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THEORETICAL OVERVIEW

2.0 INTRODUCTION

The advent of the 21st century has brought a sea change in the way language is conceptualised. The focus has shifted from content or subject matter concerns to the development of specific skills or abilities. More emphasis is being placed on what a student should learn in order to function more effectively in different environments and in different situations. This re-orientation has led educators to the concept of competency as an educational objective.

The notion of communicative competence has received wide attention in the past few years, and numerous attempts have been made to define it. It has been observed that linguists and applied linguists have not always used the term ‘competence’ in the same way, and so a brief discussion of this matter would be useful as a preface to understand the concept as used in the present study.

2.1 THEORETICAL CONSTRUCTS UNDERLYING COMMUNICATIVE COMPETENCE

The term ‘Communicative Competence’ fails to enjoy a specific definition as is revealed by a review of current literature. The difficulty appears to stem from a wide range of definition of the word ‘competence’ found in the literature. Two distinct perspectives seem to define the concept
of communicative competence in their unique way. They are the cognitive perspective and the behaviouristic perspective.

Chomsky (1965) has been the most influential contributors to the cognitive concept of competence. His view of linguistic competence concentrates on the nature of linguistic knowledge and avoids factors of performance. The definitions that fall into the class of cognitive perspective conceive ‘competence’ as being a mental phenomenon distinct and separated from behaviour. Its concern is not with behaviour per se but rather how information about the world is presented in a person’s mind which makes it possible for him to perform the way he does or the way he could perform under a variety of circumstances. For Chomsky and others, the goal of competence theories is not the explanation of events or processes, but rather the discovery of the cognitive structure and mental representations that underlie events. In the realm of communicative competence, the goal then would be to develop a set of formalized rules that would act as a generative source for specific communication events. This theoretical conception of Chomsky however presents only a vague picture of the whole concept.

The second category of definitions belongs to the behaviouristic perspective and includes specific reference to actual communicative behaviour. According to the behaviourist theorists, ‘competence’ is understood to be dependent on two things: (tacit) knowledge and (ability) for use. According to them, the ‘competence’ in a living organism means its fitness or ability to carry on those transactions with the environment which
result in its maintaining itself, growing, and, flourishing. It is akin to conveying ‘adaptive effectiveness’ and not to be relegated to something abstract in the mind. The exponent of the term ‘Communicative Competence’ Hymes (1971) argues that rather than limiting competence to grammatical concerns, it needs to be expanded to the entire sphere of abilities manifested in speech. It is something that goes beyond linguistic competence to an awareness of the transactions that occur, between people. Thus Hymes defines communicative competence as knowledge of the rules for language, understanding and producing both the referential and social meaning of language.

In order to strike a peaceful balance between the two perspectives, the inclusion of both cognitive and behavioural processes as interdependent aspects of communicative competence has been suggested. Accordingly, communicative competence has come to mean:

“The ability of an interactant to chose among available communicative behaviours in order that he/she may successfully accomplish his/her own interpersonal goals during an encounter while maintaining the face and line of his/her fellow interactants within the constraints of the situation.”

Thus, the term communicative competence comes to represent a continuous process of ‘expression’, ‘interpretation’ and ‘negotiation of meaning’. The specific characteristics of communicative competence according to Savignon (1997) are:
It is a dynamic concept that depends on the negotiation of meaning between two or more people who share to some extent the same symbolic system.

It applies to both written and spoken language, as well as many other symbolic systems.

It is ‘context specific’. Success in a particular role depends on one’s understanding of the context and on prior experience of a similar kind.

It is only through performance that competence can be developed, maintained and evaluated.

It is relative and not absolute and depends on the cooperation of all participants.

The primary implication for theory and research is that an analysis of communicative behaviour should lead to both the inferences about the underlying knowledge structure and the evaluation of the appropriateness and effectiveness of various skills in actual and specific situations. Implied here is a shift away from traditional classroom formats to greater emphasis on experiential learning. Students must therefore, not only know about communication, but know how to communicative effectively. Since communicative competence is relative, it is impossible to judge the appropriateness of all acts so as to make a final assessment. Rather than attempt to list all possible behaviours that might be appropriate at some time or other, scholars studying communicative competence have attempted to
identify general skill areas or components of competence in which variations in communicative performance can affect interpersonal effectiveness.

2.2 COMPONENTIAL REPRESENTATION OF COMMUNICATIVE COMPETENCE

The first comprehensive framework of communicative competence was developed by Canale and Swain (1980) and it merits attention because they bring together the various views of communicative competence into a proper perspective within the larger construct of communicative competence. The framework developed by them not only defines several hypothesised components of communicative competence but also makes the implicit claim that the components of communicative competence comprise of distinct underlying abilities. In their framework the specific abilities are:

1) grammatical competence, which includes lexicon, morphology, syntax, sentence-level meaning and phonology;

2) sociolinguistic competence, which includes rules of sociocultural appropriateness;

3) discourse competence, which includes discourse generating rules;

and

4) strategic competence, which comprises of various verbal and nonverbal communication strategies which are employed to compensate for deficiencies in grammatical, sociolinguistic and discourse competence or to accommodate the vicissitudes of the communication situation.
The theoretical framework which this study examines comprises the aforementioned four main components, or traits: grammatical competence, sociolinguistic competence, discourse competence, and strategic competence. The figure given below explicates the various dimensions included under the gamut of communicative competence, each component existing not as separate entities but merging with the entire phenomenon coherently even though certain specific traits of each component can be evidenced.

Figure 2.1 Schematic Representation of Communicative Competence and its Defining Components
Grammatical competence is mastery of the linguistic code, the ability to recognise lexical, morphological and syntactic features of language and also to use these appropriately in a social context. It concerns itself with both the knowledge of grammatical rules and grammatical use and that is, the ability to understand and express meaning by producing and recognising well-formed phrases and sentences. Consistent grammatical control, high degree of grammatical accuracy, error-checking mechanism, communication with accuracy in the social context, are some abilities that come under the ambit of grammatical competence.

The next component ‘socio-linguistic competence’ is concerned with the knowledge and skills required to deal with the social dimension of language use. It refers to a speaker’s knowledge of how to express messages appropriately within the over-arching social and cultural context of communication. The matters treated here are those specifically relating to language use and not dealt with elsewhere. They are: the linguistic markers of social relations, register difference and expressions of folk wisdom. What the competence demands is a sensitivity to the connotative levels of meaning, confidence in expressing ideas and appropriacy of syntax use in context.

The third dimension or component, namely, ‘discourse competence’ includes knowledge of, and ability to control the ordering of sentences in terms of topic/focus, ability to structure and sequence ideas naturally to make a thematic description, to maintain coherence and cohesion, and flexibility to circumstances. This competence thus concerns itself not with the
interpretation of isolated sentences but the connection of a series of sentences to form a meaningful whole.

The fourth dimension, namely, ‘strategic competence’ concerns itself with an ability to continue a communicative process either through paraphrasing, circumlocuting, summarising, transforming sentences and the like.

The four aforementioned components of communicative competence serve as operational definitions of how communicative competence has been conceived of in this present study.

2.3 COGNITIVE COMPONENTS OF LANGUAGE PRODUCTION

The communicative language framework comprising the four components namely, grammatical, sociolinguistic, discourse, and strategic competencies are primarily meant for carrying out the cognitive work that is needed for finding words and putting them together in a language production process.

When we look inside the grammatical component and the processes that retrieve and arrange words, we find that grammatical component entails both functional processing and positional processing.
Figure 2.2 Organisation of Processing Components in Normal Language Production (Bock, 1995)

Functional processing is concerned with selecting words from the mental lexicon (lexical selection) and assigning syntactic functions to them (function assignment). During lexical selection, the mind first sets to find the
right meaning of the word rather than how it is pronounced and the function assignment decides which element could serve as the grammatical subject, direct object, and so on. It thus determines the syntactic role that message elements will play in an utterance. The product of functional processing is a representation that indicates for each message element, its syntactic role and the words to be used for expressing it.

Likewise, positional processing involves both, a syntactic and lexical sub-component called constituent assembly. It puts phrases, words, and grammatical inflections in order, arranging them in accordance with the grammatical patterns of the language.

The lexical sub-component of positional processing, lexical retrieval, is concerned with retrieving abstract word forms. The outcome of lexical retrieval is a description of a word’s morphology to be filled out in more detail during phonological encoding.

Whereas grammatical encoding manipulates words or morphemes as wholes, phonological encoding manipulates the components of words, the speech sounds. It is responsible for putting phonemes and syllables in order, within representations that carry the rhythmic and intonational qualities of the language.

In building representations of an utterance that allow learners to interpret language, the sentence processor bridges the automatic perceptual task of word recognition and lexical access with the more conscious, inferential processes of language understanding. Such interpretations cannot
simply be retrieved from memory of previous sentences encountered, for this would lead to an inability to understand the novel utterances. So what ensues is that, for each utterance heard, an interpretation has to be constructed. And for constructing clear interpretations the appropriate grammar has to be generated. To do the task effectively, syntactic analysis has to be done and suitable algorithms need to be developed. The grammar has to be parsed appropriately to convey the intended meaning.

The task of the parser is to examine the string of words of an input sentence, and assign that string a well-formed syntactic structure, given a particular grammar. When faced with a situation where more than one structure could be built, and the one chosen become inappropriate, the parser will ‘backtrack’ to the point where it made that choice (called a choice-point), and try an alternative. The parsing can either be bottom-up or top-bottom. The bottom-up works by looking at the words of the sentences and then trying to combine them into constituents, using the rules of the grammar, and the top-down parser constructs a parse tree by first assuming that there is a sentence, and then working its way down the tree to the words themselves.

It is generally held that semantic interpretation of the sentence takes place after a syntactic analysis is constructed. The problem of ambiguity resolution is dealt with by the parser through ‘deterministic’, ‘backtracking’ and ‘parallel techniques’.

Models of discourse comprehension reveal how comprehenders retrieve information from their interpretation of a discourse, how
comprehenders build mental representations of discourse, and how comprehenders link the elements of discourse with information that they already possess.

One of the detailed models of discourse comprehension proposes three basic steps involved in text comprehension: First, the meaningful elements of the text (the propositions) must be organized into a locally coherent whole (a text base). Second, processing operations called ‘macro-operators’ transform the propositions of the text base into a set of overarching macro-propositions that retain the gist of the text. These operations include deleting irrelevant propositions from the macro-structure, generalizing across redundancies, and constructing new propositions to fill in logical gaps in the text. ‘Schemas’ retrieved from memory control the application of these macro-operators by determining which propositions are relevant. The third and last set of operations in the model comes into play only when the text needs to be recalled from memory. When the comprehender is asked to recall or summarize the text, a ‘new’ text base is generated from the memorial consequences of the original comprehension process. Thus, the model demonstrates how these three sets of operations could be used to understand a paragraph from a psychological research report.

According to a different model, namely, ‘Structure Building Framework’, in order to build a coherent, mental structure of the information being comprehended, first, comprehenders develop their structures by mapping on information when that incoming information coheres or relates to previous
information. But when the incoming information is less coherent or related, comprehenders employ a different process: They shift to initiate a new substructure. So, most representations comprise several branching substructures.

The building blocks of these mental structures are what are very loosely referred to as memory nodes. Memory nodes are activated by incoming stimuli. Initial activation forms the foundation of mental structures. Once the foundation is laid, subsequent information is often mapped on to a developing structure because the more the incoming information coheres with the previous information, the more likely it is to activate the same or connected memory nodes which often carry the central message.

This processing in the message component is responsible for determining the communicative content of the intended utterance. One thing a message does is to ensure that the expressions that are used to refer to things will be understandable to the listener. The content of a message typically includes more than ‘just the facts’ that the speaker intends to convey, going beyond them to incorporate information specifically tailored to the communicative content. Message formation demands a great deal of problem solving, much more than the rather mechanical operations of the encoding processes. One upshot is that communication is likely to suffer when the messages are not adequately planned.

In addition to specifying the content of an utterance, a message becomes a message only when it indicates which element is the topic of the utterance and what the utterance is all about. It has been identified that
attentional manipulation strongly influences how speakers or writers describe the scenes. To get a more correct opinion of things it is imperative to let individuals on the various aspects of a topic and then converge upon a vital area.

Grammatical encoding is responsible for translating the message into a series of words, and comprises assigning syntactic functions (like subject) and arraying words in a grammatical order. It is the function assignment that assigns the most prominent message element, the topic, and assigns it the role of subject.

It has been observed by linguists that language production is facilitated in various ways by interpretation of prior discourse. The general process involves choosing appropriate formulations of an utterance from a very large set of alternatives at the lexical, syntactic, semantic, and conceptual levels. And, because of the inherently ambiguous nature of language, comprehension also involves choosing particular interpretation at all these levels. But for the two processes to benefit from each other, they must both have access to the same kind of underlying representations.

The theory underlying language production and syntactic processing bespeak the importance of employing activities wherein learners play the pivotal role in using the language they possess to express their meanings.

The development of the learner’s communicative competence is thus seen to depend not so much on the time they spend rehearsing grammatical patterns as on the opportunities they are given to interpret, to express, and to
negotiate meaning in real life situation. Learners of English are most successful when they are supported by language that is contextualised, when they are able to see connections between new English vocabulary and their past experiences and when they are actively involved in a task without fear of embarrassment. What is essential is enabling the learner to select and organize processes required to express meaning and acquire a gradual integration of sub skills including lexical, retrieval, syntactic processing, reading and speaking. The student is expected to articulate acceptably and construct comprehensible language sequences by rapid associations of learned elements.

As pointed out by Rivers (1972) what is required is “skill-using activities wherein learners play the pivotal role in using the language they possess to express their meanings. Consequently, it offers an opportunity for language acquisition.”

Autonomous language learning is promoted by a holistic, experiential learning approach that alternates between experience and observation as shown:

![Diagram of Experience and Observation](image)

**Figure 2.3  A Possible Approach to Language Training**
Students could start from a receptive stage: they could be exposed to actual examples of language use in which communication strategies play a clear and significant role. Then they could be led to become aware of the use of the strategies through a stage of exploration and discussion. This would be followed by a stage of practice and performance, where students could try out the strategies for themselves. And finally, they could discuss their own performance, evaluate their strategic use, and possibly compare it with a native speaker’s.

In this context, it can be understood that for learners to be successful in using learning strategies that promote communication the following conditions need to be met:

- first, that students experience strategies in the context of actual tasks, and not in a vacuum;
- and second, the teacher provides opportunities for students to reflect on, verbalize and socialize their experience, raising their awareness of which strategies were useful for which tasks.

It is however pointed out through several research studies that the starting point for a strategy development should not be strategies, but rather language learning tasks which prompt the use of strategies. Obviously, not all tasks then call for strategy use. Only those tasks which include a genuine problem to solve really call for strategy use.

That is, for effective learning to occur the mind has to make connections between what it already knows and the new hitherto unknown
items of information, and that, knowledge is constructed by the use of thinking processes. As a consequence, there has been a steady growth of interest in English language teaching especially from the late 1980s onwards, in the use of reflective activities in encouraging the cognitive and metacognitive processing of learners.

Activities related to real life play an affective-motivational role in learning because they are tools in the learner’s hand, tools that they can use on their own and which can give them the feeling that they can do something to solve their problems and do better. They promote the restructuring of causal attributions. For learners to be exposed to such life-related activities, teachers need to be equipped with the nuances of the reflective paradigm.

The next few sections are devoted to give deeper insight into what reflective teaching means, how it can be enhanced among teachers with special reference to certain select strategies.

2.4 DEVELOPING UNDERSTANDING OF REFLECTIVE TEACHING

The notion of reflective teaching can be traced to Dewey (1933) who introduced the idea of ‘reflective thought’, described it as an active consideration of any belief in the light of the prior knowledge and future objectives (Dewey, as cited in Korthagen, 2004). In his notion of reflection, three key ideas of modern rhetoric can be identified:

♦ Direct experience;
♦ Careful consideration of existing knowledge; and
Suspension of immediate action.

As an outgrowth of Schon’s research, three types of reflection have been distinguished: reflection-on-action, reflection-in-action, and reflection-for-action. The first type, reflection-on-action takes place after an event, while reflection-in-action refers to reflection in the midst of practice. The third type, reflection-for-action refers to reflection in the midst of practice. The third type, reflection-for-action, serves to guide future action. As Jennifer York-Barr et al. (2000) put it, reflective practice is “an inquiry approach to teaching that involves a personal commitment to continuous learning and improvement.” It implies deliberate pause to assume an open perspective, to allow for higher-level thinking processes. The definitions of reflective teaching speak of a multitude of perspectives. A desirable outcome of reflection is deeper understandings and insights, which constitutes the foundation for new forms of action. The new understanding and insights need to translate into outward behavioural changes, otherwise they will not produce differences in students’ lives.
Figure 2.4 replicates the ‘sumum bonus’ of what reflective teaching entails.

**Stage 1:** Identify present situation
- What am I good at?
- What cause concern?
- What could be developed?

**Stage 2:** How can it be changed or improved?
- How do I go about it?
- What skills do I have?
- What skills do I need?

**Stage 3:** Implementing & Monitoring
- What do I do?
- What resources are available?
- Who can help me?

**Stage 4:** Evaluate evidence
- Has there been change?
- Have I developed professionally?
- Are findings contextualised in educational literature?
- How do I move forward?

**Figure 2.4 The Stages Involved in Reflective Practice**

Sparks-Langer et al. (1991) identify three elements of reflective practice: the cognitive element (which refers to the knowledge that teachers needs to have in order to make good decisions in their teaching-related activities), the critical element (concerned with the moral and ethical aspects of practice in education), and the narrative element (which stems from teachers’ accounts of their own experiences in classrooms).
Grounded in constructivist learning theory, reflective practice seeks to identify, evaluate, and change the belief and assumptions that guide and influence one’s actions (Osterman & Kottkamp, 2004). Reflective practice places a main focus on ‘learning’ by actively involving the learner and learner’s experiences in the construction of knowledge, providing opportunities for exploration and articulation of own ideas, personal beliefs, knowledge, and experience (thus its emphasis on experiential learning), ongoing analysis of personal theories-in-use, and designing activities that are collaborative in nature.

The understanding of new concepts occur through improvisation and experimentation during an exercise or experience, or reflection-on-action where the learner looks back over an experience and reviews what was learnt.

Korthagen (2004) conceptualises reflective practice as a professional development strategy and makes a clear distinction between action, learning, and reflection indicating that learning improves the quality of the action, and action exposes systems’ failure, thus creating learning needs. This process is also known as the ‘spiral of professional development’ which represents the process of action, learning from that action, and improving on the action which will further reveal new areas of learning needs (Figure 2.5).
Reflective teaching requires a deliberate ‘pause’ a slowing down to create a space in which presence and openness emerge. An open perspective or open-mindedness means recognising that there are multiple ways to view particular circumstances or events and extending learning beyond the immediate sphere.

Openness creates the possibility for ‘inquiry’, the state in which questions about practice are invited and genuinely engaged. The open avenue for questions further ‘thinking’ – the active, deliberate, and conscious processing of thoughts for examining goals, beliefs, and practices.

The intended outgrowth of deliberative thinking is ‘learning’ by the reflecting person. New and deeper insights are gained. The ultimate outcome of reflective teaching is enhanced in student learning. Learning is
broadly defined to include students’ capacities to think, their motivations to learn, and their effectiveness in engaging constructively with others and contributing to the world around them.

In sum, reflective teaching is an active process which serves as the foundation for continuous learning and more effective action in educational practice so that children are successful in school and in life.

Described below are numerous benefits that can be realised when reflective teaching is implemented in schools.

- Guidance for new career; teachers or educators in new roles;
- Continuous learning through integration of teaching dimensions;
- Bridges theory and practice;
- Consideration of multiple perspectives;
- More productive engagement of conflict;
- New context knowledge for immediate application;
- Embedded means of formative assessment;
- Growth in cultural awareness and competence;
- Deepened understanding of role and identity;
- Individual and collective sense of efficacy;
- Strengthened relationships and connections among staff.
- Greater professionalism and voice;
Reflective teaching has thus, the potential to significantly improve education if its foundations, assumptions and rigorous processes are honoured.

Reflective practice spiral learning from the inside out. Figure 2.6 presents one way to think about initiating and expanding efforts to embed reflective teaching practices as a cultural norm in schools.

**Figure 2.6 The Reflective Practice Spiral**

The figure explicates how the learning and positive growth that individuals experience from engaging in reflective practices provides an informed, experiential foundation on which to advocate and commit to expanding the practice of reflection beyond themselves. Just as is seen in the figure, the moment an individual adopts reflective practice systematically, a big circle of practitioners are gradually woven into the fabric ultimately leading to enhanced and empowered functioning of the entire school system.
2.5 PLUGGING IN REFLECTION IN A LANGUAGE CLASSROOM

Reflective teaching is thus seen to illuminate meaning, purpose, and learning in one’s own professional life and in enhancing the understanding of one’s students too. Since it has been acclaimed as the best approach to ensure a rich language learning environment in classrooms, reflective teaching is taking a strong foothold in English as a Second Language (ESL) or English as a Foreign Language (EFL) teacher education programmes worldwide. The problems related to conceptualisation of the linguistic features of a foreign language, and of making meaningful connections are to a greater extent redressed by this practice. As Richards (1994) points out, the ‘inner dialogue’ with oneself whereby a person calls forth experiences, beliefs, and perceptions itself is an opportunity for the individual to use language on a regular basis. Reflective thinking necessarily generates language for an appropriate social climate and leads learners through a reflection cycle whereby thoughts adorn words and meaningful connections.

The reflective cycle of language communication establishes a firm connection between the language of thought and its external manifestation through speech or writing. Initiation to a communicative context is brought about through an intriguing experience wherein literal meaning fails to synchronise with the intended meaning and multiple solutions loom large before the communicator (Figure 2.7). This raises a number of questions in the learner’s mind and prepares a forum to interpret the utterances or text in the light of all available information. Learners are compelled to enter into
dialogue and confirm the literal interpretation they arrive at. The assessment of the interpretability of that interpretation against the context of that utterance is made. If that fails to meet the requirement, alternative interpretations are sought and the cycle repeats until the desired discourse is generated and tested against grammatical and socio-linguistic accuracy and appropriateness. Such an analysis of meaning becomes complete only when the learner enters a reflective frame, makes assumptions, and tests findings with more readings, dialogue and observation.

Figure 2.7 Reflective Cycle in Language Processing Tasks
The aforementioned cyclic process leads learners through the four-stage experiential learning cycle spelled out by Kolb (1995), namely, 'problem identification', 'observation', 'reflection', and 'experimentation'. While 'experience' is the basis for learning, learning cannot take place without reflection. Conversely, while reflection is essential to the process, reflection must be integrally linked with action. Reflective practice, then, integrating theory and practice, thought and action, is, as Schon (1991) describes, a "dialogue of thinking and doing through which I become more skilful." It seeks to identify, assess, and change the underlying beliefs and assumptions, the theories-in-use, which directly influence actions (Osterman and Kottamp, 2004).

The social constructivist paradigm of learning and the emphasis on critical pedagogy are an offshoot of the principles underlying reflective teaching which proposes that learning involves the active construction of knowledge through engagement and personal experience; and that learners can progress in their understandings and performance from assisted to independent levels through collaborative support with more knowledgeable peers. Opportunities are provided for learners to construct their own knowledge during processes of articulating, defending, evaluating and reflecting upon their understandings and shared practices.
2.6 STRATEGIES THAT PROMOTE REFLECTIVE TEACHING

Several strategies have been identified to train teachers to adopt reflective practice. Table 2.1 gives a bird’s eye view of some of the prominent strategies.

Table 2.1

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<tr>
<th>Strategies that Promote Reflection and Learning</th>
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<tbody>
<tr>
<td>Action Research</td>
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<tr>
<td>“Action research is a form of disciplined inquiry that promotes self-inquiry, collection of data and a search for solutions” (Glanz, 1999).</td>
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<tr>
<td>Cadres</td>
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<tr>
<td>“Cadres are small groups that coalesce around specific issues, research options, and recommended course of action” (Rapaport, 1999).</td>
</tr>
<tr>
<td>Cases</td>
</tr>
<tr>
<td>“Case-based professional development involves using carefully chosen, real-world examples of teaching to serve as springboards for discussion among small groups of teachers.” (Barnett, 1999).</td>
</tr>
<tr>
<td>Coaching</td>
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<tr>
<td>“Coaching provides a model of respectful collegial reflection about instructional decisions (Harwell-McKnee, 1999).</td>
</tr>
<tr>
<td>Concept Mapping</td>
</tr>
<tr>
<td>“A sequential presentation of written information that shows connections and relationships between ideas and information” (Jennifer York-Barr, 2006).</td>
</tr>
<tr>
<td>Journalling</td>
</tr>
<tr>
<td>“Journal writing is a place for learners to record observations, toy various perspectives, analyse their own practice, interpret their understanding of topics, keep records, make comments, or reconstruct experiences” (Killion, 1999).</td>
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<td>Table 2.1 (continued)</td>
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<tr>
<td>------------------------</td>
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<tr>
<td>Mentoring</td>
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<td>Narratives</td>
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<td>Portfolios</td>
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<tr>
<td>Problem-Solving</td>
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<tr>
<td>Shadowing students</td>
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<td>Study Groups</td>
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<td>Tuning Protocols</td>
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From among the strategies outlined in Table 2.2, the investigator selected Concept-Mapping, Problem-Solving and Portfolio as they offer a systematic framework for taking stock of current abilities and for embedding more reflection and learning objectives. The select strategies bring the reflector through a sequenced process of thinking: description (what?), analysis and interpretation (why?), overall determination of meaning (so what?) and serve in addressing vital components of language learning as in:

- Planning language objectives for lessons in all curricular areas;
- Building academic vocabulary development into all lessons;
- Building and activating background knowledge;
- Providing opportunities for extended academic English interaction;
- Integrating vocabulary and concept review throughout the lessons; and
- Contextualising the learning situations.

A brief description of these strategies is given below.

2.7 ARCHITECTURE OF SELECT REFLECTIVE TEACHING STRATEGIES

2.7.1 Concept Mapping

Concept-mapping is a graphic strategy of displaying text material in a two-dimensional, spatial, node-link networking whereby knowledge is represented into a locally coherent whole by deciding which text elements fit the constraints imposed by a comprehender’s expectations about how the discourse should proceed. Novak and Canäs (2006), two of leading concept
map researchers define concept maps in their famous ‘Theory Underlying Concept Maps and How to Construct them’ like this:

“Concept Maps are graphical tools for organising and representing knowledge. They include concepts, usually enclosed in circles or boxes of some type, and relationships between concepts indicated by a connecting line linking two concepts. Words on the line, referred to as linking words or linking phrases, specify the relationship between the two concepts.”

Concept Maps take their roots from Ausubel’s Assimilation Theory (1963), serving as advance organizers in fostering meaningful learning by providing a context of general concepts into which the students can incorporate progressively differentiated details reiterating the basic idea of learning that:

- Most new learning occurs through derivative and correlative subsumption of new concept meaning under existing concept or propositional frameworks. Learning that is meaningful involves reorganization of existing beliefs or integration of new information with existing information.

- Cognitive structure is organised hierarchically with new concepts or concept meanings being subsumed under broader, most inclusive concepts.

This theoretical framework that supports the use of concept mapping is consistent with constructivist pedagogy and cognitive psychology. Its impact on language education has been a topic of research by several researchers.
Complementing the literature on concept mapping, researchers like Wang et al. (2008); and Young and Lauren (2009) point out how the concept mapping technique promote sustained reflection and integration of information and lead towards cohesion in writing. They not only serve the same ends as writing (making connections) but also serve as valuable means to writing (as a prewriting or planning tool) and as a valuable means for the teacher to assess “learning-in-progress.

Given below is a standard concept map construction method specified by its proponents Novak and Musonda (1991) and the steps involved are given in Figure 2.8.
Figure 2.8 The General Format for Developing Concept Maps

The process of map construction as shown in the figure can be summarized as follows:

1. the mapmaker chooses the knowledge domain, often by reviewing a section of the textbook, a videotape, a journal or the like;

2. the most important concepts are arranged in a hierarchical level, from general to specific, and important missing concepts are added;
(3) the concepts are tentatively organized and reorganized into branching arrays, working from general to specific, branch by branch;

(4) concepts are linked by lines and the lines are labelled to produce a set of interrelated propositions;

(5) examples are added where appropriate at the terminus of the branch;

(6) cross links are added to represent integration among the branches; and

(7) the mapmaker examines and reflects on his or her first draft, revising and redrawing it to improve its accuracy, precision, and graphic effectiveness.

The construction mode of concept map strategy found appropriate for language education and for enhancing communicative competence of learners has been detailed in the Methodology Chapter.

There are two major categories of concept maps: ‘hierarchy’ and ‘non-hierarchy’. These are distinguished by their different format for representing information.

Hierarchical maps present information in a descending order of importance. The most important information is placed on top. They can be represented thus:

![Examples of Hierarchical Maps](image)

**Figure 2.9 Examples of Hierarchical Maps**
Non-hierarchical maps are organised by placing the central theme or unifying factor in the centre of the map and radiating sub themes around the centre of the map like:

(a) ![Diagram](image1)
(b) ![Diagram](image2)
(c) ![Diagram](image3)
(d) ![Diagram](image4)

**Figure 2.10 Examples of Non-Hierarchical Maps**

The samples below show some of the kinds of maps that can be used for communication purposes. They are:

**1) Problem-Solution Map**

![Diagram](image5)

**Figure 2.11 A Problem-Solution Map**
A fairly straightforward map is a problem-solution map. In this, students have problem statement, definition, causes, and effects, leading to a possible solution.

When a prewriting activity is planned in which students are required to write a problem-solution essay, the terms to be used could be defined or the structure for the map be supplied.

(2) **Process Development Map**

A more involved assignment asks students to create a process for accomplishing a task. There is a beginning and an end, with multiple steps and alternatives at each step. One possible way of structuring this activity would be to provide a blank map structure and ask students to list the steps and alternatives, with results shown by adding text to the links.
(3) **Persuasive Argument Map**

Here is a fairly common type of theme for students, in which they present a persuasive argument.

Here is a much more free-form map which might ask students to think about the characteristics of something.

(4) **Research Topic Map**

Figure 2.13  A Persuasive Argument Map

Figure 2.14  A Research Generating Map
A more research-type description asks students to research a topic, adding the map in ‘who’, ‘what’, ‘when’, ‘where’, ‘why’, and ‘how’ fashion leading towards the significance of a topic.

(5) Narrative Story Line Map

Figure 2.15 A Narrative Story Line Map

A narrative story line might look like this, with a setting, set of characters, problem, set of alternative attempts to solve the problem, and a
resolution. The map shown is a traditional setting, cast of characters, problem, attempts at solutions, and finally, resolution.

(6) Comparison and Contrasts Map

![Comparison and Contrasts Map](image)

Figure 2.16 A Comparison Contrast Map

A comparison and contrast concept map serves the purpose of displaying the differences or similarities of two different objects, event or person with precision and clarity.

(7) Fish-bone Map

![Fish-bone Map](image)

Figure 2.17 A Fish-Bone Map
A fish-bone map too serves the purpose of delineating the strengths and weaknesses or two different dimensions of the Object/Event/Person under focus.

Among the various maps discussed above, the investigator has selected hierarchical maps wherein concepts are organized in a sequential order, encouraging the setting of priorities and incorporating prior knowledge coherently which is much required in a communicative context.

The hierarchical map is powerful for the facilitation of meaningful learning and serves as a kind of template or ‘scaffold’ to help in organizing knowledge and in structuring it, even though the structure must be built up piece by piece with small units of interacting concept and propositional frameworks.

The application of Concept-Mapping is immense. A few of these are mentioned here:

(i) Creativity Tool: Drawing a concept map can be compared to participating in a brainstorming session, and putting new ideas and divergent ideas across boldly and confidently.

(ii) Hypertext Design Tool: As the World Wide Web becomes an increasingly powerful and ubiquitous medium for discriminating information, writers must move from writing text in linear fashion to creating hypertext documents with links to other documents. The structural correspondence between hypertext design and concept maps makes concept mapping a suitable tool for designing the
conceptual structure of hypertext. A concept map placed on the web in hypertext may also serve as a navigation tool if there are clickable areas on the concept map that take the user immediately to indicated parts of the hypertext document.

(iii) Communication Tool: A concept map produced by one person represents one possible way to structure information or ideas. It can thus serve as a communication tool for people to discuss concepts and relationships between the concepts.

(iv) Learning Tool: Novak’s original work with concept mapping dealt with learning. Constructivist learning theory argues that new knowledge should be integrated into existing structures in order to be remembered and receive meaning. Concept mapping stimulates this process by making explicit these concepts and requiring the learner to pay attention to the relationship between concepts. Educationists argue that students show some of their best thinking when they try to represent something graphically, and thinking is a necessary pre-condition for learning.

Concept mapping is also gaining inroads as a tool for problem-solving in education. It may be used to enhance the problem-solving phases of generating alternative solutions and options.

(v) Assessment Tool: Concept maps can also be used as assessment tools: Novak (1977) found that an important by-product of concept mapping is its ability to detect or illustrate the ‘misconceptions’
learners may have as explanations of content matter and can help the instructor diagnose the misconceptions that make the instruction ineffective. ‘Concept Mapping is thus gaining prominence in almost all spheres of learning and is a strategy worth adopting.

2.7.2 Problem-Solving

Gagne (1985) believed that “the central point of education is to teach people to think, to use their rational powers, to become better problem solvers”. Most educators, like Gagne, regard problem solving as the most important learning outcome from life because people are rewarded in their careers for their abilities to solve problems. Problem solving as a reflective teaching strategy in English language classrooms assumes significance as it enables both the teachers and the taught to generate literary pieces, analyse textual materials, comprehend artistic devices used, and internalize and assimilate syntactic patterns so as to process language incrementally and effectively.

Problem-Solving is the process of applying existing knowledge to an unfamiliar situation in order to gain new knowledge and deeper insight regarding the situation. The definition of problem solving put forth by Korf (1999) encompasses the range of academic problem solving tasks that require creative solutions. According to him “a problem arises when a living creature has a goal but does not know how this goal is to be reached.
Whenever one cannot go from the given situation to the desired situation simply by action, then there has to be recourse to thinking. Such thinking has the task of devising some action which may mediate between the existing and the desired situation."

Problem-solving is thus not a uniform activity. Problems are not equivalent, either in content, force, or process. Schema-theoretic conceptions of problem solving has opened the door for different problem types by arguing that problem-solving skill is dependent on a schema for solving particular types of problems. If the learner possesses a complete schema for any problem type, then constructing the problem representation becomes a matter of mapping an existing problem schema onto a problem and thereby reaching appropriate conclusions. As depicted in Figure 2.18, the ability to solve problems is a function of the nature of the problem, the way that problem is represented to the solver, and a host of individual differences that indicate the process.
Problem Variations $\rightarrow$ Representation $\rightarrow$ Individual Differences $\rightarrow$ Problem Solving Skill

<table>
<thead>
<tr>
<th>Problem Variations</th>
<th>Representation</th>
<th>Individual Differences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ill-structuredness</td>
<td>Context:</td>
<td>Domain knowledge</td>
</tr>
<tr>
<td>Complexity</td>
<td>social</td>
<td>Familiarity</td>
</tr>
<tr>
<td>Abstractness /</td>
<td>historical</td>
<td>perplexity</td>
</tr>
<tr>
<td>Situatedness</td>
<td>cultural</td>
<td>experience</td>
</tr>
<tr>
<td>Cues / clues:</td>
<td></td>
<td>Structural knowledge</td>
</tr>
<tr>
<td>Modality</td>
<td></td>
<td>Procedural knowledge</td>
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<td></td>
<td></td>
<td>Systemic / conceptual</td>
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<td></td>
<td></td>
<td>knowledge</td>
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<td></td>
<td></td>
<td>Domain-specific reasoning</td>
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<td></td>
<td></td>
<td>Cognitive styles</td>
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<td></td>
<td></td>
<td>General problem-solving</td>
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<tr>
<td></td>
<td></td>
<td>strategies</td>
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<tr>
<td></td>
<td></td>
<td>Self-confidence</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Motivation / Perseverance</td>
</tr>
</tbody>
</table>

**Figure 2.18 Constituent Parts of Problem Solving**

Problem solving varies along three dimensions: problem type, problem representation, and individual differences. Problems vary by structuredness, complexity, and abstractness. Problem representations vary by context and modality. A host of individual differences mediate individuals’ ability to solve these problems. Although dichotomous descriptions of general types of problems are useful for clarifying attributes of problems, they are insufficient for suggesting specific cognitive processes and instructional strategies.
The Problem-Solving Procedure

Whatever be the type of problems, ‘problem solving’ procedures are basically seen to follow a set pattern. The stages are:

- Problem identification
- Defining the problem and gathering information
- Developing alternatives
- Implementing the solution
- Review / learn from your experience.

‘Problem Solving’ usually begins by identifying or recognising that a problem exists and has to be solved to lead to deeper understanding of the task at hand. Meaningful patterns in the given information needs to be given emphasis. The nature of the problem is to be identified. The possible steps that would help in its solution have to be thought about. A framework needs to be built on which later information can be added.

The second stage is defining the problem and gathering information. The select problem area has to be defined by the individual in a mode that is clear to him/her. All the evidences in connection to the context have to be considered so that the new information can be linked coherently with one’s previous knowledge. The individual needs to develop focused attention, recognise the problem type, and represent the problem either through illustrations or verbally. The inherent challenges, goals, or opportunities need to be considered while attempting to represent the problems in unequivocal
terms. In order to prevent learners from drawing conclusions regarding what the problem is they are to gather information supportive of their findings.

The third stage is developing alternatives. Here, the problem is looked at different ways. Brainstorming or rapid noting of alternatives no matter how silly they may appear is not rejected. The possible solution strategies used are: end analysis, working-backward strategy, analogical thinking, conceptual models, hypothesis-generating supports, problem taxonomies and the like.

The fourth stage is the implementation stage, where the where the solution is acted on by preparing a plan-of-action and monitoring it closely. Appropriate communication strategies.

The last stage is preview/learn from experience. Here, the options and alternatives are considered and the lessons learnt during each stage are documented for further learning. If the goal is not attained a recourse to the entire programme steps are followed again.

Based on several factors related to the problem structure, problem types ad individual disposition, distinct problem solving procedures are being employed some of which are briefed in Table 2.2 and explained briefly later.
### Table 2.2
Comparing Different Approaches to Problem Solving

<table>
<thead>
<tr>
<th>Steps in the Problem Solving Process</th>
<th>Rational Problem Solving</th>
<th>De Bono</th>
<th>Systems Thinking</th>
<th>Creative Problem Solving</th>
<th>TASC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Identifying Problems and Issues</strong></td>
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<tr>
<td>#1. Define the Problem</td>
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<tr>
<td>A. Develop a problem statement</td>
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<td>B. Identify a ‘desired state’ or goal.</td>
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<td>#2. Analyse Potential Causes</td>
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<td>A. Identify potential causes</td>
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<td>B. Determine most likely causes</td>
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<td>C. Identify root causes.</td>
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<td>TO: Directing Thinking</td>
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<tr>
<td>• Identify the aim, purpose and objective of thinking.</td>
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<td>• Determine the desired outcome of the thinking process.</td>
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<td>Lo: Looking</td>
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<td>• Determine available information &amp; needed information about the situation.</td>
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<tr>
<td>#3. Identify possible Solutions</td>
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<tr>
<td>A. Generate multiple possible solutions.</td>
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<td>B. Determine best solutions.</td>
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<td>PO: Possibility</td>
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<tr>
<td>• Generate possible solutions and approaches</td>
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<td>#4. Select best Solutions</td>
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<td>A. Develop and assign weights to criteria.</td>
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<td>B. Apply the criteria</td>
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<td>C. Choose best solution.</td>
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<td>SO: Decision &amp; Choice</td>
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<td>• Selecting among possible solutions.</td>
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<td>#1. Objective finding</td>
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<tr>
<td>• Identifying the goal, challenges and future direction.</td>
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<tr>
<td>#2. Identify task</td>
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<tr>
<td>• Straighten muddled thinking</td>
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<td>• Establish purpose</td>
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<tr>
<td>• Establish criteria for evaluation</td>
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<tr>
<td>1. Observe</td>
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<tr>
<td>• Collecting data about the problem, observing the problem objectively.</td>
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<tr>
<td>3. Generate</td>
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<tr>
<td>• Extend through questioning</td>
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<tr>
<td>• Develop research techniques.</td>
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<tr>
<td>4. Idea Finding</td>
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<tr>
<td>• Generating as many ideas regarding the problem.</td>
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<tr>
<td>5. Solution Finding</td>
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<tr>
<td>• Choosing appropriate solution.</td>
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<tr>
<td>4. Decide</td>
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<tr>
<td>• Discuss feasibility of all ideas.</td>
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<tr>
<td>• Prioritize them.</td>
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<tr>
<td>• Select and plan the task(s).</td>
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</tr>
<tr>
<td>Steps in the Problem Solving Process</td>
<td>Rational Problem Solving</td>
<td>De Bono</td>
<td>Systems Thinking</td>
<td>Creative Problem Solving</td>
<td>TASC</td>
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</tr>
<tr>
<td>Implementing Ideas</td>
<td>#5: Develop Action Plan</td>
<td>GO: Action</td>
<td>• Implement the outcomes of thinking.</td>
<td>• Adaptations based on understanding of fundamental forces that lead to present systemic structures.</td>
<td>6. Acceptance, Finding</td>
</tr>
<tr>
<td></td>
<td>A. Divide solution into sequential tasks.</td>
<td>• Implement the outcomes of thinking.</td>
<td>• Creating a plan-of-action</td>
<td>• Develop a repertoire of recording skills.</td>
<td>• Allows for variety.</td>
</tr>
<tr>
<td></td>
<td>B. Develop contingency plans.</td>
<td>#6: Implement Solutions &amp; Evaluate Progress</td>
<td>• Monitor the action plan</td>
<td>• Implement contingency plans.</td>
<td>6. Evaluate</td>
</tr>
<tr>
<td></td>
<td>C. Evaluate results.</td>
<td>A. Monitor the action plan</td>
<td>B. Implement contingency plans.</td>
<td>C. Evaluate results.</td>
<td>• Encourages an approach of ‘learning how to learn’.</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>• Builds ‘tools’ for assessment.</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Establish mistakes as growth points.</td>
</tr>
<tr>
<td>Underlying Assumptions</td>
<td>Linear thinking</td>
<td>Lateral Thinking</td>
<td>Systemic Thinking</td>
<td>Creative Thinking</td>
<td>Thinking Actively in a Social Conflict</td>
</tr>
<tr>
<td></td>
<td>• Maximise convergent thinking.</td>
<td>• Maximise divergent thinking.</td>
<td>• Thinking in loops</td>
<td>• Maximise divergent thinking.</td>
<td>• Learning styles catered</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Communication style emphasised</td>
</tr>
</tbody>
</table>
A brief review of some problem-solving modes is given hereunder:

1. **Creative Problem Solving**

   Although the creative problem solving is as old as humanity, the formal and definitive presentation of its structure emerged in the 1950s with the research of Osborn and Sidney (1953). They divided the process of solving problems into six stages:

   - Objective Finding
   - Fact Finding
   - Problem Finding
   - Idea Finding
   - Solution Finding
   - Acceptance Finding

2. **Six Thinking Hats**

   The Six Thinking Hats method was invented by De bono in the early 1980s as a parallel thinking process aimed at making its users more productive, focused, and mindfully involved as a group. The hats signified:

   - White hat: calls for information known or needed.
   - Yellow hat: symbolizes brightness and optimism and explores positives and probes for value and benefit.
   - Red Hat: signifies feelings, hunches and intuition.
   - Green hat: generates new possibilities, better alternatives, and new ideas, as they arise spontaneously or in response to other ideas.
• Blue hat: manages the thinking process toward the objective, assuring that the Six Thinking Hats guidelines are observed.

3. **Productive Thinking**

   The Productive Thinking Model calls for both creative thinking and critical thinking in each of the following steps:

   i) **What’s going on?** - The step establishes context of the situation.

   ii) **What is success?** - This step establishes clear, observable success criteria to evaluate potential solutions.

   iii) **What’s the question?** - This step leads to the framing of several questions.

   iv) **Generate answers** - In this step, participants brainstorm solutions, then cull, cluster, combine, clarify, and choose one or more for further development.

   v) **Forge the solution** - Evaluate three or four most interesting ideas against the success criteria.

   vi) **Align resources** - The final step transforms the selected ideas in an action plan with timelines, milestones, responsibilities, and a list of other issues.

4. **Mind Mapping**

   It is essentially a non-linear form of outlining started by Buzan (2000). The idea is to make an organically associated diagram of words, concepts, ideas, tasks, decisions, or other information, and to link individual items as their associations demand. A very basic outline of how to create and use mind map follows:
5. **Lateral Thinking**

Lateral thinking is a deliberate, systematic creative thinking process that deliberately looks at challenges from different angles. ‘Lateral thinking’ which was introduced by Edward de Bono, centres around four directives:

- Recognize the dominant idea that polarize the perception of a problem;
- Search for different ways of looking at things;
- Relax rigid control of thinking.
- Use change to encourage other ideas.

6. **Funnel Thinking**

This is a unique process of generating workable ideas. At the top of the funnel all sorts of ideas are generated (blue-skying). The ideas then move down through the filter. Finally out the funnel come a number of solid ideas that will really make a difference.
7. **SCAMPER**

The invention of SCAMPER is attributed to Eberle (1984), and is an acronym to represent a set of idea-triggering questions. They are:

**S – Substitute**
Remove some part of the accepted situation, thing, or concept and replace it with something else.

**C – Combine**
Join, affiliate, or force together two or more elements of the subject matter and consider ways of combining them so as to reach the solution.

**A – Adapt**
Change some part of the problem so that it works where it did not before.

**M – Modify**
Consider many of the attributes of thing one is working on and change them, arbitrarily, if necessary.

**P – Purpose**
Modify the intention of the subject. Think about why it is supposed to do and suggest new and unusual purposes.

**E – Eliminate**
Reduce to core functionality.

**R – Rearrange**
Modify the order of the operation or any other hierarchy involved.
8. TRIZ

TRIZ is an algorithmic approach to problem solving developed by Altshuller (1994) and is based on the hypothesis that there exist universal principles of creativity or patterns of invention. The TRIZ methodology relies on a knowledge base of such invention models. It applies them in order to unlock or find problem solutions logically rather than intuitively through creative inspiration or randomly with a brainstorming. The core principle is the removal of a technical contradiction with the help of certain principles.


For the purpose of the present study, the Thinking Actively in a Social Context (TASC) problem solving wheel has been employed as it is a well researched universal thinking skills framework developed Wallace (2001) and with more scope for communicating ideas coherently.

TASC has been acclaimed to empower learners to:

- Work independently yet within an inclusive school system;
- Develop skills of research, investigation and problem solving;
- Develop a positive sense of self as an active learner;
- Demonstrate their abilities using the full range of multiple intelligences;
- Develop skills of self assessment.

TASC provides teachers with a framework of:
Theoretical Overview

- Lesson planning that systematically develops pupils thinking;
- Effective planning for differentiation and extension;
- A holistic approach to incorporating the multiple intelligences;
- Assessing the processes of pupil’s learning.

Belle Wallace has based her ideas about how children learn best from important theories. They are:

1. **Vygotsky’s Theory (1978)**
   - Children learn best when they can make links with previous learning because they can extend their existing conceptual mental map with new learning.
   - Vygotsky emphasises the role of the ‘senior learner’, who interacts with the young learners in order to negotiate meaning and understanding. The major tool for interaction is language.
   - He also stresses role models. Response, attitudes, emotions and thoughts are ‘caught’ rather than ‘taught’. Therefore, the ethos, atmosphere and styles of behaviour within the classroom are vitally important.
   - Finally, he views the processes of mediation and transformation as dynamic, making the learner always open to change and growth.
2. **Sternberg’s Theory (1985)**

- We can all learn to use a range of thinking skills and strategies.
- We can be taught how to reflect on our own thinking processes in order to improve them.
- We can be assisted in the retention of what we know and how we are learning.
- Using our experiences and with help, we can transfer the skills and strategies we learn to new situations and contexts.

From a broad base of understanding deriving mainly from the work of Sternberg and Vygotsky, throughout the eighties, Belle Wallace and Harvey Adams surveyed the major worldwide problem-solving and thinking skills initiatives and adopted an eclectic approach which embraced the most successful elements highlighted. Gradually after several trials and reflection, a pragmatic working model emerged for the teaching and learning of problem-solving skills called TASC: Thinking Actively in a Social Context (Wallace & Adams, 1993).
The various stages involved in the problem-solving cycle are:

- Gather and organize: What do I know about the task?
- Identify: What is the task?
- Generate: How many ideas can I think of?
- Decide: Which is the best idea?
- Implement Let’s do it!
- Evaluate: How well did I do it?
- Communicate: Let’s tell someone!
- Learn from experience: What have I learned

The model as employed in the present study is detailed in the Methodology chapter.

Since the framework of language production functions in ways specified by the problem-solving strategy, language processing can be greatly enhanced while progressing through the various steps outlined in the problem-solving cycle.

### 2.7.3 Portfolio-Writing

A portfolio-writing is defined as a purposeful collection of self-selected work that, together with personal reflections tells the story of who a student is now and who she or he is becoming (Johnson et al., 2006). According to Shulman (1992), it is a structured documented history of a carefully selected set of achievement(s) in (a) given area(s), and fully realized only through reflective writing, deliberations, and serious conversation. In the context of
the study, the Portfolio strategy aims to develop a reflective approach to learning and teaching and in the process to help learners to critically evaluate situations and refine their use of language in due course.

The processes involved in the preparation of a portfolio are akin to the stages commonly adopted while teaching composition. The portfolio construction begins with the identification of a subject, consideration of an audience, searching for specifics, creation of a design, writing, critiquing, and rewriting. As students are actively engaged in this process, they feel an authentic ownership of their own work.

The collections of artefacts and reflections about one’s accomplishments, learning, strengths, and best works show a student’s growth (developmental portfolio), best works (showcase portfolio) or total output (comprehensive portfolio).

The key concepts in portfolio revolve around collection of data, selection or organization of data, reflection on this selected data, and presentation of the product. Just as in the writing process, the portfolio process is recursive allowing the data to be changed at any stage in the development up to the presentation stage. For making a meaningful collection, the learners are expected to investigate the situation in its totality by listening to teacher lectures, looking at resources in the library, reading textual material, and engaging in any other kind of activity for gleaning information and fortifying the thoughts considered in their minds. The collection becomes fruitful when learners work in groups and discuss the
adequacy of the items selected. The verbalization by each learner enhances their understanding of the task and enables them to reach a proximal level through the collaborative interactions. The collection of artefacts invariably leads learners to the selection phase. Here, the individual reflects and decides whether or not to include the artefacts based on a standard. In a classroom focused on developing the skills in communicating this entails, consideration of the audience, selection of statements that are clear, using discourse markers that dispel ambiguity, and above all learning the paraphernalia of constructing dialogues.

A well-designed portfolio is a reflection of the individual’s understanding and growth and hence has to be organised in a befitting manner so as to serve as a communication tool. Since a portfolio is simply a collection of artefacts to be turned in at the completion of a programme, it has to be arranged in a coherent mode. According to Forgette-Giroux and Simon (2000), the portfolio process involves four types of organizational issues: temporal, spatial, human, and, contextual. Temporal issues concern time related activities and their place in the existing teaching and assessment practices. Spatial issues deal with organizing the portfolio’s format, design, and physical characteristics, storage, and access. Human issues include role sharing responsibilities such as establishing and updating a table of contents, dating and sorting portfolio entries, reflections, and marking and scoring for formative or summative evaluation purposes. Last, contextual aspects have to do with specifying the object of assessment, identifying the standards,
determining the scope of disciplines from which portfolio artefacts are selected, and establishing criteria for their quantity and quality.

**Fig. 2.19  The Multifaceted, Cyclical Nature of Portfolio Reflection**

Continuous written reflections are an essential component of the portfolio process. These reflections record developmental and summative information about a candidate’s growth. Several types of reflective statements can be included in a portfolio. Four general types of reflections have been identified by various exponents of the portfolio process. They are:

a) goal-setting statements;

b) reflective statements;
c) captions as statements; and

d) assessment and evaluation statements.

The ‘Reflection’ phase leads learners to establish facts emphatically in unequivocal terms and with a growing sense of sequencing information coherently with suitable topics and sub-topic divisions. The grammatical, sociolinguistic, discourse and strategic components of communicative competence gain added impetus and refinement. An intuitive reflection that leads learners to discern the place of each statement in the whole picture develops.

Finally, the presentation stage of the portfolio process entails bringing together all the major highlights into a neat form and frame. This stage is analogous to writing a research paper wherein an outline is designed with the major headings, subheadings and supporting details spelled out accurately. To be transformed into a seamless communicative mode, the portfolio needs to have an introduction, body, and conclusion. The compiling of information into a portfolio necessarily depends on the perspective shared by the individual learner. The information in the portfolio is of paramount importance and thus the style of language, sentence structure, introductory and closing paragraphs, spelling accuracy, colourful words, analogies, and narrative clarity have to be considered seriously by the learners. All information is expected to be error free.

The very essence of portfolio is longevity, growth, development and experiential learning. Collecting and assembling the materials is a
commitment in persistence and endurance and a reflection of the compiler's thoughts, goals, achievements, and shortcomings.

The entire process of portfolio construction is in accordance with the theories of learning presented by Dewey (1916), Vygotsky (1978), Bruner (1990) and Gardner (1983). In accordance with Dewey's theory, the portfolio process is appealing to learners as pupils are led through a genuine situation of experience which is a continuous activity. A genuine problem develops within the situation as a stimulus to thought leading students to process information and make observations and seek multiple solutions to present their ideas sequentially. In a way, the thinking process of learners get activated which lead learners to reflect on their experience and establish firm educative experiences.

Bruner (1990) too sees learners as constructors and generators of knowledge through social interaction and recursive thought. The entire process of portfolio construction leads learners to analyze their experiences through the lenses of culture, language and personal bias, and knowledge is created interactively, dialogically and conversationally within its language and culture.

Building on the notion of situated cognition, knowledge gained is considered to be inseparable from the community in which it exists. Learning is believed to take place only in a participation framework, not in an individual mind. Vygotsky (1978) argued that higher order functions such as cognition develop in a social context. Similarly, he reiterated that interaction is
dependent on language that is learnt in particular contexts. According to him, language becomes essential in forming thought. A major implication for teaching is that interaction between teacher and learners is fundamental to learning and emphasises the importance of formative assessment. The teacher plays a facilitative role in the construction of a portfolio by identifying the students’ conceptual construction and by channelizing the students’ thoughts towards conceptual modifications and refinement. The students’ zone of proximal development is identified and the progress is explored through self-evaluation and peer evaluation techniques. The learning style of each individual is catered to and ample scope to understand varied learning style characteristics too develop.

Portfolios incorporate the recent trends in education that lay importance on constructivism and critical pedagogy. Collaborative learning are facilitated and a concern over social issues are generated through portfolio construction. Besides, language is acquired quite unconsciously in this learning set up with emphasis on thematic details, structural framework and the like. The backing of these theories is in a way the benefits of the portfolios in general. A few of the other benefits identified are being highlighted here.

- Learners can improve learning for the attainment of specific goals by enhancing their awareness of their self-regulating capacity.
- Learners develop their ability to contain, manage, and tolerate emotions appropriately.
• They are led to more complex thinking and self-evaluation.
• Fosters dialogue and dynamic interaction with peers, teachers and experts.
• Facilitates a more interpersonal approach to teaching and learning.
• Citizenship, value education, and skills such as creativity, critical thinking, initiative, and flexibility are strengthened;
• Portfolio use for assessment purposes parallels the shift from a qualitative tradition of assessment to a more qualitative approach.

Portfolios, like people, are very diverse. They reflect not only what the institution mandates as important but they also allow each individual to take the portfolio clay and mould it into something uniquely fitting that person. The purpose, more than any other factor, drives the content and organization of the document. Table 2.3, although not exhaustive, presents information about the factors of different kinds of portfolios.
Table 2.3  
Variants of Portfolio Type

<table>
<thead>
<tr>
<th>Type</th>
<th>Purpose</th>
<th>Unique Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Academic and educational assessment (Brown &amp; Irby, 2001, Wyatt &amp; Looper, 1999).</td>
<td>For assessment and evaluation of candidates and in-programme evaluation</td>
<td>Contains artefacts and reflections, based on the academic classes, projects, field experiences.</td>
</tr>
<tr>
<td>2. Career advancement and employment (Satterthwait &amp; O'orsi, 2003).</td>
<td>To provide information on experiences relevant to professional advancement.</td>
<td>Contains evidence of career accomplishments.</td>
</tr>
<tr>
<td>3. Focus (Johnson, Mime-Cox, &amp; Doyle Nichols, 2006).</td>
<td>To present in academic and career advancement settings.</td>
<td>Focused on a specific area related to academic and career advancement settings.</td>
</tr>
<tr>
<td>4. Developmental or growth portfolios (Wyatt &amp; Looper, 1999).</td>
<td>To show the stages of growth and development of the individual.</td>
<td>Sequential organization of selected work reflective of growth over time.</td>
</tr>
<tr>
<td>5. Showcase (Wyatt &amp; Looper, 1999).</td>
<td>To demonstrate achievement and to impress others.</td>
<td>Is dynamic, showcases the best work to demonstrate competency.</td>
</tr>
<tr>
<td>6. Presentation (Campbell, et al., 2001).</td>
<td>To display competence through an easy to read mode.</td>
<td>Sample of the best work from a portfolio collection.</td>
</tr>
<tr>
<td>7. Pass portfolios (Gary D. Phye, 1993).</td>
<td>To show a student’s readiness to perform at a new level or take a new challenge.</td>
<td>Samples of current quality of work like letters of introduction, vision statement, letters of recommendations.</td>
</tr>
<tr>
<td>8. Comprehensive (Johnson, Mime-Cox &amp; Doyle-Nichols, 2006).</td>
<td>To keep a myriad of artefacts that will be used for career and academic advancement.</td>
<td>Up-to-date resource file with organizational features.</td>
</tr>
</tbody>
</table>
From among the several portfolios mentioned, the one adopted for the study was the teaching and learning portfolio reflecting the learner’s grasp of things. Since more focus has been placed on understanding the student’s behaviour, the type of portfolio emphasized in the study is the student portfolio with special reference to language processing content.

Student portfolios are collections of products that represent specific student performance. It may be a folder containing a student’s best pieces and the student’s evaluation of the strengths and weaknesses of the pieces. It may also contain one or more works-in-progress that illustrate the creation of a product, such as an essay, evolving through various stages of conception, drafting, and revision.

Portfolios are useful as a support to new instructional approaches that emphasize the student’s role in constructing knowledge and the teacher’s role in promoting this process. For example, in writing instruction, portfolios can function to illustrate the range of assignments, goals, and audiences for which a student produced written material.

Portfolios capitalize on students’ natural tendency to save work and become an effective way to get them to a take a second look and think about how they could improve future work. This approach is a clear departure from the old write, hand in, and forget mentality where first drafts were considered final products.

Although there is no single correct way to develop portfolio programmes, in all of them students are expected to collect, select and reflect.
In building a portfolio of selected pieces and explaining the basis for their choices, students generate criteria for good work, with teacher and peer input. Students need specifics with clear guidelines and examples to get started on their work, so these discussions need to be well guided and structured.

The structure of the portfolios is influenced by the level of students’ ability and administrative contexts.

Research show that at all levels, portfolio preparation can provide structure for involving students in developing and understanding criteria for good efforts, in coming to see the criteria as their own, and in applying the criteria to their own and other students’ work.

Research also show that students benefit from an awareness of the processes and strategies involved in writing, solving a problem, researching a topic, analyzing information, or describing their own observations. But it places additional demands on teachers and students as well as on school resources.

There are three main things that go into the development of a student portfolio.

1. First, the decision regarding the purpose of the folio is to be identified;
2. Second, determine the mode of grading it;
3. Third, decide what is to be included in the folio.

Following is a list of suggested and possible items that can be included in a student portfolio.

- Letter to the reader discussing portfolio items
• Reading Log
• Quotations the student especially likes
• Graphic illustrations of information – charts, concept diagrams, webs, timelines, photographs;
• Recording or videotapes of readings or performances;
• Sample paragraphs showing various mastery of specific writing techniques;
• Sample essays of various types – descriptive, narrative, explanatory, expository, persuasive, cause and effect, compare and contrast, defining terms, etc.
• Writing from other classes – reports, speech outlines, essays, projects, etc.
• Explanation of literary terms using examples from reading;
• Creative writing – stories, poems, songs, scripts and so on.

The portfolio strategy with its specific focus on contextualized learning that requires complex thinking and expressive skills is thus heralded as vehicles that provide a more equitable and sensitive portrait of what students know and are able to do especially in a language classroom.

The select reflective teaching strategies namely, Concept-Mapping, Problem-Solving and Portfolio-Writing encourage topic knowledge whereby the learner’s writing tends to become more organized and fluent. It has been
researched and found that students with high topic knowledge apparently exert less effort to retrieving ideas, which frees them to devote more attention to organizing their thoughts around a theme (Christopher, 2005; Hillyard et al., 2007).

The essence of dialectical constructivism whereby learners are led to construct knowledge through their interaction with environment adds to the relevance of adopting reflective modes in classrooms of language teaching. The procedural facilitation meted out by these strategies in the form of cues, prompts, self-check enable students to explore language structure and manipulate texts effectively.

These basic perspectives of reflective teaching strategies that are being captured through the lesson transcripts have been detailed in the Methodology chapter.

Several studies and related literature in support of the theoretical constructs underlying the major concepts highlighted so far have been presented succinctly in the succeeding chapter.