independent factor. In a carefully designed study of a complex setting such as education, whether quantitative or qualitative, the main challenge is to understand any interaction effects between variables or factors.

Ellis’ proposal of the inherent ‘propensity’ of task is indeed not new. Ach (Vygotsky, 1987) of the Wurzburg School (Vygotsky, 1987,
p. 376, Note 2) has also argued about the ‘determining tendency’ of task. Ach suggests that the determining tendency, derived from the participant’s psychological representation of the goal of the task, gives rise to conscious, self-regulated operations in learning and problem-solving. The individual representation of task’s determining tendency is thus believed to be the basic factor in conceptual development consequential of task participation.

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 recognise the significance of the life-task as a factor that nourishes and directs intellectual development in the transitional age (Vygotsky, 1987, p. 132).

However, “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). He challenges that determining tendency does not explain the essential quality and nature of psychological operation.

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. 131–132).

And,

In essence, [Ach and Rimat’s studies] 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).

It should be noted that Vygotsky was working in advance of 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.
Instead, Vygotsky emphasises ‘the mutually conditioned nature, the organic integration, and the internal unity of content and form [i.e., task and conceptual tool operation – my note] in the development of thinking’ (1987, p. 132).

In the psychological labour of teaching, task and participation structure and conceptual operation are indeed mutually conditioned and the two form an organic integration. In the psychological engagement of a teacher, his/her design and enactment of task and participation structure are always informed by his/her understanding of the nature and functioning of the pedagogic concept at hand. Whether or not task and participation structure is designed and enacted in alignment with the psychology of the pedagogic concept is, in fact, an essential determining factor in interpreting the educational impact of this structural dimension.

If the integration of task and participation structure and conceptual functioning seems to be a given in teachers’ psychological labour; it is not the complete picture. The structural is not only integrated with the conceptual, but also with the social dimension. Teachers’ psychological engagement in the structural dimension is reflected not only in task’s facilitation of conceptual functioning but also in the facilitation of conceptual socialisation. This is because conceptual functionality is inherently social in nature. Until now, the mutual reliance between authentic socialisation and the development of thinking has been the core of arguments. The collaboration between verbal thinking and conceptual development applies to students as well as teachers. Thus, interpreting the structural dimension of classroom practices, the integration of the structural with both the conceptual and the social dimensions is the key consideration.

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 is not 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. In addition, because teacher’s psychological engagement is an organic, holistic process, it was suggested in this section that the structural dimension must be interpreted in terms of its connection with conceptual and social dimensions.

Next, how integration of the structural dimension with conceptual and social dimensions is reflected at the external and internal levels is discussed. Mainly, at the external level, such integration is reflected in teacher’s verbal delineation of task in the initial moments, during, and after task. Teachers’ speech must be psychologically substantive, revealing an orientation to task as conceptual thinking processes, as opposed to their focus merely on external procedures and behavioural prescriptions. At the internal level, the actual unfolding of task must reveal psychological coherence with the conceptual and social nature of task.

4.1.2 External level of the structural dimension

The external level of this dimension encompasses teachers’ verbal delineations of task and participation structure. These may include the cognitive and metacognitive depictions and instructions such as the psychological nature of task, its curriculum status, developmental significance and wider context of learning, goals, methods, roles and responsibilities, summary of results, and future plans, etc. The structural dimension of teachers’ speech is similar to Bernstein’s (1990) notion of ‘regulative discourse’. Of classroom discourses, Bernstein has differentiated between the academic and the regulative. Regulative discourse plans, guides, and organises speech act and performance in academic discourse.

In all classroom processes, organisation and structure facilitate systematic as well as 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.

On the other hand, learners’ engagement is not a causal consequence, but rather an acausal resonation of teachers’ engagement. Thus, at the external level of the structural dimension of teachers’ speech, we examine, not what is specifically prescribed of students’ behaviour, but the conceptual orientation that is revealed in the speech. In an acausal, apperceptive conception of speech mediation of thinking, teachers’ speech must mediate teacher’s inner orientation towards task as conceptual thinking processes, as opposed to merely behavioural conducts and external procedures. When discussing task with students, the teacher addresses fully his/her understanding of the structure and feature of the task as a conceptual activity but treads lightly in the zone of students’ specific behaviour. Students’ specific behaviour must be the content of self-awareness; their thinking processes must be results of self-regulated participation. Teachers’ language invites and inspires informed participation, but does not demand mechanical compliance.

This is contrasted with the proposal for clarity and specificity in teachers’ language (cf. Vanderstraeten and Biesta, 2001). In Australia, after decades of domination of education policies and practices by post-modernist constructivism, a call is made for returning to the basics such as literacy and numeracy. In line with this, ‘explicit teaching’ is actively advocated by social semioticians (e.g., ACER, 2006). Between the social semiotic and the psycho-semiotic stances, the most fundamental difference lies in the conception of the relationship between speech and thinking. Rather than an acausal and apperceptive relationship, a causal, one-to-one relationship is implied in the postulation of explicit teaching.

4.1.3 Internal level of the structural dimension

The internal level of task and participation structure involves the actual psychological mechanism that governs the unfolding of the social activity. Throughout the social activity, several elements may be considered to indicate its psychological, regulative mechanism, including: teacher
and students’ respective roles, responsibilities, the nature of their partnership, the overall and staged goals and results, the intellectual and developmental connection between the task and others in the curriculum, and the on-task time that is allocated for the overall activity and its component aspects, etc. In all these elements, the internal level of the structural dimension is considered in light of its coherence with the conceptual tool, social conceptual, and historical dimensions. Task and participation structure must be aligned with conceptual thinking operation and interpsychological interaction. Also, task and participation structure must allow for the generally unpredictable process of collective intellectual development.

One example helps to illustrate the coherence between internal task structure and other dimensions of teaching. 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 a dictionary, reading and understanding the content of texts to the extent that students could answer content-based questions on the text. Students’ self-learning before lessons also involved identifying special syntactic structures and grammatical features in the text. The independent learning outside contact hours was fostered and intellectually mediated via in-class socialisations.

Firstly, in Patricia’s classrooms, socialisations between teacher and students during lessons were conducted with an intrinsic reliance on students’ prior learning of the text. This means that independent learning and in-class interactions were not identical or repetitive in psychology, but mutually complementary and dependent. Specifically, classroom interactions were not confined to the semantic level of learnings, which students were entrusted to have accomplished. Instead, interactions were constantly nudged to unfold
into the synthesised, integrated understandings and applications that
students’ semantic learning could lead to. For example, contrary to
my observations of so many other English language classrooms,
this teacher refused to supply semantic explanations of new words,
phrasal expressions and sentences which students could have found
out from dictionaries and reading other referential materials. Rather,
she requested students to explain the meanings, to identify parts of
speech, phrasal compositions and syntactic structures, and to give
answers readily retrievable from texts. These then became the mean-
ing basis of further prompting for increasingly integrative under-
standing. In terms of content, teacher-student exchanges followed
the transition, common at multiple levels and stages of conversation,
from semantic and reproduction-based question-and-answers to dis-
cussions of individual understandings and opinions, which sometimes
also led to creative adaptations. In terms of psychology, as a norm,
the development of communication was initiated with the student’s
meaning system, not the teacher’s.

For individual learning, the classroom provided the crucial social
space for, firstly, the externalisation of prior, independent learning, and
secondly, the authentic and structurally integrated operations of the
target language. From the dimension of task and participation struc-
ture, Patricia’s lessons were typically and consistently orchestrated to
enable the social realisation as well as transformation of individual
semantic learnings into communicative functional symbolic systems.
Also, making independent learning an integral part of in-class sociali-
sation, students were apprenticed to become self-monitored language
learners attending to linguistic and grammatical structures, as well as
self-facilitated readers in text comprehension. As a result, their con-
tributions to class discussions, displaying mature, sophisticated, and
all-rounded thinking, were often to be applauded.

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 levels of teaching, and between task structure
and conceptual thinking was frequently evident. Commonly in these
classrooms, whether or not students were administered with out-of-class independent studies, prior learning was either not addressed or was intellectually duplicated in teaching, rather than utilised in an integral and integrative manner. The results of the structural deficiency in teaching were often twofold in manifestation: firstly, classroom exchanges were typically concerned with first-level, semantic provisions; and secondly, discussions were consistently dominated by the teacher. Moreover, the lack of initiatives and the unsatisfactory performance of students were often attributed by teachers to students’ laziness or incompetence.

To reiterate, although the separation of task representation and conceptual operation figured prominently in Vygotsky’s developmental theories, from an educational perspective, however, task representation and conceptual functioning must be in congruence with each other in the psychological labour of teaching. Thus, the external and internal levels of this structural dimension of teaching are unified.

For the unification of task representation and conceptual operation, an important implication pointed out here is that students’ existing resources must be actively enlisted as foundation for authentic classroom socialisation. As long as classroom interaction is focused merely on semantic supplies evolving around the teacher’s thinking system, the psychology of task structure is internally impaired.

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).

In summary, task and participation structure is an aspect of the teacher’s intrapsychological engagement initiating interpsychological socialisation between teacher and students. It does not have inherent, causal influences on learner behaviour; rather, it is apperceptively communicated in inspiring student participation of certain natures. This definition has implications for both the external and internal levels of teachers’ structural endeavours.
4.2 Functional Systematicity of Conceptual Teaching
(Conceptual Dimension)

Functional systematicity of conceptual teaching is the second dimension of the teachers’ intrapsychology – interpsychology – students’ intrapsychology cycle. It concerns teachers’ active engagement in conceptual thinking as the precondition of students’ conceptual thinking. This dimension includes two sub-dimensions: teachers’ conceptual thinking is mediated and enlivened by both the activity and the speech in teaching concepts. In conceptual teaching activity, the governing psychological mechanism must be coherent with the nature and functionality of the concept. With regards to conceptual teaching language, it is emphasised that the semantic meaning of what is said about the concept is not self-sufficient for achieving educational goals. Conceptual functionality is disclosed in the intertextuality, i.e., the psychological relationship and organisation in language. Both conceptual teaching activity and conceptual teaching language will be considered at external and internal levels.

4.2.1 Conceptual teaching activity: external and internal levels

Systematicity in Vygotsky’s notion is considered in psychological functional terms, rather than in an external, objective sense. In mediating thinking, a concept or a word\(^2\) functions as ‘a stitch in a living integral

\(^2\) 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’: “Throughout 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
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). Systematicity also constitutes the key difference between scientific and spontaneous concepts (Chapter Five).

At the external level of conceptual teaching activity is the pedagogic task, approach or strategy adopted for teaching. Conceptual teaching cannot be accomplished simply by semantic explanations. In mathematics and science education, it is commonsensical that the teaching of a concept, a formula, or a principle should be accompanied by its employment in applicative tasks. The connection between conceptual understanding and students’ thinking operations is acknowledged at least at the external level of pedagogic activities in mathematics and science subjects. In language education, however, the separation of speech and thinking is pervasive in classroom practices. Language is considered as fixed, concrete, external and self-justified means of communication (further discussion in Chapter Five). Understanding, as stipulated by dictionaries and grammar manuals, is either correct or incorrect. In language classrooms, therefore, it is not uncommon that, even at the external level of teaching activity, the relationship between language and psychological/conceptual operation does not receive recognition. The meaning of language is often taught via simple provision of semantic explanations (detailed discussion in Chapter Seven).

At the internal level of conceptual teaching activity is the nature of psychological operation that governs and also is commanded by the pedagogic activity. Functional systematicity is reflected in the coordination and complementation of the external and internal levels of conceptual teaching activity. The psychological coherence in the two levels of teaching constitutes an apperceptive conceptual learning environment. An example (Larsen-Freeman, 2003) helps the illustration.

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).
Teaching the ‘there be’ syntax to English as additional language learners, 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 pointed out to be misleading. When teacher and students can all see the contents of the picture, the social communicative function of ‘there be’ in introducing new information, information that is previously unknown to the listener or reader, is not utilised. The teaching activity thus harbours an internal conflict with the psychological operation of the concept. The syntactic form that students practise 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. As a consequence of the immersion in external-internal coherent experiences, the teacher or students could point out the social psychological function of ‘there be’. The arbitrary separation between grammatical form and psychological function is thus avoided.

4.2.2 Conceptual teaching language: external and internal levels

The operation of the second sub-dimension in the conceptual dimension, functional systematicity in the language of conceptual teaching is, again, considered at external and internal levels. At the external or ‘discourse’ level, we examine whether conceptual language is used as the communicative means enabling social process in teaching and learning. In language education, conceptual language can include vocabulary items, phrasal structures, syntactic patterns, and even paragraphs of texts in the target language that constitutes the curriculum at hand. Conceptual language also includes the specific terminologies that reflect the scientific discipline’s generalisations of linguistic, grammatical, rhetoric, and communicative phenomena of language. Conceptual language need to be reflected in the ‘academic discourse’ as well as the ‘regulative discourse’ (Bernstein’s terms, 1990). The latter discourse plans, guides,
organises, and regulates the individual performance and engagement in the former discourse.

By contrast, in many English-as-a-Foreign-Language (EFL) classrooms, for example, it is not uncommon that speech in L1 and in L2 have clearly distinctive assignments: while L2 vocabulary, phrases, and sentence structures are uttered by the teacher to model reproduction and by students to show acquisition; L1 is used in the ‘real’ talks about the classroom and curriculum agendas in ‘bringing about’ the performed utterances in the target language. But the demarcation between ‘real’, communicative speech and academic speech is certainly not limited to EFL but also occurs in ESL classrooms. In Chapter Seven of this volume, it is shown that in all three ESL classrooms in the data, conceptual language is the object of semantic explanations but it did not find its way into the teachers’ socialisation processes with students.

In general, at the external level, concepts must not be limited to mere ‘objects’ of the teaching speech. The conceptual, cognitive, and metacognitive language that defines the curriculum of a discipline of studies must be employed for the continuing socialisation process in the classroom. Concepts are not just ‘talked about’ by the teacher, but must be what teacher and students ‘talk with’. To acquire social authenticity, they need to be the indispensible instruments for ongoing pursuits of interpersonal understanding, conceptual and (meta)cognitive language instruments function with social authenticity. Indeed, it is difficult to imagine, where conceptual language is not a part of the social speech, how communal engagement in conceptual activity can be scaffolded. Using the objects of teaching and learning in constructing a collective intellectual space is a critical external condition in a theory of sign mediation.

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3 The artificial distinction between conceptual and non-conceptual language is in probable association with the phenomenon Cummins (1987) described in large populations of ESL students: it is not unusual that after three to five years of immersion in English-speaking countries, non-native students often can develop good proficiency in the everyday spoken speech but, on the other hand, still display lower proficiency levels in the written speech and speech genres that characterise literacy, social and natural science curricula. Driven by this pervasive phenomenon of split proficiencies, Cummins proposed the original ‘threshold theory’ in explaining the relationships between minority students’ language proficiencies and intelligence.
In relation, some post-modernist researchers have put forward the notion of ‘community of practice’ (Lave & Wenger, 1991; Wenger, 1998). The Vygotskyan notion of social scaffolding described here contrasts with this notion in two aspects: one, in terms of the fundamental nature of concept; and two, in terms of the social psychological mechanism of conceptual language. Fundamentally in the entire theoretical structure in which the postulation for a ‘community of practice’ is presented, scientific concepts are discussed as conscious, objective, and ontological constructions. Because of the ontological limitation attached to the understanding of concepts, in the process of constructing such a community, conceptual language cannot operate beyond a one-to-one relationship with community members’ learning and practice.

In Vygotsky’s epistemology, on the other hand, concepts that define a discipline of studies embody crystallisations of human phylogenetic psychological development. They represent the historically (i.e., past and present on a continuum) developed human-world unity manifested in a certain area of scientific pursuit (Kuhn, 1962). Key concepts of a scientific discipline thus have archetypal (historical and collective unconscious) origins. In an ontological education setting, in inducing communal engagements, scientific language has the potential to enable not just shared engagement in the conscious and perceptive sense but also to enable synchronous, collective interpsychological interaction in the apperceptive sense. Just like rules in children’s social games, core disciplinary concepts have the potential to structure and resonate with the collective psyche.

At the internal level of conceptual teaching speech, conceptual functionality must govern the internal, psychological relationship and organisation of speech. In establishing the conceptual tool dimension of classroom socialisation, it is argued that conceptual thinking always functions in systems.

Firstly, systematicity is a geometrical, multidimensional psychological structure defined by ‘generality and generalisation’, 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 nonlinear structure of interconnectivity with ‘intertextuality’ and ‘tension’. The mediation of thinking, characterised
by nonlinear meaning structures, in the language of teaching is the pre-
condition for learning in a holistic, apperceptive environment.

A. Generality and generalisation
Conceptual systematicity is psychologically defined in terms of the relation-
ship of generality and the structure of generalisation. The relation-
ship of generality represents the interconnectivity 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 num-
bers. 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 con-
cept 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.4

A conceptual system of generality relations can be compared to a geo-
metric, multidimensional structure. A concept’s position in the geometric
structure is defined by longitude and latitude measures. However:

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

4 Vygotsky’s notion of generality and generalisation emphasises individuals’ intrinsic
participation in conceptual understanding. Psychologically, conceptual generality rela-
tionships are limitless. Hasan raises (1992) the objection against the unlimited semiot-
ics of word meanings. But as a social semiotician, she departs from the considera-
tion 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 inter-
action with the established code system. As a result of the interaction, the development
of the symbolic mediated psychology has no causal, deterministic bounds.
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 nonlinear 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 generalisation defines the concept’s abstraction. Simply put, if the relationship of generality represents a quantitative development of a concept, the structure of generalisation represents a qualitative one. Throughout child developmental stages, thinking is typically characterised by various structures of generalisations (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 generalisation, 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 generalisation, a generalisation structure always entails the transformation and reorganisation of the generality relationship between concepts. In Vygotsky’s experiment, a child who could learn specific names such as ‘table’, ‘chair’, ‘cabinet’, ‘couch’, ‘bookcase’, could not learn the generalised, 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 generalisation 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 generalisation applies only to ‘abstract’ words. The mastery of all words as psychological, symbolic tools requires an act of generalisation. 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 *generalisation*. From a psychological perspective, word meaning is first and foremost a generalisation. It is not difficult to see that generalisation is a *verbal act of thought*; its reflection of reality differs radically from that of immediate sensation or perception (Vygotsky, 1987, p. 47).

In generalisation, there exists not simply a quantitative reservoir of associations, but a qualitative type of being and a worldview. Fundamentally, the structure of generalisation concerns the transcendent function of concepts. A generalised concept is a concept of psychological symbolic functions. A generalised 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 generalisation 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 generalisation 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 generalisation 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. 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 realised 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. 31–32).

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 generalisation (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 analysed 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.

B. Intertextuality and tension
Echoing the argument above that meaning and thinking functions in the interconnectivity between units of speech, Vygotsky comments “the speech relationships become the determinants or sources of the experiences that appear in consciousness” (1987, p. 272). 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 organisation of speech. Understanding speech relationships involves a holistic comprehension of speech. In a holistic understanding of language, speech governed and organised 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).
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 recognised 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, characterised by thinking, intention, and creativity, always involves the intricate interplay between contrastive and even opposing elements. Consonance given birth by dissonance is a common psychological mechanism in art, music, drama, literature, films, architecture and so on. 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 contradictive elements harnessed in the service of one common system of relationships are characteristic of such literary expressions as ‘the deafening silence’ in descriptions of the Australian Outback; ‘the eternal changes’ as the Tao of life; ‘the unbearable lightness’ as 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, 5 January, 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 organised 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 reorganisation.

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 H\(_2\)O had been replaced by the heavy isotope H\(_2\), 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 inter-connections between such concepts as water, heavy water, H\(_2\)O, hydrogen atom, nucleus, proton, neutron. As the text is being read, a nonlinear, 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):

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 nonlinear, 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. 273–274) 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 on 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. The reader has been momentarily elevated through the author’s interpsychological revelation. The structural conceptual
connections engender a driving tension in the reader, propelling their own intrapsychological processes of connective functionality. Thus, the interpsychological communicative goals are accomplished of informing and engaging but not patronising 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 nonlinear, multidimensional structures of interconnectivity which are measured in generality and generalisation. 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.

4.3 Interpsychological Encounter (Social 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 socialisation cycle: teachers’ intrapsychology – interpsychology – students’ intrapsychology.
(Diagram 3). 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 socialisation 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 emphasised 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 socialisation are three aspects of one integral whole in the dialogue. In socialisation, 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 paragraphs, I shall explore the external and internal manifestations of interpsychological encounters in teacher-student interactions.

4.3.1 The external level: externalisation of thinking

Sufficient student externalisation 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 organisation expands and develops in generality and generalisation. In neither teacher nor student is thinking constant but it must be allowed to continually unfold and develop. Through speech, thinking is symbolically structured, reorganised, and thus transformed. From the teacher’s perspective, to truly understand the dialogic partner’s thinking system, sufficient student externalisations 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.

In addition, with regards to dialogic scaffolding, Vygotsky emphasises 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 socialisation. In accordance with Vygotsky’s conceptualisation of the historical, surplus, inner resources of learners (Chapter One), and also on the basis of this researcher’s personal experience, peer friendship developed in collaborative engagement is a most valuable asset in classrooms, and must be recognised as an important means as well as end in mass educational systems. Peer relationship established during conjoint conceptual activities can indeed be a revealing indicator of the teacher’s pedagogical accomplishments and the success of the learning environment.

**4.3.2 The internal level: structural interaction**

Authentic interpsychological encounters are encounters at the structural, rather than peripheral, level. In educational processes, Vygotsky (1997, 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
“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, 1997, p. 349) is made possible.

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

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 organised psychological task conscientiously attended to by both participants, the common apperceived goal being symbolically mediated (concerning the expression of ‘Hello’) socialisation. Similarly, socialisation in children’s pretend games occurs also in a structured environment characterised with commonly apperceived and continually updated goal, and the mediation of hypothetical thinking. Both the mother-infant and children’s socialisations 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 characterised 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 characterised 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 semantic transition is not seamless but rather characterised 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 myself. The conversation concerned the bamboos of different species and origins seen at a 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. What about, 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, for example, 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 from Harold 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
organisation 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 the personal conversation represent dialogues conjointly initiated, with interactants self-initiating the goals and conceptual functionalities. Classroom interaction, on the other hand, is generally organisationally 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 the diagram of proleptic dialogue below.
The proleptic dialogue initiated by the teacher is educationally significant for learning. Students learn about a discipline not so much from the semantics of words as from the psychological structure governing word relations, which can never be transmitted but only apperceived. In comprehending the structural orientation and organisation in socialisation 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.

**Section Overview**

In summary, the dimension of interpsychological encounter is concerned with the interaction of selves as psychological wholes. Such authentic interaction takes as preconditions: a) at the external level, sufficient student externalisation in teacher-student and peer socialisation; and b) at the internal level, the teacher’s intrapsychological engagement and reflective mediation in dialogic process. In the internal plane of 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-semantic
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 organisation.

4.4 Internal Order of Interaction (Historical Dimension)

In all three of the previous dimensions, the emphasised mechanism is teacher’s intrapsychology – interpsychology – student’s intrapsychology. This acausal mechanism of effecting social change in resonance with internal change is indeed an internal order of interaction. The three previous dimensions are manifestations of this internal interactive order as a unified prism. The three dimensions may involve different specific contents of communications at different stages of classroom proceeding, but the psychological mechanism underlying the three dimensions is one and the same.

Echoing Goffman (1967), Vanderstraeten (2001) conceives the internal order of interaction as a reality *sui generis*, having an independent nature and making demands on the interaction process on its own behalf. For example, the mere act of perception in social settings forces communication to occur and continue, 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). Moreover, speech exchanges between persons often ‘lock into’ each other, forming an implicit socializing ‘contract’. As Vanderstraeten points out, the contract often seems to regulate the specific interactive process.

Besides the interactive order that is characterised by the teacher’s intrapsychological mediation, there is a second type of internal interactive order, which is characterised by the absence of mediation. Thus, there can be two types of internal order of interaction: the mediated and the unmediated. In the socialisation governed by the mediated and the unmediated orders, individuals’ social psychological experiences are entirely and qualitatively different.
In the unmediated interactive order, the locus of control in meaning-making resides in the external, alienated other. The semantic focus in speech is the other, insulated from oneself. Subordinated to the regulation of an external entity, speech production is bound by the expectation and trajectory set in the immediate social situation. Interpersonal transaction thus follows an automatic and self-reproducing mechanism. Individuals’ participations involve peripheral psychological processes, which are not part of the structurally organised system, and the functionality of which individuals are often not consciously aware. The result of this is felt when people say things not meant, or speak in ways ‘out of character’ and 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. Socialisation involves structurally regulated contributions from participants, which are characterised by conscious awareness and continual internal reorganisation. 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.

Different internal orders of intervention, characterised by inner mediation and stimulus-response mechanism, generate very different didactic energies in the social space which determine the interactive mindsets and experiences of individual participants. The internal order of interaction thus has the regulative power over the past, present, and often future trajectory of socialisation. From the perspective of the internal order, the present of speech is also its social 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\(^5\), 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 brief analyses of the internal transactions.

\(^5\) The movie was based on a same-titled novel. The fictional nature of the ensuing dialogues to be used as examples is fully recognised. 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.
Table 1. Father-son exchanges

<table>
<thead>
<tr>
<th>Conversation</th>
<th>Internal level of speech</th>
</tr>
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<tbody>
<tr>
<td>Father: At least your brother wasn’t like you.</td>
<td>Characteristic in unmediated speech, when the boy is compared to his brother, the centre of the meaning-making is an existence external to both the boy and the father himself. Focus on an external system as the centre of meaning-making also typifies speech that operates to causally change the social partner.</td>
</tr>
<tr>
<td>Boy: Why are you always thinking of him?</td>
<td>Focus of speech is on Father as the external other in a returned attempt to change the other’s thinking.</td>
</tr>
<tr>
<td>F: Got nothing to do? Take a book. He loved books.</td>
<td>Focus of meaning-making is once again placed on the boy’s brother as an external system.</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>Submission to external regulation</td>
</tr>
<tr>
<td>F: What a question.</td>
<td>Placing the focus of meaning-making on the boy’s external speech behaviour, alienating the internal system underlying the question.</td>
</tr>
</tbody>
</table>

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

The transaction in the second conversation is 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 unrecognisable 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.
### Table 2. Child-mentor exchanges

<table>
<thead>
<tr>
<th>Scene 2: Conversation between boy and M. Ibrahim</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Boy</strong>: Living in Paris must be fun.</td>
</tr>
<tr>
<td>The language is symbolic, rather than semantic – the boy does live in Paris. Between semantic and symbolic meanings speech is organised with tension. Speech mediates revelation and engagement of the self.</td>
</tr>
<tr>
<td><strong>Ibrahim</strong>: But you do live in Paris.</td>
</tr>
<tr>
<td>Staying with the boy’s utterance and eliciting further externalisation of thinking in order to attend to the underlying meaning system</td>
</tr>
<tr>
<td><strong>B</strong>: No, I live on Blue Road. It’s too beautiful here for me.</td>
</tr>
<tr>
<td>Speech mediates further intrapsychological revelation and engagement. The language is symbolic and sophisticated, conveying multiple-layered meanings.</td>
</tr>
<tr>
<td><strong>I</strong>: You can find beauty wherever you look. That’s what my Koran says.</td>
</tr>
<tr>
<td>The response validates the boy’s symbolic meaning making and builds on it, pointing out the boy’s self as the centre of meaning-making.</td>
</tr>
<tr>
<td><strong>B</strong>: Should I read your Koran?</td>
</tr>
<tr>
<td>In the last utterance of Ibrahim’s, the Koran was introduced in the conversation as a natural extension, rather than an alien element, of the boy’s thinking. This gives rise to the boy’s interest in it. An unmediated response from the adult would follow the linear and concretised 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 centre of the relationship from the interpersonal encounter to the adult’s system alone.</td>
</tr>
<tr>
<td><strong>I</strong>: If God wants to reveal life to you, he won’t need a book.</td>
</tr>
<tr>
<td>Negating the externalisation of the focus of thinking, and instead emphasizing the inner self as the core of learning about life.</td>
</tr>
<tr>
<td><strong>B</strong>: I thought Muslims didn’t drink. [The two are at a café; Ibrahim is having a glass of beer.]</td>
</tr>
<tr>
<td>Change of topic to the questions of religion and religious observations.</td>
</tr>
</tbody>
</table>
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 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 be in control of his psychological process. While

<table>
<thead>
<tr>
<th>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.</th>
<th>Explanation is not directed to the unknowing child external to the speaker but to the knowing child within. Speech reveals ‘Sufi’ as a living, function concept in Ibrahim’s verbalized thinking. Meaning is not ‘told’, but mediated.</th>
</tr>
</thead>
<tbody>
<tr>
<td>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’.</td>
<td>Learning is a result of resonation with the intrapsychological thinking 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.</td>
</tr>
</tbody>
</table>
linear language mediates peripheral processes separated from the structural centre, inner isolation, in nonlinear language, psychological connectivity is enabled, constructing the generalised, structural self beyond the present and the visible.

The internal order of interaction, which operates with a constant energy, is argued 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 excessive control and interference or to permissive, 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 an analytical psychological perspective, Meares (2000) criticises 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 utilising 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.

Educational and analytical psychological 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 apperceived and cannot be causally manipulated.

Chapter 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 intrapsychological exchanges. All four dimensions of teacher-initiated relationship have been deliberated from this central prism. Each of the four dimensions is composed of the external manifestations of speech and activity as well as their psychological organisation 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 organisation, 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, that of the conceptual, symbolic function of language mediated and enlivened in teaching activity and speech. The dimension of interpsychological encounter requires a higher-level reflexivity. In the structural and conceptual teaching dimensions, conscious awareness is mediated more or less in the teacher’s
own operations. But reflexivity in the social conceptual dimension often requires a higher level of conceptual generalisation and transcendence. Finally, the dimension of internal order of interaction concerns the dialectic understandings of history and future, of change and constancy. It involves the conscious awareness of the educational socialisation process as an integral whole governed by the fundamental acausal, apperceptive mechanism. The four dimensions are interconnected and interpenetrated. Between dimensions of the organic integrated whole, some overlaps may be inevitable but, as general orientors, it was hoped that they would serve as reasonable applicative extensions from theories.
CHAPTER 5  L2 EDUCATION FROM A VYGOTSKYAN PERSPECTIVE

5.1 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 sequential order of the field’s development, 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.

Rod 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 Vygotskyan 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. Secondly, in this view, social relationship and socialisation 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.

5.2 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 generalisation, 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 generalisation. From a psychological perspective, word meaning is first and foremost a generalisation (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 socialisation, 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
The development of word meaning or conceptual understanding entails a true act of abstract thinking and generalisation. 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 Vygotskian 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...

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1 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 behaviour and thinking; while the latter a direct relationship between word and meaning. In signification, artificial signs are created, then subjectified and humanised in their mediation of thinking.
symbols and 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.

5.3 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 organisation. 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 emphasises 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 socialisation. But before that, key ideas concerning additional language education from Vygotsky’s perspective are reviewed.
5.4 Vygotsky’s Additional Language Education Theories

Differences between language education and other school disciplines have been unduly dramatised, 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, contributes 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.

5.4.1 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, and the meaning aspects becomes less direct. The immediacy in such relation is reduced. Such development is not only a matter of addition but also one of qualitative change. Mastery of an additional language brings qualitative changes to the way reality is organised in the conceptual system developed in the native language.

5.4.2 A ‘1 + 1 > 2’ perspective

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 socialisations 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 behavioural and psychological change.

5.4.3 Prior knowledge

Piaget’s original distinction of spontaneous and non-spontaneous concepts inspired Vygotsky’s notions of scientific and spontaneous concepts. Vygotsky, nevertheless, resisted 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 Vygotsky associates scientific concepts with teachers and expert learners, and spontaneous concept with learners, with development emphasised as internal integration, he places the two concepts on a line of continuum of dialectic, qualitative changes.

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 is used interchangeably in current literature. However, this researcher felt that in ‘everyday concepts’, there implies a limitation of children’s surplus resources and originality to only the ontological and empirical; whereas the term ‘spontaneous concepts’ retains the historical unconscious origin of knowing, which is more in agreement with Vygotsky’s general developmental view. For this reason, the term ‘spontaneous concepts’ is favoured here.
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 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 conceptualisation of language being a set of hard and fast social conventions. The conceptualisation 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

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3 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.
for what learners are lacking in, but on both teachers’ 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 at a 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.

5.4.4 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 emphasise 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) emphasises 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 conceptualisations 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.
5.5 ‘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 socialisation.

Generally, scientific concept in the psychology of teaching and teacher socialisation 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 organisation and interactive trajectory. In teaching and teacher socialisation, 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.

Firstly, 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 organisation and the verbal delineations of task, is the precondition for learners’ self-aware participation.

<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*
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 organisation regulating inter-conceptual connections. In terms of generality, scientific concepts, compared to spontaneous concepts, relate to quantitatively more concepts, and are characterised by better functional mobility. In terms of the structure of generalisation, 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 Four). 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 verbalisations.

Scientific concepts are also social and interactive in nature. Due to the qualitatively different generalisation 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 socialisation. 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 emphasises 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 generalisation 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 generalisations, 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 characterised by different organisational 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 generalised 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 conceptualisation that is associated with only one set of semantics. Their generalisation 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 6  A 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 analysed, 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).

6.1 The Instrument

The heuristic instrument (Diagram 8 below) for classroom analysis is established as an analogue of the structural principles of the higher forms of teaching postulated. Based on the educational psycho-semiotic theories discussed in Chapters Two, Three and Four, the instrument is composed of four dimensions of teacher’s speech and teaching activities as classroom 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). The four dimensions concern the nurturing of learners’ self-regulatory participation; active conceptual comprehension; socio-psychological operations of concepts; and learning integration and (re) organisation.

6.1.1 External level of the dimensions

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.
<table>
<thead>
<tr>
<th>4 Dimensions of Teacher’s Speech and Activities</th>
<th>Task and participation structure (Structural dimension)</th>
<th>Functional systematicity of conceptual instruction (Conceptual dimension)</th>
<th>Interpsychological encounter (Social dimension)</th>
<th>Internal order of interaction (Historical dimension)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Levels of Teacher’s Speech and Activities</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>Teacher’s synchronous engagement with concept and student as precondition for apperceived learning in socialisation</td>
<td>Teacher’s intrapsychological mediation as developmental trajectory of classroom speech and activities</td>
</tr>
<tr>
<td>Brief definitions of dimensions</td>
<td>In communication to students the features and factors of task e.g., (meta)cognitive nature and features of task, purposes, aims and goals, components, procedures, roles and responsibilities, results, and future plans, etc., whether language reveals an orientation to the psychological or simply the behavioural aspects of task</td>
<td>1. Conceptual teaching language: Providing exemplary explanations of concepts; Using conceptual and (meta)cognitive terms when carrying out teacher-student communications 2. Conceptual teaching activity: Providing problem-solving contexts for concept application</td>
<td>1. Providing sufficient opportunities for student externalisation of thinking in conceptual negotiations 2. In order to further student’s externalisation, mirroring, summarising, rephrasing and clarifying student’s meaning 3. Providing for conceptual interaction and rehearsal between peers</td>
<td>Teacher alone does not advance all thoughts and connections; students are also responsible for making conceptual associations and advancements</td>
</tr>
</tbody>
</table>
### Internal level of teachers’ speech and activities

| The psychological nature of the task revealed in teacher and students’ experiences enacted in unfolding of task, e.g., roles and responsibilities, task procedures, time allocation, assessment of results, etc. | 1. Conceptual teaching language: Whether relationship between meaning units is linear or non-linear, horizontal or geometric 2. Conceptual teaching activity: Whether pedagogic activity and method are psychologically coherent with academic concept | 1. Synchronicity in teacher-text-student or teacher-task-student interaction 2. Responding to student at conceptual structural level, rather than at semantic level 3. Semiotic tension in-between teacher and students’ utterances 4. Meaning developments in students’ utterances over time | 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 |

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**Diagram 8. Heuristic instrument for interpreting the psychosemiotics of teaching and teacher socialization**

### 6.1.2 Internal level of the dimensions

This refers to psychological relationships and organisations regulating the enactment of teaching and teacher socialisation. 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 socialisation which is composed of external and internal levels.

6.1.3 Definition of the structural dimension

This dimension concerns the teacher’s conscious awareness of classroom task features and 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 verbal delineation of task features, components, procedures, roles and responsibilities, and so on before, during, and after task. For students’ apperceived knowledge and self-aware participation in the task, the teacher’s speech must be psychologically substantive and pertaining to conceptual and metacognitive characteristics of task. It must reveal the teacher’s orientation to the psychological rather than just the behavioural aspects of task. The internal level of the structural dimension concerns the actual regulative principles, whether stated or not, which govern the actual unfolding of task and individuals’ participation.

Also importantly, the structural dimension of teaching and teacher socialisation cannot be comprehended in isolation. The interpretation of the structural dimension must be based on its coherence with the other dimensions of classroom environment.

6.1.4 Definition of the conceptual dimension

The conceptual tool dimension concerns both the conceptual teaching activity and the conceptual teaching speech. At the external level, it is of concern whether or not concepts are employed in applicative tasks and in teachers’ communication with students.

At the internal level, 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 this level, first, the coherence between the psychology of concept and that of pedagogic method and activity is examined. Conceptual teaching activity is examined in the light of the psychological operation it commands. Secondly, conceptual instructions are investigated in the 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 relationships between meaning units.

6.1.5 Definition of the social dimension

This dimension encompasses the interpersonal dialogic process during teaching and learning. While the structural and conceptual tool dimensions are examined more or less as teaching, more or less as independent factors in teaching; in the social conceptual dimension, teachers employ their structural reflection and online creativity to establish a common psychological platform where individual thinking systems convene. For students’ social operation of concepts, teachers’ interpsychological engagement must serve as precondition.

An external indicator of this dimension is students’ engagement in thinking externalisation. Students must be allowed 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 reorganisation before hastening to assess or modify. It is also important that conceptual socialisation be not limited to teacher-student exchanges, but occur between peers.

At the internal level, the semantics of the teacher’s speech should be governed by his/her synchronous engagement with text/task and with the dialogic partner’s psychological structure. As a result, individuality, concept, and socialisation are three aspects of one integral whole in the dialogue. 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.

6.1.6 Definition of the historical dimension

The internal order of interaction refers to the S-R versus S-X-R mechanism in teacher-initiated socialisation, which generates a causal versus an acausal relationship between the teacher and students. The nature of teacher-student relationship determines the history of classroom social life. With a causal, teacher-student relationship, the social history of a classroom is generated from the teacher’s isolated semantic system; while in an acausal relationship, the teacher’s and students’ histories merge in the creation of classroom life.

The historical dimension connects the previous (the structural, conceptual tool, and social conceptual) dimensions. It unites the past and the present of the 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 of the historical dimension, we investigate whether the making of conceptual connections and the advancing of dialogic developments are results of the teacher’s independent intervention or are shared responsibilities between teacher and students. 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 psychologically an unbroken and continuous process.
6.2 Methodological Connections

The instrument essentially taps into the qualitative characteristics of the educational environment, rather than quantitative difference in pedagogic provision. In Vygotsky’s words, it aims to examine not the quantitative increase and branching of the relations between stimuli and responses, but the ‘qualitative change in the relation itself between the stimulus and the response’ (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.

To study the qualitative nature rather than the quantitative phenomenon, Vygotsky pioneered in research methodology (Vygotsky, 1997c). In introducing the interpretive instrument established for the classroom study, I wish also to draw out the alignment it has with some of Vygotsky’s fundamental methodological concerns. Thus, the instrument reflects the structural principles of not only higher forms of teaching but also scientific research methodology (Diagram 9).

<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>
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<tr>
<td>Vygotskyan 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>
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*Diagram 9. Correspondence between psycho-semiotic theory, Vygotskyan methodology and the instrument*
In Vygotsky’s methodology (1997c), firstly, psychological research envisions a basic mechanism of double stimulation, in contrast with the direct and unmediated S-R mechanism. Secondly, research on psychological development studies processes, not things. Thirdly, 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 the light of Vygotsky’s methodological principles.

6.2.1 Studying the structural dimension 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 organise one’s own behaviour with the aid of the internal mediation, which he called the psychological tool.

In experiments to study the inner organisation and structure of the higher (i.e., mediated) processes (Vygotsky & Luria, 1994b), the method of ‘dual-stimulation’1 was employed. Instead of giving a stimulus and examining the 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 task.2 The adoption of the psychological instrument

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1 This method is also termed ‘functional method of twofold stimulation’ or ‘double-stimulation’. In addition, because it was developed by Vygotsky and one of his closest colleagues, L. S. Sahkarov (1930, cited in Vygotsky, 1987, p. 127), it is also referred to as the ‘Vygotsky-Sahkarov method’ (Vygotsky, 1987, Note 51).

2 The 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

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alters the entire structure and nature of the operation. In essence, what was being studied by using the S-X-R mechanism was not the behaviour of task accomplishment or problem solving. In order to complete 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 was studied was the individual’s mediated, i.e., self-regulated engagement with the task that led to 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).

Extending this double-stimulation method for studying mediated learning behaviour to the study of teaching, there are two points of implications for the researcher. First, in light of the mediated nature of genuine learning, the researcher examines the psychological structure of the task as it is created by the teacher: what is the goal of the task, what conceptual tool function is expected to be operated, and whether the goal and the tool cohere. The second implication is that, corresponding with the self-regulative nature of effective learning, the researcher of classroom teaching investigates how the task structure is communicated and shared between teacher and student participants: whether it is causally prescribed by the teacher or it is communicated apperceptively and with mediation. Methodologically, such research distinguishes, from the outset, the mechanical and the first-level from the mediated and the higher-level pedagogic provision.

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nature of this hidden principle. Then, with the help of the constructed principle, the participating child will be facilitated in accomplishing the central task.
6.2.2 Studying the conceptual dimension as process

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

Thus far, psychological analysis almost always treated the process being analysed 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 analysed, in the expression of K. Koffka, primarily as a mosaic of hard and unchanging parts (Vygotsky, 1997c, p. 68).

Similarly, this interpretive instrument attempts to understand teachers’ conceptual thinking not as concrete, stable objects but as operative and functional processes in teachers’ verbalisation. In doing so, the study does not consider teachers’ conceptual speech 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 relationship and tension in the meaning units in speech. 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 multidimensional, geometrical existences. By contrast, linear connections and horizontal structures exemplify what is called ‘verbalism’ (Vygotsky, 1987, p. 169), suggesting context- or situation-bound operations.

6.2.3 Studying the social dimension as social genesis

Echoing Kurt Lewin (cited in Vygotsky, 1997c), Vygotsky postulates a distinction between pheno- and geno-typic 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 criticised 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 naïve 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 pheno- 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 externalisations that apparently have little in common with adult social speech indeed mediate interpersonal engagement at a deeper level.

The conceptualisation of teaching as genesis, rather than phenomenon, corresponds with the dimension of interpsychological encounter in classroom environment. In understanding the teacher-student shared space 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 trans-
forms what may be semantically nonsensical, imprecise or ‘wrong’ into
what is developmentally connected and meaningful. Also, by responding
to students’ structural organisations, the teacher’s response connects the
past and the future of student’s learning. Thus, the motivation and trajec-
tory 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 com-
ponents. In the phenotypic and descriptive study, it would be impossible
to distinguish the actual psychological nature and educational 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 ‘comprehen-SION’.
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 evalu-
ative 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 deve-
lopment 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 organisation. As a precedence of anticipated student change, transformation of thinking does not originate from within the teacher’s intrapsychology.

In the social conceptual dimension, the researcher 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 is 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 generalisation structure.
6.2.4 Studying the historical dimension 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 dialectic 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 naïve 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, pp. 42–43).

To study social phenomena in a historical light requires a vision of dialectic unity: the unity of past and present, self and others, intra- and interpsychology, and cause and effect. Thus, from a historical point of view, it is possible to observe the acausal mechanism governing the moment-to-moment, microgenetic process of classroom socialisation. It is possible to understand the co-presence and continuity of the yesterday and the today in teachers’ and students’ performance in the shared space.

In the unity of intra- and interpsychology, we are and we learn from what we produce from others. This applies to both the teacher and the student. For the student, his/her participation in all classroom situations is never passive but always active. Connections of various natures are always being constructed. Even in the apparently nonsensical and meaningless remark, the potential of meaning development is already existent. For the meaning potential to develop into social meaning, the learning comes not from the outside but from the inside. The same is for the teacher’s psychological labour, whose fruit originates not from the student but first from within himself/herself.

In Chapter Five, two conversational excerpts from a movie were analysed. In the two excerpts, the teenage boy manifests speech performances of entirely different natures when communicating with his
father and his mentor. In one conversation, the boy’s language is simplistic, linear, behavioural, and externally oriented (intending to intervene and change others); and while communicating with the mentor, his language is symbolic, multilayered, and internally oriented (self-reflective). Seen from an ahistorical view of solidified individual performance, the contrast in the boy’s speech on different occasions would be perplexing. From a historical perspective, however, one sees speech performances as consequences of varied didactic relationships. 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, speech performance can only be understood as the history of speech. Moreover, to understand speech historically requires a view of dialectic unity, that is, the unity of self and others, individual and group, and intra- and interpsychology.
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 psychosemiotic theories developed in Chapters Two, Three and Four 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 7  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 schools1 in Adelaide, Australia. I will examine, respectively, the structural, conceptual, social, and historical dimensions of classroom enactments.

For the analyses, excerpts of classroom socialisations of relatively intact curriculum structures are quoted. In order to present relatively complete curriculum activities so as to understand microgenetic histories of classroom processes, some excerpts are of greater length than others. Firstly, general information on the classrooms’ curriculum activities is given.

7.1 Curriculum Backgrounds

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 ten 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). I will refer to the three teachers as Ms A from School 1, Mr C from School 2, and Ms D from School 3.

1 Appendix 1 provides general backgrounds of school, teacher and student participants and contextual information on individual cases.
7.1.1 Ms A, School 1

The excerpts analysed were taken from lessons at the SACE\(^2\) class for nine Years 11 and 12 boys. Ms A organised SACE lessons in cycles around specific themes, 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). According to the teacher’s semester plans and later observations, SACE lesson cycles typically contained the following stages of activities:

1. **Movie:** Students watched a movie on the curriculum theme of the term. During the movie, the content the film was at times explained. Later, the class reviewed the plot and discussed the characters in the movie. Worksheets on the content of the film were completed.
2. **Reading:** Class read newspaper and magazine articles on the same theme 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 by the teacher.
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.

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2 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).
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’, where the teacher and individual students did one-on-one reviews of the students’ written drafts. Later, students produced oral ‘issue analyses’, where they answered the teacher’s questions on the semester theme.

Throughout the observed period of a month, the teacher had placed strong emphases on two aspects of language learning: vocabulary and essay structure. Most whole class sessions, in fact, evolved around vocabulary learning. The teacher frequently made known to students that a varied vocabulary in essay writing was highly valued and rewarded. Essay structure was dealt with during one-on-one reviews of students’ drafts, but no whole-class teaching of generic essay structures was observed.

Except for the teaching of vocabulary, no teaching of linguistic, grammatical, discourse or genre features and structures was observed in the term when the researcher visited the class. The teacher explained the omission of these in her teaching: since students had not seemed to benefit much from it before they came to Australia, there was not any point in teaching more grammar.

Socialisations 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.

7.1.2 Mr C, School 2

The excerpt analysed was taken from one of Mr C’s two Year-12 classes. Year 12 lessons were run in 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 exercises or computer work. 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).

7.1.3 Ms D, School 3

At the time of the school visits, Ms D’s Year 12 class was preparing for their issue analysis. Students’ presentations were audio-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 her one-on-one tutoring of individual students. Sometimes students were called, at other times they volunteered, to join the teacher for the individual sessions.

7.2 Microgenetic Analyses of Classroom Interaction

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.
7.2.1 Structure of task and participation (structural dimension)

This dimension concerns the teacher’s design and organisation 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. At the external level, we examine whether, in teachers’ verbal delineations of task features, components, procedures, and roles and responsibilities, etc., before, during and after task, speech pertains to conceptual and (meta)cognitive operations in the task. It is of concern whether teachers’ speech reveals the orientation to the psychological or 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. Particularly focused on is whether the structural dimension of teaching is coherent with the conceptual, social and historical dimensions.

A. Ms A, School 1

The following excerpt involves the first ten minutes of a reading lesson in the SACE class, containing the class reading of a Letter to the Editor in the Australian Weekend Magazine on the topic of the term, school bullying. Before the present lesson, the class has covered various resources and texts, 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 classroom episode is divided into eight sub-stages as presented in the table below.

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3 In order to present a sense of immediacy of the microgenetic processes, the present tense will be used throughout the analyses of classroom interactions.
Excerpt 1. Reading a Letter to the Editor

<table>
<thead>
<tr>
<th>Sub-stages of task</th>
<th>Transcript</th>
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<tbody>
<tr>
<td>Utterances 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 in 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 practise with you. (9) While you’re doing your essay I’ll take each of you outside and practise 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>
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<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</td>
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4 See Appendix 2 for transcription conventions.
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 whiteboard marker 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 are looking down and turning pages of dictionaries except for Yuan, who is looking up at MsA as if thinking.]

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 =
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 Labor 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 ‘comprehensive’ [ 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]
| 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. |
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<td>118–121: concluding results of reading activity</td>
<td>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?</td>
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| 122–144: discussing ideas in readings useful for writing | 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) External level**

At the external level, Ms A’s explicit organisation 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
in 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 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 speaks about the sequential order of their occurrences. 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 about 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 practise with you. While you’re doing your essay I’ll take each of you outside and practise 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.”) again indicates a focus on the behavioural, rather than the psychological, aspects of teaching and learning.5

On the other hand, when initiating 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.

The announcement also seems impromptu for, in the actual unfolding of the curriculum cycle, this arrangement did not materialise.
b) Internal level

At the internal level, we examine the actual mechanism regulating the reading activity. As the teacher reads the text, stopping now and then and explaining or asking for meanings of certain language items, she draws students’ attention to a number of specific and isolated words and language items. It is not clear why such particular language items are chosen for discussion; students’ learning needs and existing knowledge are not consulted in any such choices. Not only do students not contribute to the direction of the lesson, but when a student, Nigel, resorts to private learning by using his electronic dictionary, he is immediately interrupted (utterance 23). The eclectic nature of the one-sided semantic feedings and the unconscious nature of the social process, indeed, give a surreal impression to the observer.

In the unfolding of the episode, while the teacher plays the dominant and decisive role, students follow the teacher’s directions in a passive, mechanical manner. Such lopsided progression of classroom process is conflictive with the conceptual function of language, interpsychological interaction, and the unpredictability of social history characteristic of proximal learning environments. As argued in Chapter Four, the active enlisting of students’ prior and ongoing learning is the precondition for structural effectiveness in teaching.

The case of Ms A’s teaching highlights the significance of understanding the structural dimension of teaching as a psychological, and not a behavioural, construct. Indeed, at the behavioural level, Ms A’s lesson preparations and organisation were superior in the sense that she selected, photocopied, sequenced, and filed in named folders a wide range of readings, audio-/video-materials, and writing tasks well before school terms began. Even the extra-curriculum and reference resources for students’ common use were organised and sorted under different topics in a number of sections on display in the room. However, lessons then later evolved around the materials to be used, rather than around concepts’ functionality, which connected the materials, not the emergent quality of the ongoing socialisation. But until teaching is intellectually engaged, the structure in the teacher’s world would not be translated into structure in students’ world.
### B. Mr C, School 2

Excerpt 2. Teaching ‘cause and effect’

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<tr>
<th>Sub-stages of task</th>
<th>Transcript</th>
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<tbody>
<tr>
<td>Utterances 1–6: structuring the learning task</td>
<td>(1) [Walking about the room and giving out handout] Now the first handout is straightforward. [Inaudible utterance] (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. [Finishes handing out materials.]</td>
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<tr>
<td>Utterances 6–29: defining ‘cause and effect’ and their construction in essays</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>
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30–49: teaching on hand-out: examples of cause-and-effect type of 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 [sic.] 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. |
Okay turn the page over now. What you’ll find is a number of different ways of dealing with cause and effect. Now we had this discussion yesterday in class. 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. So I would prefer you not to use ‘because’. Once you go to University you can use whatever you like. Alright? There are other options here. There are a whole list of different ways of demonstrating cause and effect. Alright? ‘And that is why’, ‘as a consequence of’, ‘as a result of’. 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. “Why’d you go home?” “Because I was ill.” People don’t say “I went home because I was ill.” 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? Spoken English, jargon is spoken. When you write it’s something different. Okay? It seems a bit like we have two Engli shes but it always was that way. What’s happening now is that that is becoming closer and that doesn’t worry me. Maybe it’s just me, what I’m used to, okay? 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? ‘Due to’. “Due to the rain we cancelled the soccer game.” See I’ve no problem with ‘due to’. That’s fine. Um ‘for this […] ’, “It was raining. For this reason, we cancelled the soccer game”. That’s alright but yes there’s two sentences there. “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”. 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 hand; 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 minefield, 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 the word [inaudible word] of the Queen used to say. Alright? (102) The Queen talks about, ‘we think’, she’s talking about herself. (103) But she’s talking about herself as the Queen of England and therefore she’s talking for everybody. (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.
115–132: teaching on handout: sentence patterns in causes and effects

| (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.

133–147: teaching on handout: exercises

| (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 the teacher reads out answers.]
a) External level
The explicit organisation 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 to 4).

These statements 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 judgment of the task’s low level of difficulty. If evaluating the task difficulty level seems to put the teacher in the know, on the other hand, in simply rating 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.

As well, these statements do 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. Such initial structural orientation to the task, suggesting the sole authority of the teacher and the text, contextualises cause and effect narrowly and exclusively, and dismisses the active participation of students’ existing resources.

b) Internal level
The factors of teacher-student role structure 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

6 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 generalisations 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 Five) are of immediate importance.
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: “Okay, 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 display an intrinsic dependency on the students’ thinking and intake.

C. Ms D, School 3
Excerpt 3. What does ‘synthesis’ mean?

<table>
<thead>
<tr>
<th>Sub-stages of task</th>
<th>Transcript</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub-stage 1: 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] <em>The outline needs to show that the information in the notes, has been synthesised.</em> (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 were talking about synthesizing 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 synthesizing information.</td>
</tr>
<tr>
<td>Sub-stage 2: 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 opening and closing], what do you do with them? (14) KK: Organise? (15) T: Organise them, you – extract the information.</td>
</tr>
<tr>
<td>Sub-stage 3: 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, analyse it and say something about it. (17) That’s what I’m looking for. Okay?</td>
</tr>
<tr>
<td>Sub-stage 4: 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 synsethi-, 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 synthesise 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>
</tr>
</tbody>
</table>

a) External level
In the excerpt, the class is going through the SACE explanatory document on the Year 12 oral presentation, a summative assessment task evaluated by external examiners. 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 the bibliography.

At the beginning of the episode, the teacher initiates by requesting students to ‘remember’ something that they ‘keep talking about’ and something that they talked about the year before⁷, and to ‘guess’ what the word means. With no response, the teacher suggests the students

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⁷ After the lesson, Ms D explained to the researcher that, in Year 11, the class was taught Bloom’s taxonomy, including ‘knowledge’, ‘comprehension’, ‘application’, ‘analysis’, ‘synthesis’, and ‘evaluation’.
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.

Semantically, the teacher’s reminder that they talked about ‘synthesis’ in Year 11 is a prompt for prior learning. In asking for guesses, she encourages brainstorming and free associations. In mainstream analyses, teachers’ verbal requests for student thinking alone are considered as sufficient stimulation for thinking and learning. However, from the apperceptive perspective postulated here, thinking and learning cannot simply be requested and ‘caused’.

From an apperceptive understanding of classroom transactions, 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 psychosemiotics 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.

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 organisation of the task.

In relation to the chance occurrence of the episode, elsewhere, the teacher repeatedly emphasised 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 contradicts the psychological reality of the students’ work, where synthesizing would have been an integral thinking process from the beginning in all of the research, reading, and writing that precede the oral presentation. 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 ‘insider’s’ 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 content, the psychologies of teaching in the three classrooms are similar at both the external and the internal levels. In Ms A’s classroom, the episode in Excerpt 1 is structured with formulaic instructions that are lacking in substantive meanings. The teacher’s 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. In the second classroom, other than pointing out the task is straightforward and introductory, the teacher displays no engagement with the conceptual nature and characteristics of the task. Similarly, in the third classroom, the teacher tells students ‘synthesis’ is something they studied before but gives no structure for the current thinking process.

At the internal level, the structural dimension in the three cases is often conflictive with the conceptual tool, social conceptual, and
historical dimensions of teaching. Mainly, in the three classrooms, students’ existing thinking systems are not enlisted or relied on for teaching to unfold. With teachers deciding on the pace, rhythm and reasoning of classroom activities, passive and first-level involvement on students’ part is scaffolded. Overall, non-commitment to conceptual psychology at the external/verbal level of teaching seems to correspond with teacher-dominance and control at the internal level.

7.2.2 Functional systematicity of conceptual instruction (conceptual dimension)

The conceptual dimension has two sub-dimensions, that of conceptual teaching activity and that of conceptual teaching language. At the external level of the two sub-dimensions, it is of concern whether or not concepts are employed in applicative tasks and in teachers’ communication with students.

Internally, conceptual teaching activity is examined in light of the psychological process it commands for classroom participation. The psychology of the activity must be coherent with the psychology of conceptual functionality. At the internal level of conceptual teaching speech, what is of interest is the structure (linear versus geometric) of the relationship between meaning units.

A. Ms A, School 1

a) External level: conceptual teaching activity and language

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 they are not employed as tools in applicative tasks. In terms of the language of teaching, the teacher teaches words and phrases but does not use them in her communication with students. She ‘talks about’ but does not ‘talk with’ the language items.
b) Internal level: conceptual teaching activity
In a few aspects, the psychology enacted in the teaching approach in Excerpt 1 contradicts conceptual functionality. First, although the reading task is stated to help students with English expressions, essay writing, and pronunciation, the class achieves no more than semantic discussions of isolated phrases and clauses. Singling out language items and learning them as independent constructs, the class fails to study the language in the text in any connected manner, for example, in terms of the structure or flow of meaning. Also, the class does not examine any operational features of the text, for example, its linguistic, grammatical, rhetoric or discursive characteristics, which are indispensible elements for learning to write. For the learning of pronunciation, throughout the episode, the students have not read aloud or practise pronouncing any of the word or sentences being taught. They do not even speak in an extended, connected manner, but only to give singular, fragmented or slot-filling utterances.

Vocabulary is evidently one of the main objectives of teaching and learning in Ms A’s lessons. For this, it is emphasised repeatedly that students use dictionaries in class. Encountering new words in reading materials, the teacher typically enlists students to look up the dictionary and to call out explanations and synonyms they find in dictionaries, which she selects from, modifies and writes on the whiteboard as the official explanations, which, then, students are to copy and compile in their notes. In this way, words are taught and learned in spite of their textual and expressive contexts. In a code-decode method, teaching accentuates the external authority of the dictionary, and blind-sights students’ psychological processing of language as the mediator of thinking.

c) Internal level: conceptual teaching language
Corresponding with the static function of language in the psychology of teaching, the teaching speech typically mediates a one-to-one, linear relationship between language and meaning.

First, the word, ‘claim’, is taught. Reading aloud the sentence in which the word is used, ‘“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” (utterance 19), the teacher explains: “In other words, what she said was wrong. That’s what ‘claims’ means” (utterances 20 and 21). The teaching decodes the word in question, informing students of its semantic equivalent. The explanation involves a complete, linear equation, ‘claims = what she said was wrong’. The one-to-one relationship between the word and meaning mediated is typical of a semantic code approach to language teaching.

The same pedagogic orientation to semantic decoding is adopted in teaching the second word, ‘biased’. Initiating learning, the teacher sends the class to look up the word ‘biased’. She makes a point of the students’ using the dictionary by putting the lesson on hold till all have fetched their copies. After a number of students’ nominations of the word’s semantic meanings, the teacher announces the solution.

To explain the word, ‘biased’, Ms A first replaces it with two other words, ‘one-sided’ and ‘unbalanced’. Then, to explain ‘one-sided’ and ‘unbalanced’, she describes an extreme political view in simplistic language such as ‘crap’ and ‘really hate what they’re doing’. Then, she returns to the sentence in which ‘biased’ is used, breaks it down and replaces the entire sentence again with ‘simple’ language. The explanations present linear equations such as:
“biased = one-sided = a very strong point and it comes only from the one side = not balanced = The Liberal Government is crap. I really hate what they’re doing. I support the Labor Government. = biased”;
and “An independent mediator was engaged to ensure the investigations were fair and unbiased = 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”.

The same is replicated for teaching the next word, ‘comprehensive’.

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.

The students having read aloud their discoveries in the dictionary, the teacher then announces the final solution, “comprehensive = thorough = you look into something, you look at every detail”; and “you do a comprehensive research = you’ve looked at everything”.

With the clause, ‘undertaking comprehensive research on bullying in Victorian schools to look at why some programs and strategies work better than others’, the teacher again decomposes and spells out in specificity the semantics. The teacher’s language mediates a mechanic relationship between the target language and its simplified 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). 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.

Yuan: (1) What’s the different between ‘bullying’ and ‘bully’?
T: (2) ‘Bullying’ would be the ah, the actual process, of doing it. (3) And then a ‘bully’ is the person.
Y: (4) ‘Bully’ is the person.
T: (5) Oh, ‘bully’ can also [...] (6) ‘TO bully’, ‘TO bully’ is a verb.
Y: (7) Eh.
T: (8) Okay?
Y: (9) And, and can we say ‘the bullies’ [...] (10) Can we say ‘bully’ is a noun?
T: (11) The bullies are?
Y: (12) Noun?
T: (13) A noun? (14) Yeah, yeah. ‘Bullies’ is the plural.
Y: (15) But, as in =
Martin: (19) [Loudly from the back row] What about ‘bullies’?
T: (20) [Ignoring Martin] Now, ‘bullying’ can be a noun and a verb, okay? [Writes ‘bullying (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?
Yan: (27) So if you put ‘the’ in front of ‘bullying’, = it is a noun.
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.
Yan: (32) So ‘bullying’ and ‘bullies’ is actually the same.
T: (33) Yeah. Yeah.
Martin: (34) So, what about the person that, that bullies someone?
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.

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, where partial and ad hoc relations are asserted as whole of knowing and understanding. These static, non-functional constructs mediated in the teaching speech are related not so much to the teacher’s lack of knowledge as to a peripheral conceptual engagement with the contents of teaching. Equally, it is this absence of conceptual and reflexive engagement that gives rise to the misleading explanation given to the students, i.e., ‘the/a/an + verb = noun’. As well, because ‘bully/bullies = noun/verb’ and ‘bullying = noun/verb’, it is then deduced that ‘bullies = bullying’. This manifests the development of teacher-student exchanges as driven by the semantics of speech itself rather than by verbal thinking.

B. Mr C, School 2

a) External level: conceptual teaching activity and language

In Excerpt 2, Mr C teaches about constructing ‘cause and effect’ in essay writing. The teaching proceeds in a number of sub-stages. In sub-stage 1, he gives the class a general structural orientation to the learning task, i.e., ‘As I said it’s an introductory piece, and it’s to make sure you do get the idea clearly’. In sub-stage 2, Mr C defines the words, ‘cause and effect’ as well as what it means to be able to construct them in an essay. In the next few sub-stages, he reads out the entire handout and provides increasingly detailed and elaborate explanations of ‘cause-and-effect’ phrases and sentence patterns that are listed in the handout. In the final four minutes of the lesson, he assigns the students to do the written exercises in the handout, by the end of which, Mr C announces the answers.

In terms of teaching activity, the episode is exclusively constituted of the teacher’s monologic lecturing. Speaking exhaustively about what it means to construct the cause-and-effect relationship in essays, the teacher gives no chance of application other than the minimal student seatwork towards the end of the lesson, the answers to which are also announced by the teacher. In terms of language, Mr C decodes the semantics of ‘cause and effect’ and related phrases and syntaxes with elaborateness that cannot
be surpassed. But nowhere in the lesson is the conceptual language used in a communicative manner to relate to students.

b) Internal level: conceptual teaching activity
Comparing Excerpts 1 and 2, Ms A and Mr C’s teaching may differ in content and specific methods – one concerns the teaching of vocabulary, the other the teaching of essay writing; one involves the use of dictionaries, the other does not – but the psychologies of the two teachers’ pedagogic activities are identical. A semantic code-decode approach is used to explain the meaning of the abstract concepts of ‘cause and effect’ and to impart how such concepts operate in essays. This psychological operation of the instruction is incompatible with the conceptual mechanism of the subject matter at hand. The one-directional lecturing prescribes no logical, analytical or deductive reasoning. Instead, in sitting and listening to semantic explanations, students are scaffolded to engage in a first-level and unmediated manner.

Excerpt 2 is also similar to Excerpt 1 in terms of the nature of the two teachers’ psychological labour. Both teachers proceed with the faithful reproduction of their text materials, reading them aloud word-by-word and stopping now and then to interpret particular items. The trajectories of both teachers’ psychological labour are dominated by authorities external not only to their students but also to themselves. Between the teachers’ selves and the texts and dictionaries, there is little meaningful, integrative, and free interaction.

The handout chosen for the purpose of Mr C’s lesson is another element worth pondering. The handout, upon which the teaching bears entirely, comprises exemplary statements of cause-and-effect relationship between raining and the cancellation of a soccer game. These include sentences such as “It was raining, and that is why we cancelled the soccer game” and “As a consequence of the rain, we cancelled the soccer game”. Such exemplars illustrate the primary, factual level relation between phenomenon and action. Intellectually, the handout displays quite a departure from the synthetic, analytical constructions students are required to conduct in Year 12 research and writing tasks.
c) Internal level: conceptual teaching language

As a result of approaching the abstract concepts in static isolation, the teaching speech mediates linear equations such as “cause and effect = this happens therefore that happens = connecting something that happens with a result, the effect of that action taking place”. In the definition of ‘cause and effect’, the compilation of synonymous units (this, that, happens, takes place, result, effect, etc) generates limited or no additive interaction between meaning units. Where individual units add little to the multiplicity of one other or to the richness of the textual whole, communicatively, the linear and verbalist teaching speech achieves little in mediating the teacher’s conceptual thinking.

The same can be said of these statements of what it means to construct ‘cause-and-effect’ relationships in essays: ‘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’. Students 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’. Exhaustively explaining in order to causally determine the understanding of cause-and-effect construction, the teaching language replaces the abstract concept with a range of synonymous expressions no less evasive than the original concept. In spite of Mr C’s effort in explaining himself in varied ways, because the construction of cause and effect is talked about in isolation, the teaching speech does not mediate a geometric structure situating the concepts in a context of relations.

Replacing the abstract concepts with other general and evasive words, the teaching speech disregards and betrays the functional systematicity intrinsic in their symbolic significance. Although the language of teaching seems to be ‘talking about’ cause and effect, it does not perform the psychological operation itself. In the relationships between words, utterances and between units and whole, the underlying psychology of cause and effect is absent. The weak intertextual tension arises from the speaker’s isolated and peripheral engagement with the concepts, which, further down the track, leads the teacher farther and farther away from the psychology of ‘cause and effect’.

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In sub-stages 4 and 5, where relevant phrases and sentence patterns are gone through, the thinking aspect of ‘cause and effect’ vanishes altogether. 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 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.

[...]

(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.”

[...]

(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?

[...]

(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.

Reading the handout aloud and going through the listed phrases and sentence patterns of causes and effects, Mr C explains why certain phrases and expressions are more or less appropriate than the others. But no conceptual reasoning is given other than the way the teacher ‘was taught English and grew up reading English’, ‘the way people speak’, or 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’. In effect, it is emphasised that
the English language works the way it does because of the way it does. It is suggested that within the operation of language, there is no law of conceptual thinking, only the arbitrariness as possessed by the teacher as a native speaker and people in ‘formal institutions’. Thus the attempt to concretise and decompose concepts leads the teaching to more and more specificities and eventually to a complete antagonism between language and thinking.

C. Ms D, School 3
a) External level: conceptual teaching activity and language
Excerpt 4 records the teaching of the concept of ‘synthesis’, which proceeds in four sub-stages. In the first sub-stage, the teacher initiates the learning of the concept, giving a general orientation and motivation. Then, the teacher and a student discuss what ‘synthesis’ means before Ms D provides explanations of the word and of what it means to synthesise in writing. The episode is almost identical to that in Excerpt 2 in that the teacher approaches the concept from a semantic perspective. She explains exhaustively what the word means as well as how students can show synthesizing in their writing. But she creates no opportunity for the conceptual operation to be utilised in application. Also, other than in the few minutes where the teacher teaches about the word, she does not converse with the students with it. The concept behind the word is functional in neither social activity nor social speech.

b) Internal level: conceptual teaching activity
The word ‘synthesis’ is picked out from an assessment document in the final week of students’ research and presentation project. Serving a band-aid function in the curriculum unit, the teaching enacts the concept as an ad hoc, external imposition, rather than an inherent operation at the heart of students’ research, reading and writing from day one. In about eight minutes, the teaching accomplishes semantic explanation and instruction of how to ‘best show’ synthesis in writing. After minimal exchanges between teacher and a student, the ‘big word’ is explained in semantics, and instruction is given on behavioural manifestations of synthesis. The pedagogic process is
governed not by the psychology of synthesis but by direct, mechanical transmission.

c) Internal level: conceptual teaching language
Utterances 15 to 17 give the definition of ‘synthesis’: ‘to extract the information’ and ‘It means can you take information from one source and another source and put the information together, analyse it and say something about it. That’s what I’m looking for. Okay?’ Just like previous episodes in Ms A and Mr C’s lessons, the concept is approached in isolation, equated with static semantic decoding. The teacher ‘translates’ and replaces the ‘big word’ with ‘simpler’ words. Mediating a one-to-one relationship between language and meaning, the teaching speech establishes no context or web of functional relationships for understanding the psychological dynamics of synthesis.

Ms D also gives instruction on how ‘synthesis’ is applied in writing.

(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 synsethi –, 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 synthesise 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 explain how the very abstract concept can be shown in students’ writings. Progressing in concreteness, the instructive speech achieves a mathematical, formula-like effect: ‘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), such teaching speech would be ideal for maintaining equity in educational intervention, because all students could be ensured to ‘understand’ the concept. From a psycho-semiotic perspective, however, such mechanical, exhaustive, and dissecting instruction runs the exact risk of distortion. As impossible as ‘water = hydrogen + oxygen’, or the depiction of an elephant to a blind person as an animal that has a large trunk, two tusks, and four thick, round legs; a semantic dissection distorts the functional systematicity of synthesis as a psychological construct.

**Section overview**

In Ms A, Mr C, and Ms D’s lessons, the psychology of conceptual teaching is not at all dissimilar. In all three episodes, a semantic decoding approach is adopted at the external level of teaching activity. It is assumed in this approach that knowing the semantic, dictionary meanings of the word equates to learning about the psychological operations of the concept. In all three episodes, language learning is not contextualised in applicative tasks.

At the external level of conceptual teaching language, the three teacher talk *about* but do not talk *with* the concepts that are their subject matters. That is, the psychological organisation of the teaching speech does not reflect conceptual functionality.

At the internal level of conceptual teaching activity, because language is perceived as semantic, hard-and-fast entities, in teachers’ psychological labour, the focus is often placed on external authorities such as the text or the dictionary. Teaching evolves around meaning as regulated by print materials, rather than meaning as defined by thinking and personhood in general. In students’ psychological labour, the focus is placed also on external authorities such as the teacher and the text. In learning thus prescribed, language does not function in psychological system, but in semantic fragments; it does not develop in psychological continuity, but is mechanically reproduced.

Decoding ‘meaning’ within words isolated from thinking, conceptual teaching language, as a rule, mediates linear relationships and
operates with little tension or additive interaction between meaning units and between units and textual wholes. Operating as the mere sum total of utterances, language is used to ‘cause’ and dictate understanding.

Using a similar semantic decode approach, Tolstoy experimented on teaching young children literary words by giving elaborate translations. As a result, he laments:

> 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).

From the experiment, Tolstoy comes to a conclusion not unlike Piaget’s argument: for the learning of abstract language, the concept must first be there. Without the development of the concept as a precondition, the language cannot be mastered. As the analyses here have demonstrated, the myth of language learning being dependent on the development of thinking is widely held in second language teaching. As expressed by Ms A, “It’s [teaching international students] very different. I have to explain everything three times to them”\(^8\), the prevalent practice is talking down in language and dumbing down in intellectuality.

With Tolstoy’s proposal, Vygotsky agrees that it is impossible to teach or learn language via semantic means only. However, the impossibility of direct transmission between minds is an inherent characteristic of the human symbolic system. It is precisely what gives human language its vitality in mediating the development of thinking.

Unlike Tolstoy, 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 are presented in well-defined structural systems where the psychological functionality

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\(^8\) Ms A’s reply when asked by a group of native students during a pastoral care session, ‘What’s it like to teach international students’.
of concepts is alive. In a web of functional systematicity, students understand the concept within a context of additive relationships. The active, self-questing, and transpiring psychological act students perform in such attempt to understand is more than any talented teacher could semantically prescribe.

7.2.3 Interpsychological encounter (social dimension)

In the dimension of interpsychological encounter, teachers employ their structural reflection and online creativity to establish a common psychological platform where individual thinking systems convene. This dimension is concerned with the teaching-learning integral. In analysis, whether students produce sufficient externalisation in teacher-student and peer exchanges is an external indicator of the present dimension. At the internal level, the analysis is concerned with the psycho-semiotic relationship between teachers’ and students’ utterances during their exchanges.

Particularly relevant are teachers’ questions/initiations and feedback, which could also be referred to as the ‘brackets’ of students’ utterances. For example, in asking a question and initiating student thinking, if the question is accompanied by the teacher’s sharing of some of his/her own thoughts on the matter, it would be communicatively more effective than a simple, unqualified question. Also, when following up with students’ contributions, the teacher’s thinking needs to move between what students say and the structural potentials in their speech. Responses to student utterances should reflect the result of the meeting between teachers’ and the perceived students’ structural organisations.

A. Ms A, School 1
a) External level
At both stages of the teaching in Excerpt 1, i.e., reading the Letter-to-the-Editor and the discussions of the text afterwards, students are often confined to making contributions in less than complete sentences. Students’ utterances are brief and fragmented, often interrupted before externalisation of thinking is allowed to fully unfold. While the teacher
is responsible for identifying all subjects of discussions, students do not initiate any of the collective communication. Also, in all observed lessons in this classroom, only the social transactions between the teacher and students are legitimatised in the classroom; peer interaction is discouraged and hushed up frequently and regularly.

b) Internal level
Among the language items taught in Excerpt 1, some are discussed by teacher and students, others are not (e.g., the word ‘claim’ in utterances 19 to 21 and the clause in utterances 113 to 117). Where teacher-student exchanges are absent, meaning comes only from the teacher’s individual system, not from social integration. Where teacher-student exchanges precede the formation of the final understanding (e.g., ‘biased’ in utterances 22 to 76 and ‘comprehensive’ in utterances 78 to 112), the interpsychological process of such discussions is of interest.

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 whiteboard marker 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.
In the excerpt above, Ms A initiates the interaction by getting the class to look up ‘biased’ in the dictionary; this gives neither the context nor a request for thinking. Ian volunteers a guess in 29; the teacher’s reaction to this again deflects the communication away from thinking and interpersonal understanding.

In the teacher’s socialisation with Ian, Victor, and the students from Korea in (25) to (42), she consistently draws the attention of the class to the authority of the dictionary. This, however, changes in (43) and (44),
where she gives examples of sentences using the word in question and requests students to respond in their contexts. Yuan takes the invitation for the interpersonal encounter and gives a response independent of dictionary consultation. Yuan’s move is not validated; the teacher goes on and comes up with another example. Despite her prompting, the class busies themselves with turning the dictionary pages. Ian learns the dominance of the print material in (29) and gives a dictionary-proof nomination in (48). Ms A makes no acknowledgement of students’ contributions until Yuan gives another guess in (49). Conflicting social messages continue to be issued in the teacher’s ensuing exchanges with Ian, Sam, and Yuan. Socialisation in the classroom seems to be governed by the teacher’s impromptu extemporaneity.

In terms of the meaning of the social speech, the exchanges between the teacher and the students manifest quick semantic oscillations. Reflected in the teaching speech, the students’ answers are either correct or incorrect. The teacher’s question and feedback brackets enable little psychological and developmental continuity within the students’ contributions.

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

T: (79) What does ‘comprehensive’ mean?
Martin: (80) Understand?
T: (81) No. That’s ‘comprehensive’ [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’
(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.

Other than simply rejecting, or accepting students’ nominations, or urging students to use their dictionaries; Ms A’s speech does not give any insight into the systematicity of her thinking. As in the teaching of the word ‘biased’, the teacher’s eclectic speech here also mediates concrete, specific psychological associations with the word ‘comprehensive’. Without internal regulation of speech relationships, the language of teaching indicates spontaneous rather than scientific conceptualisation. The teacher’s and the students’ utterances may differ in semantics, but not in psychological organisation.

Where communication in a social space occurs in quick semantic oscillations in the form of “What is the answer to X?”; “A?”; “No.”; “B?”: “Yes, good answer.”; the members do not interact on a shared social psychological platform. Because of the absence of a common psychological scaffold, student utterances 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 or drive for the development of the dialogue. Underlying the exchanges are the teacher and the students operating within their individual, independent systems, rather than mutual engagement.

Also as a consequence 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 organisation which governs the semantics of students’ contributions does not develop. Between the individual students, there can be little conjointly developed meaning. The teacher’s final explanation, ‘thorough’, only adds further to the unregulated list of semantics 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. Prioritising external, conventional semantics as listed in dictionaries, this teaching approach actively prevents all ‘thinking’ elements from entering classroom socialisation processes. Cognitively, it hijacks the students from a direct, frontal, and meaningful engagement with the textual context and makes dispensable the teacher’s need to actively engage in the language’s functionality. Socially, 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 Five). 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 reorganisation 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 to 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:

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) 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? [Hank 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. 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].

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. The discussion contains quick oscillations between the teacher’s questions and the students’ brief, fragmented answers. Student speech is not only confined to singular, fill-in-the-blank utterances, it is bracketed by the teacher’s
language as well as hand gestures so that it arrives at pre-anticipated answers. Intellectual scaffolding takes up the appearance of a game of charades.

Initiating the interaction, the teacher requests for the students 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, she provides no ground or opportunity for discussing any writing-related issues, with the conceptual development from reading to writing treated as completely unproblematic. Psychologically, the teacher-student exchanges are concerned with simplistic and mechanical reproductions of the readings. The texts and their semantic contents, like the dictionary in previous stages of teaching and learning, 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 consists of Mr C’s monologic speech and no student externalisation or teacher-student negotiation of conceptual understanding. Neither is there any opportunity for peer interaction between the students. We can thus conclude that, at the external level, speech in the classroom does not enable ongoing interaction between teacher and students. The absence of external transactions, however, does not automatically dispense with the need to comprehend the internal level of the monologic speech, where communication can be informed by previous interpersonal understandings.

b) Internal level

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

“Most people are curious. Isn’t that always the way” (31, 32);
and
“When you want to analyse 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 [sic.] 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).

Instead of having the students, who have recently completed a cause-and-effect essay, nominate examples of essays of the same genre, the teacher makes the realisation independently that the class is visiting an old topic. Clearly, the teacher’s interaction with the text here is not informed by his understanding of the students.

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:
“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?”

“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”.

“See I’ve no problem with ‘due to’. That’s fine”.

“Um ‘for this […]’, It was raining. For this reason, we cancelled the soccer game. That’s alright but yes there’s two sentences there”.

“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.]”.

“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 minefield, 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?”.

Summarising the lengthy, 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 critical 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. As in Ms A’s lesson, the text serves to obfuscate, rather than facilitate, the teacher’s verbalised thinking; it blocks, rather than assists, 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 socialisations is a three-way psychological interaction between the teacher, the students, and the text or the task (Diagram 10).

As highlighted in Chapter Three, the key to authenticity in classroom interpsychology is simultaneity or synchronicity of the interactions of all three dimensions. To achieve this simultaneity, the only probability lies in both of the human participants interacting with one another with their structure integration of the text or the task. 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 above.
In the teaching of cause and effect in Excerpt 3, this simultaneity in teacher-text-student interaction is not established. By contrast, the teacher’s continuous verbalisations fill in and crowd out teacher-student and student-text interactions.

The 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 analysed.

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?” (71);
4. “What’s the other one, the other one is ‘One’” (97);
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” (108–109);
6. “So when you’re doing things someone will say ‘well how can I say this differently?’ okay? [Indicating sheet] There you are” (111–112);
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?” (129–130).
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, resources from this earlier interaction are included in the teacher’s monologic speech.

Other than this one-off effort of inclusion, however, however, the self-dialogues serve purely rhetorical functions, assisting the smooth and unproblematic progression of the lecture. Aided by the self-dialogues, teaching moves from one topic to another and the monologue acquires the external outlook of social communication. 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
Similar to the other two cases, the teacher’s elicitation of student participation is minimal in Excerpt 3. Other than the brief contributions of one student, KK, there is no extended externalisation on the students’ part. As well, except for fleeting transactions between Ms D and KK, no peer interaction occurs in the negotiation of conceptual understanding.

KK’s utterances, i.e., “Um, all the points and =” and “Organise?”, mediate only incomplete unfolding of thinking. This is because thinking as a systematic operation can only be mediated and developed in the relationships between speech units; it is impossible to be represented in singular utterances.

b) Internal level
While the class goes through an assessment document on the project the students have been engaged in, the teaching of ‘synthesis’ is to serve only a band-aid function. In relation to this, the socialisation happens in decontextualization. The socialisation is decontextualised in two senses: first, conceptually, it evolves around the independent semantic explanation of the word in vacuum, disconnected from the psychological processes characteristic of the students’ project by this
stage of the teaching. It is also socially decontextualised in the sense that interpsychological engagement does not synchronise with the generation of meaning.

In initiating and following up with student contributions, the teacher’s ‘speech brackets’ fail to provide a relationship between the individuals’ thinking systems. In the prompts for student contributions (see excerpt reproduced below), the teacher gives her conversation partners no insight into her own psychological connection with the concept in question.

(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 synthesised. (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 were talking about synthesizing 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 synthesizing information.

Without showing any psychological relationship with the conceptual meaning, the initiation does not enable an encounter between the students’ thinking systems and the teacher’s.

(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 opening and closing], what do you do with them?
(14) KK: Organise?
(15) T: Organise them, you – extract the information.

KK gives a tentative utterance in (12). This is accepted at its surface semantics and then quickly taken over. Instead of unfolding further associations with the word in question, KK is led towards an anticipated direction by both the teacher’s question (13) and a hand gestural cue. KK’s singular-word answer in utterance 14, ‘Organise?’, 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. In swift semantic oscillations, the teacher-student exchanges are concerned with what simpler language can replace the word ‘synthesis’ rather than what thinking structures the notion mediates in individual understandings. As in the other two classrooms, this episode similarly presents the conventional semantic explanation of the word obstructing interpersonal engagement.

Alternatively, KK’s contributions, ‘All the points and’ and ‘Organise’, could start the externalisation and systematization of existing associations in the context of, for example, her current research. The ensuing discussions could then elicit structural connectivity in the teacher’s and student’s understandings and practices in arriving at the elevated meaning of the concept. Through mutual attendance, ‘synthesis’ would be the very texture of socialisation rather than the external object of conversation.

Section overview

In the social conceptual dimension, students in the three excerpts rarely engage in extended or even complete externalisations 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 present semantic oscillations between individual systems. Teachers too often hasten to direct or complete students’ utterances and rather than ‘staying’ with students’ thinking systems which underlie their speech. Teachers’ speech progresses readily from students’ in the S-R habitual chain that is formed in the spontaneous native-speaker-like semantic proficiency.

With or without the incorporation of print materials in the classroom, external and conventional meanings of language govern communications and effectively do away with the need of thinking in socialisation. Between teachers’ and students’ utterances, speech relates in an external but not a psychological manner.
7.2.4 Internal order of interaction (historical dimension)

To fully appreciate the dialectics of classroom processes, it is not enough to understand the previous dimensions (structural, conceptual, and social) separately. The previous dimensions are not isolated but inter-related in the internal order of interaction. The internal order of interaction integrates all phenomenological manifestations of classroom communications. As well, the historical dimension accounts for not only the past, but also for the present and future 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 intervention of learning.

At the external level of this historical dimension, we examine whether it is the teacher or the students who are making conceptual connections and advancing dialogic developments; and whether dialogic progressions are the result of the teacher’s independent intervention or they are based on collective input. 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.

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. In relation to the semantic decoding approach employed, concrete and external definitions of language as specified by the dictionary govern the evolution and development of socialisation. In the semantic paradigm of language teaching, it is unlikely that students’ psychological operations of language intrinsically motivate the progress of classroom socialisations.
b) Internal level
If teachers’ intrapsychology can be considered as a cause of the effects of teachers’ 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 organisation 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 behavioural control. Underlying teachers’ 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 semantic and grammatical distortions. This is not the causal consequence of lack of knowledge on the teacher’s part. It is not postulated that the teacher should have looked up the words so as to offer the ‘correct’ explanations. ‘Correctness’ and ‘incorrectness’ in teaching and learning are phenomenological manifestations, not psychological operations. From the perspective of their genetic history, distortions in teaching are pre-dated by psychological structure and mediation of a certain nature. 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, characterised 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 socialisation 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 socialisation. 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 talks 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 and meaninglessness. 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. Ms D, School 3

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 confines them to singular word utterances, before which she provides the final answer, prescribing the behavioural manifestations of ‘synthesizing’. In spite of their semantic exchanges, teacher’s and student’s systems do not have an authentic crossfire. From the beginning of the episode to the end, meaning development is motivated by the teacher’s independent system.

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 students talk about the concept in a general, decontextualised manner. The concept is arbitrarily isolated from any psychological operation, as well as from the actual processes of students’ research and writing. In the social conceptual dimension, Ms D and KK conduct quick, oscillating transactions of words, which serve as the pre-text for the teacher’s final solution. In the conceptual tool dimension, eliciting student contribution, the teacher’s speech mediates behavioural, rather than psychological, orientation to the understanding of synthesis. The teacher’s conceptual explanation and instructions mediate a series of assertive, absolute, and linear associations. 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’. 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 semantic manifestation in general, but with the lack of tension between semantic units and the absence of psychological momentum in the intertextual relationship. 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. In all dimensions, the teaching observes the S-R mechanism; the intrapsychological engagement that is the precondition for student engagement is peripheral.

The cause of the teacher’s intrapsychology and the effect of the socialisation 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 analysed in episodes of whole-class communications. Before ending the section, an episode of teacher-student, one-on-one discussion (Excerpt 5 below) 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 analyse. A wide range of issues have been studied by the students, including global warming, Chinese politics, world population, cosmetic surgery, homosexuality, etc. The student in the excerpt, Eve, has chosen to research and present on teenage abortion. Eve, who comes from a Vietnamese migrant family and has received years of schooling in Adelaide, appears to have good English oral proficiency. At the time of the recording, she 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) organisation in student’s conceptual system. Semantic provisions or transmissions must be subordinated to psychological structural mediations.
Excerpt 5. Teacher-student meeting on student’s research on teen abortion

<table>
<thead>
<tr>
<th>Sub-stages of interaction</th>
<th>Transcript</th>
<th>Teacher introducing new topics/directions in interaction</th>
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<tr>
<td>Stage 1: ‘Why’ya doing something about the United States’</td>
<td>T: (1) So away ya go [indicating to student she can start speaking 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]. 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?</td>
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</table>
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? (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?

Stage 2: Positives and negatives in teen abortion
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.
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<table>
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<tbody>
<tr>
<td>T: (67) They MIGHT not be. (68) You can’t say they aren’t, but they might not be.</td>
<td>(19)</td>
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<tr>
<td>S: (69) They might not be mothers [student pushes arm against table].</td>
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<tr>
<td>T: (70) You’re saying that it would be an UNPLANNED PREGANCY?</td>
<td>(20)</td>
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<td>S: (71) Mm [nods].</td>
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<td>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?</td>
<td>(21)</td>
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<td>S: (81) It’s positive.</td>
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<td>T: (82) Unplanned pregnancy, so you’re going to make that positive. (83) Ok, so tell me another positive.</td>
<td>(22)</td>
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<tr>
<td>S: (84) [Inaudible] really good reasons [student shows pages to teacher].</td>
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<tr>
<td>T: (85) Pardon?</td>
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<td>S: (86) Have really good reasons.</td>
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<td>T: (87) Yeah?</td>
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<tr>
<td>S: (88) [Pushes page to teacher]</td>
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<td>T: (89) No, you tell me. (90) Don’t read it out. (91) You just tell me.</td>
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<td>S: (92) [Looks down at page uncertainly]</td>
<td>(23)</td>
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<tr>
<td>T: (93) Or negatives. (94) Can you think of negatives?</td>
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<tr>
<td>S: (95) Might be a risk.</td>
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<tr>
<td>T: (96) Risk. [Stands and goes to write ‘risk’ on whiteboard] (97) What sort of risk?</td>
<td></td>
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<tr>
<td>S: (98) Infection.</td>
<td></td>
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<tr>
<td>T: (99) Oh, risk of infection.</td>
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<tr>
<td>S: (100) [Inaudible word and ignored by teacher]</td>
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<tr>
<td>T: (101) Are you going to talk about, um, morals and ethics, that sort of thing? (102) Do ya</td>
<td>(24)</td>
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</table>
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, government agency. (153) [Points to a word in sheet] Do you know what ‘Hispanic’ means?
(154) It means Spanish.
S: (155) Spanish.
T: (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.]
T: (167) Yes, but it’s very complex. (168) [Looking at some pages with many highlighted areas] Wow. Looks like you’ve just started in terms of writing it. (169) How about you go on that ANZ Reference Centre?
S: (170) A-N =
T: (171) = ANZ Reference Centre. (172) And find some newspaper articles because they will be shorter.  
S: (173) About?  
T: (174) About ABORTION. (175) And it doesn’t matter if you change the topic to Australia, because the trend will probably be the same. (176) It’s just that in Australia you’ll know what you’re talking about. (177) I’LL know what you’re talking about [student laughs]. (178) If you get some Australian newspaper articles from ANZ Reference Centre, it will bring you up to date. (179) You can get some statistics, and we’ll know what we’re talking about.  
S: (180) Do that [points to computer]?  
T: (181) Yeah, do it right now. (182) You know how to do that?  
S: (183) Yes.  
T: (184) Good girl. (185) Go to the advance search and look for two thousand […] , up to 2007. (186) One of the problems with that, was that the statistics stopped in 2000 [referring to student’s graph]. (187) It was already out of date. (188) So doing the ANZ reference you can bring it right up to 2006, 2007.

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. 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

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10. 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.
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.

In utterance 2, the student begins the externalisation 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: 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. After a series of teacher-initiated exchanges, 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 externalisation.

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 in body language. For example, in utterance 35, the student cuts short the teacher’s question, following the same didactic contract observed 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 contributed to none of the meaning developments in the interaction. On the other hand, from the initial to the second and the final stage, the teacher’s psychology has travelled in a self-fulfilled circuit. 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

With the student’s externalizations constantly interrupted, impeded, and diverted, it would be difficult to conceive that her 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.

From utterance 116, 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 organisation 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’s 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 socialisation converge.

**Section overview**

The synchronicity of internal and external, past and present, and cause and effect characterises 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 socialisation 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 socialisation 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 also contended 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 8 DISCUSSIONS

8.1 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 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 socialisation. This study endeavoured to produce a threefold response to this problem, involving a theoretical, an instrumental, and an interpretive analytical component.

Theoretically, it was argued that while 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 socialisation. 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 socialisation. 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 organisations. 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 organisations 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 internalisation.

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 socialisation. 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
socialisation. 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 socialisation are a battle from within, not from without, and that teaching and teacher socialisation 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 organisation, 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 socialisation. 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 socialisation, 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 organisations regulating the enactment and unfolding of teaching and teacher socialisation 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-semantic principles as well as with Vygotsky’s key considerations in research methodology. Respectively, the structural, conceptual, social, and historical dimensions were devised to examine teaching and teacher socialisation 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 socialisation 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 socialisation 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 organisation 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 organisations 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 socialisation, 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 conceptualisation of teaching and teacher socialisation. First, this study differed from the mainstream in the conceptualisation of teaching and teacher socialisation. Contrary to orthodox conceptualisation of teaching and socialisation 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 Two). 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 socialisation 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 organisation 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 socialisation provided “[o]nly the initial point, it is understood. Not an iota more” (Vygotsky, 1997c, p. 41).

8.2 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 mediators 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 organisation, teaching of the meaning and function of language, and exchange with students need to begin with intrapsychological engagement with such dimensions. Historically, underlying all attempts at bringing about change should 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 socialisation 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, nonlinear, synchronic and dynamic whole.

In its conceptualisation of language as discursive data, this study stood as a departure from both the cognitivist, universal conception and the critical, post-structuralist conception of social speech. In the cognitivist conception, language and thinking are seen to exist in an absolute, one-to-one relationship. In a post-structuralist 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 versus sociological) meaning. Shifting towards the paradigm of dialectic monism, this study presented an analytical method of speech in mediational relationships with thinking. Discourse was analysed as the dialectic whole of external and internal levels of communication in terms of intrapsychological dynamics and interpsychological transactions in synchronicity. Such a method of discourse analysis 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 recognised 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 practise 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, interfunctional 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 8am and left at 7pm 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 macro-sociological 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.

8.3 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.
CHAPTER 9  A NOTE ON RESEARCH METHODS

9.1 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 differs from the mainstream in the conceptualisation of teaching and teacher socialisation. Contrary to orthodox conceptualisation of teaching and socialisation as causal origins of learning, this study maintains an acausal and apperceptive understanding of the research problem. It is held that educational influences originate from teacher’s intrapsychology, which is then mediated in teacher-student interpsychology before being internalised in students’ intrapsychology. The object of examination is 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 goes hand-in-hand with the research instrument, which examines speech and thinking, external and internal levels in teaching and teacher socialisation as interacting and
complementary processes. It is also different from a social-semiotic study in which the meaning of language in educational environment corresponds 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 organisation which governed teaching activity and speech. An acausal and mediated organisation 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 socialisation are 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 another in every step of mutual progress. The theories, instrument, and interpretive analyses were all, simultaneously, processes and products of the research. In this volume, the description of the theories and instrument appear prior to the analyses only for the convenience of discussions.

9.2 Heuristic Research

In a number of aspects, a study between two unknowns is similar to what is referred to as the ‘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 socialisation 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 socialisations. 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 organisations and reorganisations of psychological connections until the thematic questions emerge in fullness and systematicity. In this study, the four specific dimensions of teaching and teacher socialisation were formulated as results of exactly this long and strenuous reflective search. From reading and integrating existing literature, immersing in and synthesizing classroom videos and transcriptions, the dimensions altered, time and time again, in number 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 longstanding 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 reorganisation, 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 recognise 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 socialisation 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. In the educational
theories inspired by analytical psychology 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 learn-
ing 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 socialisation influ-
encing 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 interpsy-
chological, 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 to potentially structural con-
nections and reorganisations. In answer to such a question and in arriv-
ing at an inner content, education and psychoanalysis, and height and
depth psychology, it was felt, had to be synthesised anew. At the same
time the core question was being clarified, its specific implications in
classroom scenarios were speculated. Going through immersion, incu-
bation, illumination, explication, synthesis and self-validation, various
dimensions and manifestations of teacher mediation were listed, clus-
tered, tabularised and modified.

With this crude frame of reference, the heuristic phases were expe-
rienced 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 class-
room 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,

1 I am much indebted and grateful for Dr Robert Matthews’ influence in this aspect.
and interpretive analytical components of this report, were a marriage between the reflections before and after data collection.

9.3 Participants and Data Collection

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 coed 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 D 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.

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. 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.

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 One 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 contribute to the development of theories and research instrument. For this reason, the more random 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 should be relatively self-contained, i.e., that they have a relatively complete structure and independent status in the whole curriculum process; and that they should be of a suitable length. Besides such pragmatic considerations, all excerpts were selected for analyses and presentation randomly.
Appendix 1  General Backgrounds of Schools, Teachers and Students

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 extracurricular 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 assigned 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 images of their Asian clientele had started to appear in school publications, from reports of teachers and students, international students were a new phenomenon at the school. Local students passing by often cast curious glances through the windows of the International classroom, which was decorated with various Asian pictures and artifacts.
The Teacher
Ms A had 12 years of ESL teaching experience and almost twenty 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 twelve students; and the SACE class of nine 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 offered after-hours tutoring for students in need with school assignments (not always in a paid capacity). Ms A often arrived at the school at 8 am, started teaching at 8:40, and left at 7 or 8 pm. 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 become next to naught.

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 familiarised with the teacher’s daily professional flow and rhythm.

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, 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, this room contained a set of computer stations along the back 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 of the same room was Ms A’s own work desk. The physical arrangement of the teacher’s work area, as it later occurred to the researcher, was in parallel with the psychological arrangement. Physically, there was not a distinct separation between the teacher’s and the students’ work areas; the teacher’s work desk appeared to be an appendix to the students’ work area. Psychologically, the teacher worked almost exclusively in contact with students within the classroom. She was constantly on the go, teaching and tutoring; there did not seem to be either physical or psychological distance between the teacher’s private reflections and teacher-student contact hours.

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 its longstanding 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.
Unlike School 1, which strived hard to maintain a distinguished identity of the institute and its people through its celebration of school traditions, rituals at school assemblies, and iconic sport events, its emphasis on proper teacher attires and student uniforms, and its unified administration at student dormitory; School 2 seemed to be quite the opposite. With its two buildings located in the midst of cafes, restaurants, and shops, the institute did not have obvious physical boundaries. Students were also mobile; in casual wear, they came and went and moved between rooms and buildings between sessions.

Also in alignment with the head-start university-style education, 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 experienced 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 number 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. He was headhunted to join 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\(^1\)) 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 four hours (two 2-hour lesson blocks) in each class. Mr C’s reputation of being ‘strict’ and ‘severe’ was one held by students. The school’s International Coordinator reported that some students had visited her and enquired about the chances of skipping ESL because 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 migrant-family-background students had had a few years of educational experience in Australia.

The Classroom
Lessons were held in routinely booked rooms but classrooms were not assigned to specific classes of students. Students’ seats were arranged in the traditional layout, facing the whiteboard and the teacher’s desk in the front. In the Year 12 ESL class reported here, students of migrant and international backgrounds seemed to have voluntarily demarcated seating areas in the room. While the majority of local students would sit in the two front rows in the centre, the majority of international students often sat in their own companies in rear rows and in the side seats of the classroom.

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\(^1\) 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).
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 its primary and secondary sectors. International enrolments began in as early as 1990, and students from other cultures appeared to be part of the more familiar scenery on the 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 refugee students. Although good academic results were also publicised 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 longstanding but financially well-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 were generally modestly but adequately facilitated. Year 12 students occupied a newly renovated and technologically better equipped site than the rest of the school. In all classrooms, religious posters, artifacts, and quotes from the Bible were displayed together with student photos, artworks and school notices.

The Teacher and the Students
Ms D had 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 five Year 12 lessons and four Year 10 lessons taught each week, she was also employed by the school to tutor some individual students in need of academic assistance.

There were 22 girls in Ms D’s Year 12 class. Except for three students from migrant families (Afghan, Vietnamese and Chinese), all were Asian international students, three from South Korea and the rest
from mainland China. During lessons, many students sat in what could be called ‘friendship groups’. This, in part, seemed to have contributed to the constant high noise level in class. After the teacher finished the whole-class teaching for the day, the girls were normally given half of the lesson time doing independent work. Chatting in native tongues often occurred on varied topics not apparently related to schoolwork. From time to time, Ms D called out and reminded the students to keep their focus on task and their voices down. Outside the Chinese groups, the Korean girls regularly sat at the back in a private group, leaving the Vietnamese and Afghan girls sitting together, friendly and polite, but not quite as enthused in their conversations.
APPENDIX 2  TRANSCRIPTION CONVENTIONS

CAPITAL Indicates emphatic stress

*Italics* Indicates readings of texts

… Indicates utterance is unfinished

-- Indicates short pause

-- -- Indicates long pause

A: ***= B: =*** Two equal signs at the end of Speaker A’s and the beginning of Speaker B’s utterances indicate A and B speaking simultaneously

[inaudible] Indicates utterance is inaudible

[***] Notes on tones, gestures, postures, and facial expressions, etc. when speaking
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