CHAPTER II

LITERATURE REVIEW

This study investigated the effects of two types of tasks and two Web-based learning environments on language learning achievement. This chapter provided the definitions and conceptual and theoretical framework of TBI and WBI that supported the study and examined the literature relevant to empirical research on the problem. It was divided into three parts: the first part presented the definitions of TBI following with the theoretical concepts underlying TBI and types of TBI. Next, were the definitions of 'task' given by two groups of people: language teachers and SLA researchers. Following was the convergent and divergent tasks including some research on the effects of task types in TBI. The second part focused on a review of WBI, the definitions, the design guidelines including other related research studies on the implementation of TBI in synchronous and asynchronous Web-based learning environments. Next, was the implementation of WBI in language teaching and learning. The last part was the review of language achievement test.

Task-based Instruction

The concept of TBI reviewed in this chapter was presented as follows:

1. Definitions of task-based instruction

Like many basic concepts in applied linguistics and second language pedagogy, TBI was defined in different ways. A fundamental notion of TBI was in reference to the definitions of what a task was and how applied linguists were defining the terms with reference to language teaching. Therefore, various terms were used for TBI such as task-based learning, task-based approach, task-based language teaching (TBLT), task-based instruction (TBI); and communicative task-based instruction (CTBI). Arising from such concepts, this part of the literature review presented the definitions of TBI from various view points.

Theoretically, all terms used for TBI referred to an approach based on the use of tasks as the core unit of planning an instruction in language teaching. Richard and Rogers (2001: 223-243) also added that some of TBI proponents were a logical development of communicative language teaching (CLT) since it drew on several principles that formed part of the CLT movements from the 1980s, for example the

activities that involved real communication, activities in which language was used for carrying out meaningful task, and language which was meaningful to the learners. Therefore, CTBI was a version of TBI attempting to combine TBI and CLT together.

With similar concept, Willis (1996: 18-25) explained that a TBL was the teaching that involved learners in an entire different mental process as they composed what they wanted to say, to express what they thought or felt. The task-based learning framework aimed to maximize opportunities for learners to put their limited language to genuine use, and to create a more effective learning environment. Tasks were always activities where the target language was used by the learner for a communicative purpose (goal) in order to achieve an outcome. Teachers who followed a task-based cycle naturally fostered combinations of skills depending upon the task.

Consistently, Murphey (1993: 140-45) provided a definition for TBI as of the following:

We use specific tasks that are designed to help people learn an L2. We may invent apparently mechanical tasks such as drills, which seem to focus on language for itself, or we may devise apparently communicative tasks such as information-gap exercises, which mimic purposeful activities that involve use of language. In both cases the expectation is that the language will be acquired through carrying out the learning task, where the task acts as a vehicle or catalyst for the learning.

..... in TBL the tasks themselves become the organizing principle and focus of the learning program – goals, content, procedures and evaluation – are taken to be presented in tasks. Focus on content is based on being able to predict learning outcome; focus on process allows that learners will make their own interpretation of tasks. Tasks should be work plans prepared in advance, detailing procedures each learner will work through, rather than the specific outcome the tasks will produce.

Based on the review of task-based research, Skehan (1998: 95) presented several features for a task–based instruction as follows:

- meaning was primary
- there were some communication problems to solve
- there was some sort of relationship to real-world activities

- task completion had some priority
- the assessment of the task was in terms of outcome.

Other definition of TBI defined in Hong Kong SAR Government (Candlin, 1993: 233) was as follows:

The task-based approach aims at providing opportunities for learners to experiment with and explore both spoken and written language through learning activities which are designed to engage learners in the authentic, practical and functional use of language for meaningful purposes. Learners are engaged to activate and use whatever language they already have in the process of completing a task. The use of a task will also give a clear and purposeful context for the teaching and learning of grammar and other language features as well as skills. Such language focus components in turn enable learners to construct their knowledge of language structures and functions. All in all, the role of task-based learning is to stimulate a natural desire in learners to improve their learning competence by challenging them to complete meaningful tasks. Language use is stimulated and a range of learning opportunities for learners of all levels and abilities are provided.

In conclusion, TBI is an approach using tasks as the core unit for planning learning activities with communicative goals set for learners to accomplish.

2. Theoretical concepts underlying task-based instruction

As a starting point, this part reviewed various viewpoints from SLA and pedagogy on the implementation of TBI. Mainly, course content was presented in the form of a syllabus of which the paradigm intended to cover language learning in two aspects: 'what process and procedure the learners undertook while learning a second language. Gass and Selinker (2001:240) presented a diagram illustrating second language studies as seen in Diagram 1.

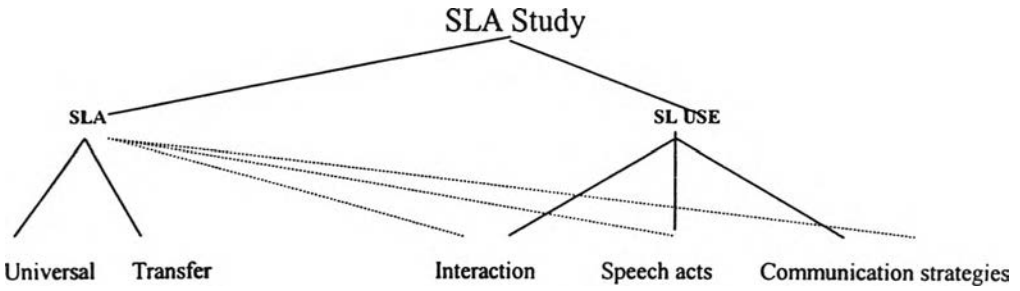

Diagram1. A Characteristic of Research in SLA

According to Gass and Selinker, second language study was illustrated in two different views: second language acquisition and second language use. The left part was in the area of language acquisition of which the contribution was to knowledge concerning what the learner acquired. The solid lines connected SLA and contributing areas of research (universals and transfer) to areas of acquisition studies where there was little dispute of the contribution of those areas to knowledge. The dotted lines represented areas for which argumentation and empirical evidence must be brought to bear. The second area of study concerned the explanation on how language learnt, the process of the acquisition of inter-language systems. These two concerns led to two research approaches underlying TBI. They were the input and interaction approach in L2, and the language socialization approach which could be viewed as follows.

2.1. Input and interaction approach

During 1960s, the research attention from first language acquisition started with the belief that the same processes occurred with the learners in learning a second language. This belief led to the conclusion that conditions for first language acquisition could lead to successful second language learning. This idea was supported by Krashen (1985) who had proposed his Input hypothesis to confirm the similarity of learning that took place in both L1 and L2. According to Krashen's Input Hypothesis, learners needed to access to comprehensible input and a low affective filter in order to learn a new language. The notion of comprehensible input confirmed the need for meaningful input to engage learners with language at a level which was slightly above their competence. "Meaningful' had been variously interpreted as 'relevant and topical to learners and their interests' or 'realistic' in terms of stimulating the authentic texts and speaking situations. This led to the concept of out-of-class resources. It also stated the role of teacher to select the context appropriate to learner's proficiency level (Hedge, 2000:12). This concept was confirmed by a research done by Pica (1992, 1994 cited in Ellis, 2003: 79-80). Pica proposed that opportunities to negotiate meaning assisted language learning in three principle ways. First, it helped learners to obtain comprehensible input. Second, it provided learners with feedback on their own use of the L2. Finally, negotiation prompted learners to adjust, manipulate, and modify their own input. The Interaction Hypothesis suggested a number of ways in which interaction could

contribute to language acquisition. These claims provided a basis for investigating tasks when the negotiation actually took place and what the outcomes were.

Gass and Selinker (2001:401) called the first stage of input utilization 'apperceived input'. They clarified that apperception was an internal cognitive act identifying a linguistic form as a priming device that told us which parameters to attend to in analyzing second language data. During the process of developing system, there were some mediating factors that influenced apperception such as frequency, social distance, status, motivation, attitude, prior knowledge, and attention. These categories could be interrelated among themselves. Gass and Selinker's framework (2001: 401) can be seen from the following figure.

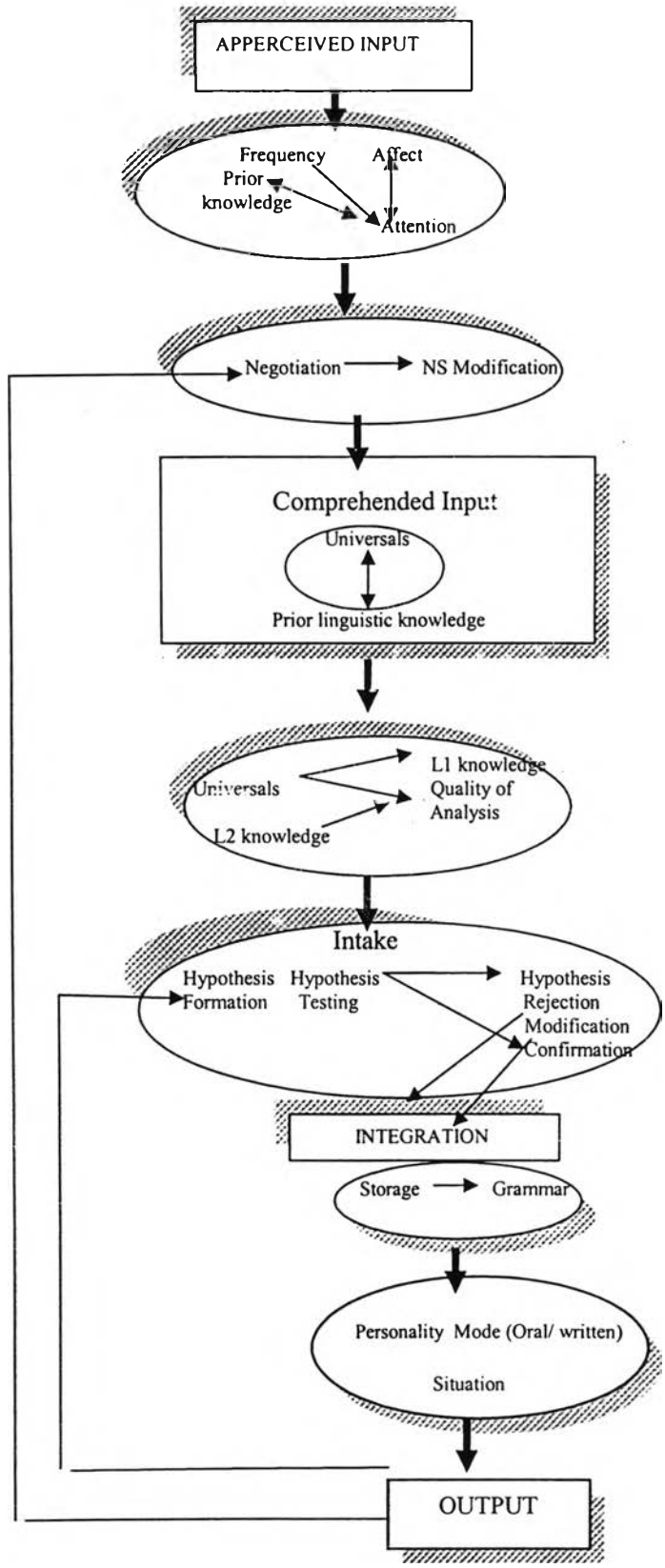

Figure 1. A Model of Second Language Acquisition

Within this framework, Gass and Selinker pointed out that there was a process that learners produced before the output. The output represented more than the product of language knowledge; it was an active part of the entire learning process. Negotiation was mentioned as a significant stage leading to language output. As a consequence, the tasks provided for learners were believed to foster processes of negotiation, modification, rephrasing, and experimentation that were at the heart of second language learning. TBI proposed that task was the pivot point for stimulation of input-output practice, negotiation of meaning, and transactional focused conversation (Richards and Rogers, 2001: 228-29).

2.2 Socialization approach

Recent evidence from research studies in the field of SLA and pedagogy rejected the view that processes in first and second language acquisition were the same. Vygotsky (1987 cited in Ellis, 2003: 24) offered a term called 'zone of proximal development (ZPD*) to explain the difference between an individual's actual and potential levels of development. The skills that the individual could perform when assisted by another person constituted the potential level. Thus learnt skills provided a basis for the performance of new skills. When these skills became autonomous and stable, a new zone could be created to make possible the acquisition of further skills. The implication for TBI was that tasks must be structured in such a way that they posed an appropriate challenge by requiring learners to perform functions and use language that enabled them to dynamically construct ZPD. The social dimension of the development of a new skill was through the notion of 'scaffolding'** and 'collaborative dialogue', the supportive interactions that arose when learners communicated with others. It claimed that language of the expert or more knowledgeable peers served as directives and moved the learner through her or his ZPD to the point where the learner was able to perform a task alone. This concept emphasized that tasks provided to learners would encourage interaction either between teacher-learner or learner-learner. Additionally, Brown (2000: 287)

---

* ZPD is the acronym of Vygotsky's term 'zone of proximal development' where learners construct the new language through socially mediated interaction (Ellis, 2003: 24).

** Scaffolding is the dialogic process by which one speaker assists another in performing a function that he or she cannot perform alone (Ellis, 2003: 181).

mentioned the principles of awareness, autonomy, and authenticity which led the learners to Vygotsky's ZPD. The term self-directed learner or autonomy as defined by Hedge (2000: 76) referred to a learner who was self-motivated, one who took the initiative, one who had a clear idea of what he wanted to learn, and one who had his own plan for pursuing and achieving his goal.

3. Types of task-based instruction

The skeptical concept of how tasks were used in language pedagogy turned researchers, language teachers, material writers and course designers to recognize the value of the tasks. According to different views from different methodologists, this caused tasks to be defined differently and also caused different types of TBI frameworks. Within White's (1988) synthetic and analytic distinction of type A, and type B syllabus which concerned language learning in two aspects: 'what' and 'how'. According to White, TBI was classified within type B or analytic syliabus. This justification was similar to Skehan (1998) who grouped TBI into two approaches concerning how tasks were used. The first approach was structure-oriented task-based instruction; the second approach was communication-driven task-based instruction.

In his study, Ellis (2003) viewed tasks as an important feature of communicative teaching (CLT). He proposed communicative task-based instruction (CTBI) within CLT: task-supported language teaching (weak version of CLT) and task-based language teaching (strong version of CLT).

Other TBI framework was proposed by Skehan (1998: 128). Drawing conclusion from research studies, Skehan proposed an information-processing approach to TBI with five principles as its basis.

Mainly, there were two different viewpoints for TBI frameworks: CTBI in communicative language teaching and TBI in Skehan's information-processing approach.

The next part of this review presented type of task-based instruction frameworks as follows:

3.1 Communicative task-based instruction (CTBI)

3.1.1 Task-based language teaching (TBLT/ TBI)

This TBI proposed by Ellis (2003) was claimed to be the strong version of CTBI. In this version, learners were provided with opportunities to experience how language was used in communication. Ellis's proposal was consistent to Richards and Rodgers (2001:223) who stated that TBI referred to an approach based on the use of tasks as the core unit of planning an instruction in language teaching. Additionally, Richards and Roger stated that TBI could be regarded as a recent version of a communicative methodology that sought to reconcile methodology with current theories of second language acquisition. This type of TBI was similar to the framework proposed by Long & Crookes (1992) who claimed to have findings of second language classroom research as its basis. The principles of course design were for teaching languages for specific purposes (LSP) (Widdowson, 1978). TBI utilized the concepts that task required a need identification to be conducted in terms of real-world target tasks which learners were prepared to undertake. Once the target tasks had been identified via the needs analysis, the next step was to classify them into (target) task types.

The TBI framework consisted of pre-task, task cycle, and language focus. These three stages of presenting language learning were also stated in Skehan's work (1998). He stated that there were opportunities for attention to form in all three phases. The TBI framework proposed by Willis (2000: 36-38) can be seen in figure 2.

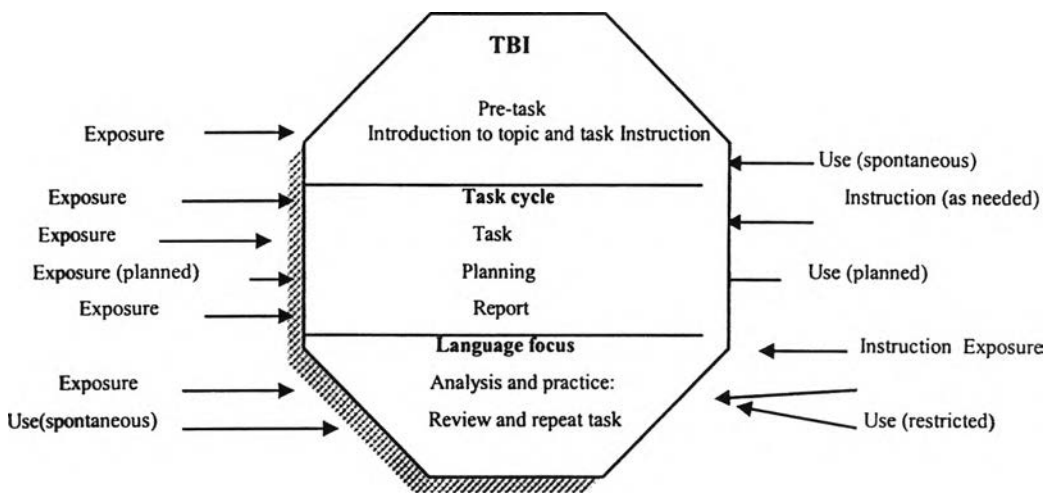

Figure 2. Framework for a New Task-based Instruction

According to Willis, the framework for TBI included the following concepts:

- All three components (task, planning and report) were genuinely free of language control and learners relied on their own linguistic resources.
- The task supplied a genuine need to use language to communicate.
- In all three components language was used for a genuine purpose- there were outcomes to achieve for the task and the purpose of the drafting, rehearsal and practice at the planning stage was to help learners adjust their language for the report stage.
- The report allowed a free exchange of ideas, summarizing learners' achievement.
- The planning stage encouraged learners to consider appropriateness and accuracy of language form in general, rather than the production of a single form.
- There was a genuine need to strive for accuracy and fluency as learners prepared to 'go public' for the report stage; it was not a question of either accuracy or fluency at any one point in the cycle.

3.1.2 Task-supported language teaching

Task-supported language teaching was the weak version of CTBI. It viewed tasks as a way of providing communicative practice for language items. It aimed to teach learners how to realize specific general notions such as 'duration' and 'possibility', and language function such as 'inviting' and 'apologizing'. This weak version of CLT was based on a linguistic content. It was the proposal for notional/functional syllabuses developed by Wilkins (1976) and Van EK (1976). It employed a methodological procedure consisting of present-practice-product (PPP). Willis (2000: 133) stated that the aim of a PPP lesson was to teach a specific language form – a grammatical structure, or the realization of a particular function or notion. PPP viewed language as a series of 'products' that were acquired sequentially as 'accumulated entities'. The PPP framework (Willis, 2000: 134-35) presented the three stages: presentation, practice and production as shown in Figure 3.

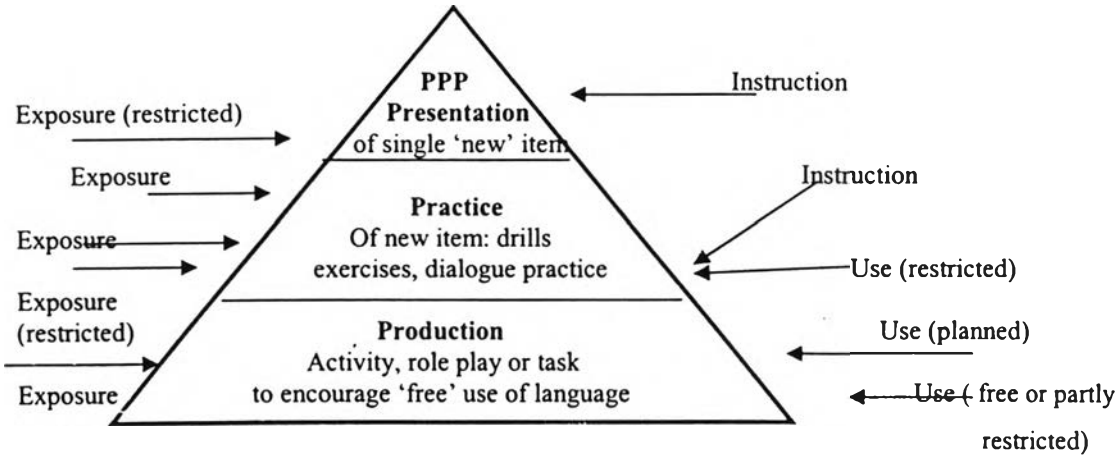

Figure 3. Framework for PPP

The three stages proceeded like this:

- Presentation stage

  Teacher began by presenting an item of language in a context or situation which helped to clarify its meaning. Presentation consisted of pattern sentences given by teacher, or short dialogues illustrating target language acted out by teacher, read from textbook, or heard on tape.

- Practice stage

  Students repeated target items and practiced sentences or dialogues, often in chorus and/ or in pairs, until they said them correctly. Activities included pattern practice drills, matching parts of sentences, completing sentences or dialogues and asking and answering questions using pre-specified forms.

- Production stage

  Students were expected to produce in a 'free' situation language items they had just learnt, together with other previously learnt language. This 'free' situation was a role play, a simulation activity or even a communication task

The later SLA research disagreed with this concept. It was criticized that the three stages presented by PPP were not widely accepted since the second language learning processes did not follow the stages stated in PPP. In contrast, they constructed a series of systems, known as interlanguage, which were gradually reconstructed while learners incorporated new features (Ellis, 2003: 27-35).

The implementation of PPP was criticized in many aspects; the problems given by Willis (2000: 135) were:

> *The PPP cycles derive from the behaviourist view of learning which rest on the principle that repetition helps to 'automate' responses, and that practice makes perfect. This research has now been largely discredited, as far as it applications to language learning go. Language learning rarely happens in an additive fashion, with bits of language being learnt separately, one after another. We cannot predict and determine what students are going to learn at any given stage. Instruction does help, in the long term, but it cannot guarantee when something will be learnt. Rich and varied exposure helps language develop gradually and organically, out of the learner's own experience. Unfortunately, the PPP cycle restricts the learner's experience of language by focusing on a single item. By relying on exercises that encourage habit formation, it may actually discourage learners from thinking about language and working things out for themselves.*

PPP was criticized by Willis (2000), Ellis (2003) and Skehan (1998). Ellis (2003: 27-35) stated that the weak version of CLT was only content-driven and revealed the unclear concept of TBI. His idea was also supported by Widdowson (1990). Furthermore, Ellis stated that the production stage in PPP called for 'grammar tasks'. A target task viewed in task-supported language teaching was not a means by which learners acquired new knowledge or restructured their interlanguage but simply as a means by which learners could activate their existing knowledge of the L2 by developing fluency. This view acknowledged that tasks did not replace exercises, but they were only supplementary. The differences between PPP and TBI as pointed out by Willis (2000: 136-37) were:

- In a PPP cycle, the presentation of the target language came first. In TBI framework, the context was already established by the task itself. By the time learners reach the language focus phase, the language was already familiar.
- The process of consciousness-raising used in the TBI language focus activities encouraged students to think and analyze, not simply to repeat, manipulate and apply.
- Listening and reading – both part of the TBI framework – provided a more varied exposure to natural language than examples made up to illustrate a single language item as in a PPP cycle.

- The exposure in the TBI framework included a whole range of words, collocations, lexical phrases and patterns in addition to language forms pre-selected for focus. Students realized that there was more to language than verb tenses and new words.
- In a PPP cycle, it was the teacher who pre-selects the language to be taught.
- A PPP cycle led from accuracy to fluency; a TBI cycle led from fluency to accuracy (combined with fluency).
- In TBI, all four skills –listening, speaking, reading and writing –were naturally integrated. PPP only provided a paradigm for grammar and form-focused lessons.

3.2 Task-based instruction in Skehan's information-processing approach

Skehan (1998: 128) criticized that although Willis's framework seemed to provide a useful guidance for the implementation of TBI, it did not show a clear connection with second language acquisition theories, the role of noticing, acquisition sequences, information-processing, and so on. To enhance more effective language learning, Skehan (1998: 129-30) proposed a proposal for the information-processing approach to TBI based on five principles. He claimed that the five principles and the model were grounded in theory and research, and offered some prospects for the systematic development of underlying inter-language and effective communicative performance. The five principles were:

- Choose a range of target structures.
- Choose tasks which meet the utility criterion.
- Select and sequence tasks to achieve balanced goal development.
- Maximize the chances of focus on form through attention manipulation.
- Use cycles of accountability.

Skehan clarified the concept of choosing a range of target structures that learners did not simply learn what teachers taught because of the power of internal processing factors. Since, teacher could only create appropriate conditions and hope that learners would benefit from them. Therefore, merely giving learners tasks to do was not enough. Teachers should be concerned that tasks chosen for learners should be of appropriate level of difficulty, with the focus on fluency, accuracy, and

complexity; and have some basis in task-based research. Skehan recommended teachers to select context with the arrangement of targeted structures and with the support of task choice and task implementation conditions. He suggested engaging learners into cycles of evaluation in terms of stock-taking. Stock-taking clarified by Skehan was to track what the learners had learnt in order to make a future plan. His proposal was different from Willis in certain points as he attempted to add more careful planning in each stage. The differences can be seen from the following chart.

Skehan (1998)	Willis (2000)
1. Choose a range of target structures, i.e. ensure systematicity in language development without adhering rigidly to a structural syllabus.	1. Choose tasks which expose to worthwhile on authentic language.
2. Choose tasks which meet the utility criterion, i.e. make it 'useful' for students to perform the target structures.	2. Choose tasks which enhance the use of language.
3. Sequence tasks to achieve balanced goal development, i.e. prioritize fluency, accuracy, and complexity at different times.	3. Choose tasks which motivate learners to engage in language use.
4. Maximize the chances of a focus on form through attentional manipulation.	4. Choose tasks which focus on language at some points in a task cycle.
5. Use cycles of accountability, i.e. mobilize students, meta-cognitive resources to keep track of what has been learned.	5. Choose tasks which focus on language with more or less prominent at different times.

Chart 1. Principles of TBI from Skehan (1998) and Willis (2000)

From the literature, it was clearly seen that there were different types of TBI. Therefore, it was not easy for a teacher to make a decision as to which type of task enhanced the most effective language learning. Furthermore, there were some critics concerning the implementation of TBI. Those critics were: first, TBI was seen as impractical in foreign language contexts because of the limited class time available for teaching the L2 (Li, 1998: 677-703). Second, TBI was seen as difficult to implement by non-native speaking teachers whose L2 oral proficiency was uncertain. Ellis also criticized TBI that there was no guarantee that tasks would promote the kind of communication that they were designed to achieve and required for acquisition to take place. He added that the goal of language teaching should prepare students to

communicate, not to get them communicating. Ellis provided 8 principles to implement TBI (2003: 276-79) as follows:

Principle 1: Ensure an appropriate level of task difficulty.

Principle 2: Establish clear goals for each task-based lesson.

Principle 3: Develop an appropriate orientation to performing the task in the students.

Principle 4: Ensure that students adopt an active role in task-based lessons.

Principle 5: Encourage students to take risks.

Principle 6: Ensure that students are primarily focused on meaning when they perform a task.

Principle 7: Provide opportunities for focus on form.

Principle 8: Require students to evaluate their performance and progress.

Implementing TBI in this study used tasks in CLT framework proposed by Ellis (2003: 276-79), and Willis (2000: 134) including, some features in Skehans' TBI which were intended to be used in WBI environments.

The reasons behind this study were first, the communicative approach to language teaching was premised on the belief that, if the development of communicative language ability was the goal of classroom learning, then communicative practice must be part of the process (Hedge, 2000: 57). Second, CLT drew different models of language into teaching such as Halliday's functional model, Hymes' theory of communicative competence, and Widdowson's terms 'use' and 'usage'. Therefore, the CLT framework incorporated most aspects in language learning. Finally, using tasks in the framework of CLT were clearly stated (some frameworks had been provided for the implementation of TBI such as Willis's, Ellis', and Skehan's). Accordingly, it was more practical to experiment using different types of tasks in CLT framework. Moreover, using tasks in CLT framework did not require sequencing task difficulty. Since the concept of sequencing task difficulty for classroom teaching was problematic for teachers and might not be appropriate for WBI of which the aim was for learner-controlled environment. Thus sequencing task was not included in this literature review.

In conclusion, the implementation of TBI in this study focused on using tasks in CLT framework which was called communicative task-based instruction (CTBI).

4. Definitions of 'task'

The idea of TBI was popularized by Prabhu (1987), who worked with schools in Bangalore, southern India. He attempted to develop an alternative language teaching methodology for use in specific purposes. The focus of the work was on task outcome, not form. Instruction in which learners were given tasks to complete in the classroom made the assumption that transacting tasks in this way would engage naturalistic acquisition mechanisms, and that caused the underlying inter-language system to be stretched, and drove development forward. The implementation of TBI eventually intended to see a task took more roles than a vehicle for drawing attention to particular language forms but for inter-language development. Different aspects of the use of tasks caused an impact to the activities around task-based concepts. This had resulted in the problem that the term 'task' was interpreted in a number of different ways by different groups of people.

This part explored how tasks are defined from the perspectives of SLA research and of pedagogy to provide a clear concept of what a task was.

The definitions of 'task' were given in a variety of terms from the field of second language teaching to other fields such as psychology in which the concept of cognitive psychology was involved. These definitions were applied to the descriptive framework of actual tasks used in the classroom. They addressed a number of dimensions: 1) the scope of a task, 2) the perspective from which a task is viewed, 3) the authority of a task, 4) the linguistic skills required to perform a task, 5) the psychological processes involved in task performance, and 6) the outcome of a task (Ellis, 2003: 2).

Long (1985: 89) defined the term 'task' as of the following:

[a task is] a piece of work undertaken for oneself or for others, freely or for some reward. Thus, examples of tasks include painting a fence, dressing a child, filling out a form, buying a pair of shoes, making an airline reservation, borrowing a library book, taking a driving test, typing a letter, weighing a patient, sorting letters, taking a hotel reservation, writing a cheque, finding a street destination and helping someone across a road. In other words, by 'task' is meant the hundred and one things people do in everyday life, at work, at play, and in between.

This was a broad definition which was a non-technical, non-linguistic and not a pedagogical perspective. Tasks in this view were activities that students did

outside the classroom with or without language or learning involvement. The next definition was given by Richards, Platt, and Weber (1986: 289).

A task is an activity or action which is carried out as the result of processing or understanding language, i.e. as a response. For example, drawing a map while listening to a tape, and listening to an instruction and performing a command, may be referred to as tasks. Tasks may or may not involve the production of language. A task usually requires the teacher to specify what will be regarded as successful completion of the task. The use of a variety of different kinds of tasks in language teaching is said to make teaching more communicative.... since it provides a purpose for classroom activity which goes beyond practice of language for its own sake.

This definition viewed 'tasks' in a narrower perspective. It adopted a pedagogical framework by defining that tasks were classroom activities involving purposes of the planned tasks which the learners had to perform with expected outcomes. Clearly in this viewpoint, 'task' and 'activity' were not different.

Conversely, distinction between 'task' and 'activity' was given by Coughlan and Duff (1994 cited in Ellis, 2003: 185). They described the characteristics of the 'activity' as the result of learner's performance to complete the task in the allotted amount of time. According to this description, 'activity' was seen as a 'sub-task' that learners performed in order to complete the 'task'.

Prabhu's definition (1987: 138-43) called attention to the cognitive process entailed by tasks. His definition was directed to cognitive psychology. He talked about tasks involving 'some process of thought'. Tasks in his definition ideally involved learners in reasoning, making connections between pieces of information, deducing new information, and evaluating information and that language learning was an internal process of which students developed their knowledge in one language by cognitive processes. The cognitive process was also suggested by Skehan and Foster (cited in Robinson 2001: 183-205) that tasks varied in their complexity according to the cognitive demands placed on learners. Consistent to Skehan and Foster, Ellis (2003: 7) showed his agreement on the concept that 'tasks' involved cognitive processes. He gave some examples of tasks such as selecting, reasoning, classifying, sequencing information, and transforming information from

one form of representation to another. He stated that performing those types of task was cognitive demanding.

Breen (Johnson, ed., 1989:187) defined a language learning task as a springboard for learning work. It was a structured plan for the provision of opportunities for the refinement of knowledge and capabilities entailed in a new language and its use during communication. Such definition entailed the concept that planned activities could provide opportunities for learners to develop their language learning skills. His definition for 'task' was similar to David Nunan (1989: 10) who defined 'task' as:

a piece of classroom work which involves learners in comprehending, manipulating, producing or interacting in the target language while their attention is principally focused on meaning rather than form. The task should also have a sense of completeness, being able to stand alone as a communicative act in its own right.

Nunan gave a further idea about the distinction between 'communicative' and 'non-communicative' tasks that it was not easy to differentiate these two terms; therefore, the task should have a goal and roles for teachers and learners.

The concept of meaning was added by Skehan (1998: 4). He defined 'task' that it was given to learners in the expectation that doing such tasks would drive forward language development. Language was learned for communication, and that meaning was primary. Skehan's definition was frequently mentioned in syllabus design and in the implementation of task-based teaching and learning. The concept of focus on meaning was increasing more interest in SLA research of the relationship between form and meaning.

The concept that 'tasks' were activities of which communicative purpose was the goal was stated by Wills (2000), and Richard and Renandya (2002). Willis (2000: 18-25) defined that tasks were activities where the target language was used by the learners for a communicative purpose (goal) in order to achieve an outcome. Consistently, Richard and Renandya viewed 'task' as an activity that learners were assumed to get into processes such as negotiation of meaning, paraphrasing, and doing experimentation which were thought to lead to successful language development.

Their definitions clearly indicated that the use of target language for communicative purposes was significant in language learning of which the real outcome was language performance. The concept that a task should have an outcome was emphasized by Willis (2000). She summarized the term 'task' that all the tasks had a specified objective that must be achieved, often in a given time. They were 'goal-oriented'. The emphasis was on understanding and conveying meanings in order to complete the task successfully. Willis stated that all tasks should have an outcome which could be further built on a later stage in the task cycle. According to Willis's concept, the challenge of achieving the outcome made TBI a motivational procedure in the classroom.

Referring to the definitions given by Ellis (2003), Bygate, Skehan, and Swain (2001), the features of a task in this study were as of the following:

- A task was a work plan. A task constituted a plan for learner activity. This work plan took the form of teaching materials or of ad hoc plans for activities that arose in the course of teaching. The actual activity that resulted might or might not result in communicative behavior. This meant a task might or might not involve the production of language.
- A task involved a primary focus on meaning. A task sought to engage learners in using language pragmatically rather than displaying language. It sought to develop L2 proficiency through communicating. Thus, it required a primary focus on meaning. The learners chose the linguistic and non-linguistic resources needed to complete the task. Tasks indicated the content but the actual language to be negotiated in the classroom was left to the teacher and the learner.
- A task involved real-world processes of language use. The work plan might require learners to engage in a language activity such as that found in the real world.
- A task could involve any of the four language skills. In this respect, tasks were not different from exercises.
- A task engaged cognitive processes. The work plan required learners to employ cognitive processes such as selecting, classifying, ordering, reasoning,

and evaluating information in order to carry out the task. These processes influenced but did not determine the choice of language.

- A task had a clearly defined communicative outcome. The stated outcome of a task served as the means for determining when participants had completed a task.

Hereafter, this definition was used as the framework for implementing communicative task-based instruction (CTBI) in this study.

To sum up, the term 'task' was defined both in a broad and a narrow definition. The one provided by Long (1985) was quite a broad definition that it did not specify what task really was. 'Task' in his definition incorporated all kinds of activities that one did including non-pedagogical activities. Whereas Richards, Platt, and Weber (1986), Breen (Johnson, ed., 1989), Nunan (1989), Willis (2000), and Richard and Renandya (2002) defined the term 'task' by restricting the use of term to activities where meaning was primary. In their perspective, the goal of the task was for communication. According to the latter definition, task-based instruction (TBI) primarily was meaning-focused language use.

5. Types of tasks

TBI is the teaching and learning that uses tasks as the core unit. Rationale for selecting tasks in classroom teaching concerned the consideration of task characteristics which predisposed the desirable language performance. Particular tasks might be appropriate to achieve particular pedagogic aims. According to Skehan (1998: 114-152), the selection of tasks was intended to enable instruction to foster the balanced language development, i.e. development of fluency matched by development of accuracy and complexity. To enable one to view some perspective effects of task characteristics on particular features of language learning, this part of literature review discussed types of task, task characteristics, and characteristics of convergent and divergent tasks.

Types of tasks were variously labeled according to several criteria. Following were some examples of the classifications.

In Prabhu's Bangalore project, tasks were classified according to the topics in need analysis. They were listed into ten groups: 1) diagrams and formations, 2)

drawing, 3) clock faces, 4) monthly calendar, 5) maps, 6) school timetables, 7) programs and itineraries, 8) train timetables, 9) age and year of birth, and 10) money.

Legutke and Thomas (1991: 34-35) distinguished classroom tasks into four main types:

1. Language learning tasks which aimed at developing discrete language skills in areas of grammar, phonology, lexis and semantics.

2. Pre-communicative tasks, the purpose of which was to enable learners to react to and deal with different kinds of input data, mainly in form of texts.

3. Communicative tasks which initiated and frame exploratory practice where discourse emerged from genuine communicative needs and interaction.

4. Instrumental and management tasks which intended to enhance through controlled and guided practice-management capacities for language learning required media skills, organizational skills, self-access skills, and didactic skills.

Differently, Nunan (cited in Richards and Roger, 2001: 231-32) classified tasks according to their roles in the syllabus. He classified them into two main types: pedagogic tasks and real-world tasks. Tasks with pedagogic rationale required learners to do things which were extremely unlikely they would be called upon to do outside the classroom. They were selected with reference to second language acquisition (SLA) theory. Thus, they were assumed to stimulate internal processes of acquisition. On the other hand, real-world tasks proceeded with reference to some forms of need analysis.

An alternate classification was from Pica, Kanagy, and Falodum (1993: 19). They classified tasks according to the type of interaction and communication goal which occurred in task accomplishment in the following categories: 1) jigsaw task, 2) information-gap tasks, 3) problem-solving tasks, 4) decision-making tasks, and 5) opinion exchange tasks.

Another classification was proposed by Norris, Brown, Hudson, and Yoshioka (1998). They provided examples of real-world tasks grouped by themes i.e. planning a vacation.

Giving examples of task characteristics, Richards and Roger (2001: 234-35) described tasks as: 1) one-way or two-way, 2) convergent or divergent, 3) collaborative or competitive, 4) single or multiple outcomes, 5) concrete or abstract

language, 6) simple or complex processing, 7) simple or complex language, and 8) reality-based or not reality-based.

As seen from the review tasks were classified by various approaches. Since selecting tasks was required in designing TBI, task classification was important for a number of reasons. Ellis (2003: 211) provided three reasons to support this idea. First, it provided a basis for ensuring that syllabus design could incorporate ranges of task types in the course. Second, it could also be used to identify the task types that matched the specific needs or preferences of particular groups of learners. Third, it afforded teachers framework for experimenting with tasks in their classrooms to try out different types of tasks to discover which one worked for their students.

In this part, types of task were reviewed according to the four approaches following Ellis' classification (2003: 210-16): 1) pedagogic, 2) rhetoric, 3) cognitive, and 4) psycholinguistic. Together with the task classification, the research studies on the effects of different types of tasks on language learning were reviewed.

5.1 A pedagogic classification

Tasks in pedagogic classification were previously classified in terms of language skills (listening, speaking, reading and writing) and by linguistic knowledge (vocabulary & grammar, and para-linguistics). This kind of classification was used in traditional method for designing textbooks or for their supplementary. Later, pedagogic tasks were classified according to the operations learners were required to carry out in performing the tasks such as Willis' (1996) six types of tasks: 1) listing, 2) ordering and sorting, 3) comparing, 4) problem solving, 5) sharing personal experiences, and 6) creative tasks. Performing these types of tasks, learners were required with different operations i.e. to list, to sequence, to rank, to categorize or to classify items, to find differences or similarities in information, to use intellectual skills in puzzles or logic problems, to talk freely about themselves and to share experiences with others. The last list in this classification was creative tasks which involved several stages that incorporated the various types of tasks and included the need to carry out some research.

An alternative classification to pedagogic task was proposed by Nunan (1989: 40). He defined that:

Task with a pedagogic rationale, on the other hand, require learners to do things which is extremely unlikely they would be called upon to do outside the classroom. As they cannot be justified on the grounds that they are enabling learners to rehearse real-world behaviours, they must have an alternative rationale. This usually takes a psycholinguistic form along the lines of: "Well, although the learners are engaged in tasks which they are unlikely to perform outside the classroom, the tasks are stimulating internal processes of acquisition.' Thus, while the selection of real-world tasks (as we shall call tasks with a real-world rationale) will proceed with reference to some form of need analysis, pedagogic tasks will be selected with reference to some theory or model of second language acquisition.

Similarly, Crookes and Gass (1993: 140) defined pedagogic tasks as the tasks that teachers and students worked in the classroom. They increased accurate approximations according to criteria such as communicative success, semantic accuracy, pragmatic appropriateness, and even grammatical correctness.

These views looked at pedagogic tasks differently from the linguistic perspectives to communicative aspects. To sum up, pedagogic tasks were judged as learning activities of which the main purpose was to provide learners opportunity to practice the target language likely to perform outside the classroom.

The research into pedagogic task as classified by Bygate, Skehan, and Swain (2001: 13-14) was grouped into three main areas of concern.

The first concern focused on the impact of task design on performance emphasizing the construct validity of tasks and their conditions of use which was important for test design, material design, material implementation and syllabus development. The second concern focused on the impact of task selection and use on learning on the ways in which performance could affect changes in competence. The third concern focused on the relationship between tasks and underlying processing factors including:

- The impact of the conceptual content of tasks.
- Parameters of task design in terms of their likely impact on aspects of language processing.
- The nature of the interactiveness dimension of different tasks.
- The nature of comprehension processing.

- The ways in which interaction on tasks could focus learners' attention on form-meaning relations during lessons.

A study on the effects of types of tasks on language learning was done by Wattanamara (1996). She investigated the effects of pair-work and group-work tasks on English language communicative ability. The results indicated that the communicative English language ability of the experiment group was significantly higher than that of the control group. Consistently, Smith (2001) investigated TBI synchronous, computer–mediated communication (CMC) to second language lexical acquisition. The study concluded that task-based CMC was effective to promote language development in the intermediate level ESL classroom.

To support the idea that different versions of the same type of tasks had consistent effects on performance. A study done by Bygate and others (2001) to investigate the effects of repetition of pedagogic tasks in developing learners' communicative language ability showed clear-cut findings. He used two sets of tasks provided in three conditions with 48 overseas non-native speaker (NNS) students at the University of Reading. The results of the study showed that there was no significant interaction between group and tasks found in all three measures. But there was a highly significant interaction found between repetition and task-type practice on fluency. The other difference was that the interview group produced significantly more accurate performance on the interview than on the narrative tasks. In all aspects the performances of the three groups were not significantly difference in accuracy.

From these studies, it was concluded that tasks had effects on learning performance.

5.2 A rhetoric classification

This classification underlined language courses for academic purposes and was often linked to the specific language functions. It distinguished different discourse domains in terms of their structure and linguistics properties- narrative, instructions, description, reports, etc. One of the advantages stated for this type of classification was that discourse domain was shown to be a factor in negotiation of meaning and the quality of learner production. Another advantage was that it lent itself to the design of specific purposes courses since learner's needs were readily specified in terms of

specific domains they needed to master. Swales (1990: 58) proposed an alternate approach for this type of classification by utilizing the concept of 'genre'. He defined that the language examples of a given genre did not involve only a given structure and style but also a communicative purpose. Moreover, they could be more or less a prototype of the genre. According to Swales, a task must incorporate an authentic communicative purpose in order to qualify as a genre-based task. Tasks were used as pedagogic vehicle for teaching genres. This required establishing 'socio-cultural situation' of a task by identifying the discourse community to which the genre under consideration belonged.

To sum up, rhetoric tasks were examined in the field of discourse analysis, genre-based analysis or conversational analysis of which was not the purpose of this literature review.

5.3 A cognitive classification

A cognitive approach to classifying task was based on the kind of cognitive operations that different types of tasks involved. Ellis (2003:213) raised Prabhu's three types of task (1987) as examples of task types based on cognitive classification. The first one was the information gap activity which involved a transfer of given information from one person to another. The second type was reasoning-gap activity. It involved deriving some new information from given information through processes of inference, deduction, practical reasoning, or a perception of relationships or patterns. This type of task involved identifying and articulating a personal preference, feeling, or attitude in response to a given situation such as story completion. According to Prabhu, these three types of tasks needed 'negotiation' in performing the task. Ellis criticized that Prabhu's definition for 'negotiation' meant differently from others because it meant 'moving up and down a given line of thought or logic'.

Skehan (1998: 133) supported that it was possible to produce greater negotiation of meaning by a greater degree of active involvement such as clarifying requests, confirming checks, and so on. These could lead to better input and more malleable inter-language systems.

A study confirming this concern was done by Mori (2002) who examined the sequential development of talk-in-interaction in a small group activity in a Japanese language classroom. The findings revealed that student's planning tended to focus

on the content of discussion, compiling a list of sequence-initiating actions, in particular, questions. While the plans contributed to the development of the talk, the episode revealed that a more natural and coherent discussion was afforded by the student's production of spontaneous utterances and attention to the contingent development of talk. This concept was consistent to Van Patten (1989) who pointed out that tremendous demands were placed on learner's information-processing system when listening. The controlled processing required to extract meaning from input might prevent learners from attending to form.

Another study was done by Aline (1999) who examined the effects of focusing on output through the use of transcripts of discussion task production. Subjects of the study were Japanese second-language learners of English. The study examined five areas namely: the role of output in instructed second language acquisition, the differential effects of processing input for grammar or meaning, the effects of learning under different conditions of exposure to input, the role of attention and consciousness of form during second language learning, and the measurement of inter-language change along the dimensions of accuracy, fluency, and complexity. The results showed no statistically significant differences between the group's performance from a discussion task after the treatment on measures of grammatical accuracy, syntactic complexity, and fluency. This study supported the information-processing theory of language use that speakers with limited capacity for processing language would decline in accuracy as they focused on meaning.

The role of increasing learner's awareness before performing cognitive demanding task was reported by Roebuck (2000). Roebuck investigated learners engaging in a cognitive activity of producing written recall protocols. The subjects were 27 elementary and five intermediate students of Spanish at the university level. The learners had to read and immediately recalled three experimental texts. The difficult texts were chosen in order to observe how changes occurred as a result of interference. It was found that learners attempted to complete the tasks, and the diversity and uniqueness of the problem-solving activity had correlated at the level of social interaction. The conclusion was that cognitive demanding tasks gave learners a sense of what they could not do with the language.

The effects of pre-task, and on-line planning on second language oral and written production used to develop language skills such as listening, speaking and

writing were studied by Yuan (2001). His study confirmed that planning was a crucial role in implementing task-based learning. Yuan investigated the effects of pre-task and on-line planning on second language oral and written production in fluency, complexity, and accuracy. The subjects were 42 Chinese learners of intermediate English language proficiency attending a four-year university in P.R. China. The tasks were retelling and writing down the story from two series of pictures. Transcripts of oral narratives and writings were evaluated on seven measures covering the areas of fluency, complexity, and accuracy. ANOVA tests revealed that the pre-task planning (PTP) subjects achieved significantly greater complexity than the no-planning (NP) subjects in the oral tasks and greater complexity and fluency than the NPs in the written task, and that the on-line planning subjects obtained significantly greater accuracy than the NPs in the oral task. It was concluded that on-line planning exerted greater effects on oral than on written language due to the inherent nature of the two types of language use. This finding was consistent with Robinson (2001). As he mentioned that L2 learners' problem might be eased if they were given time to plan before they began to speak since difficult tasks required more attention than easy tasks. Ellis (2003) also supported this idea that when learners planned they had to choose what aspect of production to focus on; and it would seem that strategic planning appeared to have a greater effect on production when the task was cognitively demanding.

In conclusion, the cognitive demanding tasks were the tasks that were described in the dimensions of complexity and difficulty. In order to reach the effective outcomes, the tasks required processes of inference, deduction, practical reasoning, or a perception of relationships of patterns and other motivational factors.

5.4 A psycholinguistic classification

A psycholinguistic classification of tasks established a typology of tasks in relation to their potential for language learning. The categories of tasks in psycholinguistics were found in the proposal of Pica, Kanagy, and Falodun (1993: 19). The categories claimed to be in psycholinguistic because they were based on the concept of interaction. These categories were: 1) interaction relationship concerns roles of participant in the interaction. It also related to the distinction between one-way and two-way tasks. This category derived from the study that when there was a mutual relationship of request and supplied language, negotiation of meaning was

more likely to occur. 2) Interaction requirement concerned whether participants were needed in the task or not. It was also pointed out from research that to enhance negotiation of meaning, interaction task was required for all participants to take part. 3) Goal orientation concerned whether the tasks required the participants to agree on a single goal or to disagree. 4) Outcome options referred to the scope of the task outcomes available to the participants in meeting the task goals. In the case of 'closed' tasks a single outcome was required whereas 'open' tasks permitted several possible outcomes. Task types in the four categories can be seen in the following chart.

Task type	Interaction relationship	Interaction requirement	Goal orientation	Outcome option
Jigsaw	Two-way	required	convergent	closed
Information gap	One-way/two-way	required	convergent	closed
Problem solving	One-way/two-way	optional	convergent	closed
Decision making	One-way/two-way	optional	divergent	open
Opinion exchange	One-way/two-way	optional	divergent	open

Chart 2. A Psycholinguistic Typology of Tasks by Pica, Kanagy, and Falodun

According to the typology in psycholinguistic classification of tasks, convergent and divergent tasks were classified by goal orientation. Thus, it was concluded that the classification of tasks into convergent or divergent category depended on their goals.

The research studies of tasks within psycholinguistic classification were as of the following:

The study on one-way/ two-way (closed) tasks was done by Gass and Varonis (1985) to investigate two types of interaction in negotiation of meaning as reflected by different types of communicative tasks in a nonnative (NNS)-non-native (NNS) discourse. Nine non-native subjects participated in the study at the English Language Institute of the University of Michigan. They were divided into three dyads and one triad of which there were no speakers of the same NL. Each group performed two tasks: one-way and two-way tasks. The participants exchanged information in order to complete a given task using the one-way task following by the two-way task.

Findings indicated that in general there were fewer negotiations on the one-way task. On the other hand, there were more negotiations on two-way tasks.

This concept was consistent with Long (1985) who compared the conversation adjustments in NS-NS and NNS-NS dyads on two sets of tasks. The first set (one-way tasks) consisted of: 1) a narrative task, 2) giving instructions, and 3) discussing the supposed purpose of the research. The second set (two-way tasks) consisted of 4) a conversation task, and 5) communicative games. Long found that in the one-way tasks the NNS-NS dyads did not engage in significantly more meaning negotiation than the NS-NS dyads but in the two-way tasks there were significantly more confirmation checks, comprehension checks, and clarification requests in the NNS-NS dyads. In other words, NSs were much more likely to modify their interaction to take account of NNSs' comprehension problems in two-way tasks than in one-way tasks. However, Jauregi (1990 cited in Ellis, 2003) found that a one-way (closed) task (describe and draw) produced more negotiation of meaning than a two-way task (open) that involved talking about future plans.

Effects of interaction relationship were studied by Doughty and Pica (1984). They presented results from NNS-NNS interactions in a required information exchange task. The task used was a one-way (closed) task. It required subjects to go from linguistic input to object manipulation output. Data were collected from three classrooms during two ESL communication activities focusing on decision making and values clarifications. One activity was teacher-fronted; the other involved students working in group of four. Each activity was audio taped without the researcher's presence during the tapings. All hypotheses of the study were tested through chi-square analyses on the proportions of input and interaction variables in the teacher-fronted and group communication tasks. Findings of the study indicated that more grammatical input and a number of features of negotiation were more available during teacher-fronted than during group activities. The researchers concluded that percentages of conversational adjustments in the teacher-fronted activity served only as a form of exposure to class members who listened while teacher interacted with others in the classroom. It was found that individual students appeared to have more opportunities to use the target language in groups than in teacher-fronted activities. It was also suggested that group work could offer students some opportunities to hear

grammatical input and to negotiate message meaning, and provided many opportunities for them to practice using the target language and to receive feedback on their communicative effectiveness. This result is consistent with Reynolds (2000). Reynolds compared the interaction between the teacher and non-native speakers (NNSs) of English as sources of target language (TL) input for learners in an ESL course in the United States. Using ethnography of communication theoretical framework, this comparative study investigated how a small group of non-native speakers interacted in free conversation in comparison to more task-based communicative activities. The analyses revealed that the structural components in task-based activities and free conversation differed. The interaction patterns in both speaking events also differed, but shared similarities. The sequence structure of negotiation of meaning varied between the two activities. In communicative tasks, the negotiation sequences tended to be shorter and less complicated and included fewer participants, whereas the free conversation negotiation sequences were longer, more complex, and involved multiple participants.

As seen from the literature the impact of task on interaction was considered in terms of goal, type of input or conditions of a task.

Two types of tasks, one was information gap tasks which involved an exchange of information (shared) and the other was opinion gap tasks (split) which involved learners to go beyond the information given were investigated by Newton (1991). He investigated a medical task which required learners to do two types of task, first exchange information about four candidates for a heart transplant (a required information task). Then, they had to use the information to choose who should get a heart transplant (an optional information task). He called this kind of compound task as a 'jigsaw' task. He found almost double the quantity of negotiation in task where the information provided was split among the learners when compared to tasks where the information was shared (but the greater gain in vocabulary was found more in the split information tasks. One-way and two-way tasks were distinguished in terms of whether the information to be shared was split one-way (by single person or two or more persons) or two-way. The two-way task required all participants to participate in order to complete the task.

Number of participants (pair–group work) was studied by Foster (1998) to compare the amount of negotiation occurred in both pairs and groups. She found that there was more negotiation in the pairs than in the groups. However, the required information exchange tasks elicited more negotiation than the optional information exchange tasks (the range of the students' negotiation scores was narrow). Some arguments were that although required information exchange tasks could afford opportunities for negotiation of meaning, other types of task might be more effective for different kinds of language use that might assist language acquisition.

In terms of task outcomes, the 'open' and 'closed' distinction was in concerns. Tasks that allowed learners to have more freedom in choosing the topics or to discuss more openly or to make solution on their own were 'open tasks'. 'Closed tasks' were tasks that required students to reach a single, correct solution or one of a small finite set of solutions (i.e. information gap, same or different). These types of task were called 'divergent' and 'convergent' in a study by Duff (1986). Duff compared the negotiation work resulting from divergent tasks (discussing the pros and cons of television), where students were assigned different viewpoints on an issue and had to defend their position and refute their partner's, and convergent tasks (deciding what items to take to a desert island) which required students to agree on a solution to a problem. Duff found that the convergent tasks resulted in more turns per task, more questions and more confirmation checks than divergent tasks although not all these differences were statistically significant. Divergent tasks also produced more words and greater utterance complexity than the convergent tasks. Duff concluded that overall the convergent tasks resulted in more comprehensible input than the divergent tasks, but divergent task led to more output. Duff's study could not show that convergent tasks were more effective in promoting negotiation of meaning since it was a small scale study (four-day study). Moreover, the study was criticized by Long that both divergent and convergent tasks were open. So the effects of the convergent/ divergent tasks should be seen as a distinction of closed and open tasks. A study in closed and open tasks done by Crookes and Rulon (1985) compared the feedback supplied by a native-speaker interlocutor to learners in three tasks: a free conversation task (open/ divergent), a closed (convergent) one-way information gap task, and a closed two-way information gap task. The findings indicated that feedback was more frequent in the closed tasks than in the open task. This study was consistent with

Berwick (1990) who investigated a number of different types of tasks performed by Japanese college students. The tasks were free discussion (open/divergent) and two reconstruction tasks involving 'Lego' (closed/ convergent). The analyses included the discussion which focused on meaning negotiation. He found that closed tasks led to more clarification requests, more comprehension checks, more confirmation checks, more self-expansions and more self-repetitions than the open discussion task. In other words, the close tasks resulted in more extensive meaning negotiation than the open task. The result of the study was consistent with Duff's (1986). Duff indicated that convergent (closed/convergent) tasks resulted in more comprehensible input but that the divergent (open/divergent) tasks led to more output. Additionally, tasks with divergent goals (debate) led to longer turns and more complex language use than tasks with convergent goals (decision making tasks) but close task with convergent goal was resulted in more comprehensible input than the divergent goal.

With similar findings, Tong-Fredericks (1984) studied the effect of open and closed tasks on the outcome by comparing three tasks, one was a problem-solving task (closed/convergent task), the other two were a role play task and an 'authentic' interaction task (open /divergent tasks) where students had to find out from their partners what they had done the previous day. It was found that the problem-solving task elicited more spontaneous speech and a wide range of language functions, including the discourse management functions associated with meaning negotiation. This study confirmed that closed (convergent) tasks provided more language production. Consistently, Kyosti (1991) investigated FL motivation on two types of vocabulary tasks: three closed and three open English vocabulary tasks. The findings revealed that open tasks produced more failures than closed tasks except in cooperative learning situation.

Under interaction activity, interaction relationship concerned the information which different participants held. Interaction relationship required goals to indicate how learners participated in the situation and covered the degree of information the learners requested or supplied. Goal orientation clarified the nature of the tasks involved in the interaction. They were either convergent (all participants had the same goals as regard outcome) or divergent (goals were different). Pica and others (1993) used three different tasks: jigsaw, information gap, and discussion to evaluate tasks for

their potential to generate comprehension of input, feedback to production, and inter-language modification. The jigsaw task was a two-way convergent task of which the outcome option was only one. The information gap task was either two-way or one-way convergent task with only one outcome option. The last one was the discussion task. It was either one-way or two-way divergent task of which the outcome option was arbitrary. Pica recommended that in negotiation of meaning process participants should have the same or convergent goal and only one acceptable outcome should be possible to meet the goal.

It was suggested that teachers concern types of task, their level of difficulty, and complexity in designing task-based teaching. To confirm the result of the formal study, Pica, Kanagy, and Falodun (1998) examined five types of tasks (information gap, jigsaw, problem-solving, decision-making and opinion exchange) each with a different configuration of activity and goal. The analysis suggested that a task which promoted the greatest opportunities for learners to experience comprehension of input, feedback on production and inter-language modification was one which met the criteria in the following four conditions: 1) each interactant held a different portion of information which must be exchanged and manipulated in order to reach the task outcome, 2) both interactants were required to request and supply this information to each other, 3) interactants had the same or convergent goals, and 4) only one acceptable outcome was possible from their attempts to meet this goal. The conclusions of the study showed that the most effective task types appeared to be the jigsaw and information gap tasks which had convergent goal, while the least effective was the opinion exchange task which had divergent goal.

Skehan (1998: 118) argued that different goals might be appropriate for different aspects of competence since convergent tasks produced more outcomes but shorter turns which might be appropriate some of the time but there must also be opportunity for learners to be required to produce more complex discourse involving longer turns. The distinction between focused (one goal) and differential outcomes (more than one goal) offered promise in that more differentiated outcomes appeared to generate more complex language, especially when planned but there were some other factors involving the effects of such participant factors such as age, gender, personality and so on.

In conclusion, the research review indicated that convergent tasks were tasks that required only one outcome and could produce more language competence but provided learners with shorter turns whereas divergent tasks were tasks that required differential outcomes and could produce more complex language structure. This conclusion led to the issue that which type of task enhanced more language learning achievement between tasks that required one (focused) outcome or tasks that required more than one (differential) outcome in a synchronous and asynchronous Web-based learning.

The following part was devoted to clarify convergent and divergent in terms of meanings and their characteristics.

6. Convergent and divergent tasks

The meaning of these two terms 'convergent' and 'divergent' in learning theory had been discussed widely in different aspects. According to the process and structure in experiential learning theory, learning was facilitated best by an integrated process that began with here-and-now experience followed by collection of data and observations about that experience. The concepts of experiential learning proposed by Kolb (1984: 31-37) consisted of the following:

1. Learning was best conceived as a process, not in terms of outcomes. The theoretical framework was drawn from Piaget (cited in Kolb, 1984) that learning was an emergent process whose outcomes represented only historical record, not knowledge of the future.
2. Learning was a continuous process grounded in experience. This concept stated that knowledge was continuously derived from and tested out in the experiences of the learner.
3. The process of learning required the resolution of conflicts between dialectically opposed modes of adaptation to the world. There were several models presented in this process and all the models suggested the idea that learning was by its nature a tension and conflict-filled process. Learners, if they were to be effective, needed four different kinds of abilities: concrete experience abilities (CE), reflective observation abilities (RO), abstract

conceptualization abilities (AC), and active experimentation (AE) abilities. That was, they must be able to involve themselves fully, openly, and without bias in new experiences from many perspectives (RO). They must be able to create concepts that integrated their observations into logically sound theories (AC), and they must be able to use these theories to make decisions and solve problems (AE).

4. Learning was a holistic process of adaptation to the world. According to Carl Jung's theory of psychological types, to learn was not the special province of a single specialized realm of human functioning such as cognition or perception. It involved the integrated functioning of the total organism-thinking, feeling, perceiving, and behaving. For experiential learning, education was described as the process of human adaptation to the social and physical environment.

5. Learning involved transactions between the person and the environment. The term 'transaction' referred to the relationship between the person and the environment in terms of experiential learning theory.

6. Learning was the process of creating knowledge. From this concept, Kolb clarified that to understand learning, one must understand the nature and forms of human knowledge and the processes whereby this knowledge was created.

The terms 'divergent' and 'convergent' as found in this experiential learning theory were used to call the knowledge resulted from two distinct modes of experience grasping via 'apprehension' or 'comprehension' and transformed through intention or extension. According to the process of experiential learning, a four-stage cycle involved four adaptive learning modes – concrete experience (CE), reflective observation (RO), abstract conceptualization (AC), and active experimentation (AE). The structural bases of the learning process lay in the transaction among these four adaptive modes which grasped experience in the world via 'transformation' or 'prehension'. These two dimensions of learning corresponded directly to Piaget's aspect of thought. Prehension dimension referred to the way in which the individual grasped experience which was seen in two modes 'apprehension' and 'comprehension'. According to Kolb, 'apprehension' referred to

instant, intuitive knowledge without a need for rational inquiry or analytical confirmation. The term 'comprehension' referred to the roles of conscious learning. With these transaction processes, learning was seen as the recycling of experience at deeper levels of understanding and interpretation. The combination of grasping experience and transforming proposed by Kolb (1984: 42) was seen in the following figure.

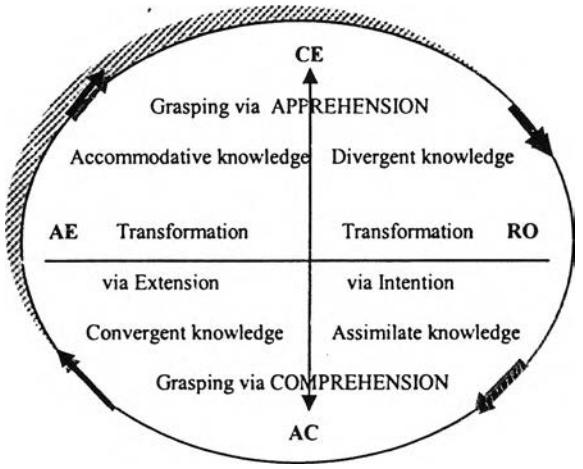

Figure 4. Structural Dimensions Underlying the Process of Experiential Learning and the Resulting Basic Knowledge Forms

From this figure, 'divergent knowledge' resulted from the experience grasped through apprehension and transforms through intention. "Convergent knowledge' resulted from the experience grasped through comprehension and transforms through extension. The central idea was that learning and knowing required both a grasp of experience and some transformation of that representation. From this sense, the transformation dimension was described by the concepts in the theory of types. The implication of this concept was that human individuality arose from consistent patterns of transaction between the individual and his or her environment. Through life experiences one developed certain styles of learning. When confronted by a problem or conflict, some people would place their emphasis on immediate action, while others might focus on reflection to solve the problem. Certain people were very analytic of an incident, and others could have strengths in assimilating facts into theories. It was these learning differences that Kolb classified into four separate learning styles which influence the range of choices in decisions a learner makes.

In learning and cognitive style dimensions, the terms 'convergent' referred to the dominant learning ability of abstract conceptualization and active experimentation. The greatest strength of this approach lay in problem solving, decision making, and the practical application of ideas. The convergent learning style learners seemed to do best in situations like conventional intelligence tests, where there was a single best answer or solution to a question or problem. In this learning style, knowledge was organized through hypothetical-deductive reasoning, it could be focused on specific problems. The convergent people preferred dealing with technical tasks and problems rather than social and interpersonal issues. In the study of Kolb and Fry (1975) found that convergers preferred reading and discussions that linked the classroom to the real situation, they least preferred open-ended peer discussions and group autonomy. On the other hand, the divergent learning style had the opposite learning strengths from convergence, emphasizing concrete experience and reflective observation. The greatest strength of this orientation lay in imaginative ability and awareness of meaning and values. The primary adaptive ability of divergence was to view concrete situations from many perspectives and to organize many relationships into a meaningful concept. The emphasis in this orientation was on adaptation by observation rather than action. This style was called 'divergence' because a person of this type performed better in situations that called for generation of alternative ideas and implications, such as 'brain-storming' activity. Those oriented toward divergence were interested in people and tended to be imaginative and feeling-oriented. According to Kolb and Fry (1975), divergers valued self-diagnostic activities. They most preferred open-ended unstructured homework papers. They least preferred course requirements, deadlines, required paper, and peer interaction.

Biggs and Telfer (1987) noted that most subjects at schools were taught and evaluated in a convergent manner with emphasis on mastery of existing skills and knowledge, with correct application of known rule, and with evaluation emphasizing the one-correct-answer principle. However, it was found that divergent abilities seemed to relate to ordinary achievement in school. Biggs and Telfer revealed several studies from primary to university as support to the claim that divergent ability contributed to academic attainment over and above the contribution from

convergent ability, but more so in verbal than in numerical subjects. Consistently, Coskun (2005) studied the influence of divergent (generating words for dual words) and convergent (generating words on similarities) exercises on the subsequent performance. The tasks were given either in convergent–divergent or convergent-divergent sequences with a temporal order. The findings indicated that the provision of divergent exercise and a convergent–divergent sequence led the participants to generate more ideas.

Described in terms of goal-orientation in task-based language learning, 'convergent' referred to tasks of which all participants shared the same goal as a regarded outcome. On the other hand, 'divergent' task referred to tasks of which goals were different (Pica et al., 1993). Pica clarified that outcome options related to how many options there were in attempting to meet goals, contrasting one possible option or more than one. Similarly, Richards and Roger (2001: 234) also described 'convergent' and 'divergent' in terms of goals indicated by students' achieving a common goal or several different goals. Consistently, Ellis (2003: 215) described tasks that required for collaboration resulting in more meaning negotiation as convergence whereas tasks that allowed for independence were divergence. Adding the characteristics to these two types of tasks in questioning, Richards and Lockhart (cited in McDonough, 2002) defined that convergent questions were questions which focused on certain topics or tasks, encouraged participation, required only short answers; and did not require higher order analysis or inference making. Whereas divergent questions were questions which encouraged diversity, encouraged new information, were student-generated; and might require higher-order reasoning and inference generation.

If one applied the characteristics of convergence and divergence in terms of theory of types (or cognitive learning styles) developed by Kolb into TBI, the characteristics of 'convergent' and 'divergent' tasks could be described as:

- Convergent tasks were the tasks that required true justified knowledge, abstract conceptualization and active experimentation. They allowed for collaboration in meaning negotiation of which the single goal is needed. Thus, collaborative work was required. In terms of questioning, convergent questions required only one correct answer, allowed collaborative work with

short answers of which were not highly cognitive demanding so no reference making in convergent questions.

- Divergent tasks were the tasks that required new significant knowledge, various outcome options of which goal could be set more than one. These types of tasks allowed independent work of which individual could perform the tasks differently according to their cognitive styles which might lead to different outcomes. Questioning in divergent tasks encouraged students to generate the questions of which there was more than one correct answer. The questions were cognitive demanding such as making inferences.

Web-based Instruction

This part reviewed the definitions of Web-based instruction (WBI, its theoretical concepts, types of WBI, and the design of a Web-based course in synchronous and asynchronous learning environments, following with the use of WBI in language teaching.

1. Definitions of Web-based instruction

Berge, Collins and Dougherty (2000: 32-35) provided key features of Web-based learning environments such as interactive, multi-media, open system, online search, globally accessible, electronic publishing, worldwide, online supported, learner-controlled, and collaborative learning. These key features were mentioned in the following definitions of WBI as follows.

The definition of WBI defined by Khan (1997: 6) was a hypermedia-based instruction program which utilized the attributes and resources of the World Wide Web to create a meaningful learning environment where learning was fostered and supported.

Similarly, Dillon and Zhu (1997: 221-23) defined the terms World Wide Web and WBI as a hypermedia information and communication system on the Internet. The specific features of hypertext/ hypermedia, such as linked nodes of information, multiple access paths to information, and the ability to pursue information were supposedly non-linear. The method of manipulation was scrolling and clicking with a mouse rather than turning pages by hand. Thus, instruction in the design of World

Wide Web-based courseware was Web-based instruction. This definition referred to the use of computers as a medium. However, it did not provide much information of how teacher and learners could benefit from WBI.

Abbey (2000: 44-45) provided a more detailed definition of WBI. His definition was as follows:

The term Web-based instruction has been used to describe a number of information uses of the World Wide Web. Among these are the uses of Web sites purely as delivers of information. In these instances the Web site is not designed with any particular educational intent other than making specific information available to the visitor. In the case of informational sites, there is no intended objective of promoting learning, but rather a 'use the information if you want' reasoning. An educational Web site, on the other hand, has generalized educational goals or objectives much like public or educational television. In this case the intent is that the visitor will gain some more specific knowledge, but no attempt is made to assess whether or not learning occurred. In other instructional sites, specific instructional objectives are developed and the act of instruction is more structured and the degree of learning is carefully assessed. Instructional sites such as these are used in many on-line courses today. Web-based instruction can be all of the above, but in every case, the means whereby the user interacts with the Website is very different from more traditional forms of informational, educational, or instructional media.

He also added that the differences between Web-based media and the familiar types of media fell into three distinct areas: technological differences, pedagogical differences, and variations in the way users interacted with the information or instruction.

In conclusion, all those definitions were combined to provide a clearer view on how to implement WBI in this study.

WBI is teaching and learning in electronic environments using Web sites purely as delivers of information. It is a hypermedia-based instruction program which utilizes the attributes and resources of the World Wide Web to create a meaningful learning environment where learning is fostered and supported. The method of manipulation is scrolling and clicking with a mouse rather than turning pages by hand and the ability to pursue information is supposedly non-linear. The goal is to provide lifelong quality learning to as many students as possible without limitation of time, place, language, and individual economic status.

2. Theoretical concepts underlying Web-based instruction

In the 1980s, as global communications networks grew into a powerful infrastructure, the role of information technology tremendously increased opportunities in many areas of education. Advances in information technology and telecommunication allowed Web-based courses to replicate more seamlessly the features of face-to-face instruction through the use of audio, video, and high-speed Internet connections that facilitate synchronous and asynchronous communication. Some of the strongest pressures for changes in higher education were coming from students. A growing segment of hard working, self-motivated students wanted to acquire skills that they felt useful and also wanted to be able to choose how they would learn those skills. Thus, an instructional system must be able to arrange resources and procedures used to promote learning.

In subsequent years, the shift in beliefs about the fundamental goals and strategies of education from objectivist to constructivist perspectives had influenced instructional practices and use of Web technology, as education goals reflected new social and educational needs. Accordingly, strategies for integrating technology into teaching and learning also changed. The differences came from the underlying epistemologies: beliefs about the origins, nature, and limits of human knowledge. Constructivists and objectivists came from separate and different tribes or cultures. On the objectivist side, philosophers believed that knowledge (i.e. reality/truth) had a separate, real existence of its own from and external to the knower. As an external entity, knowledge had structure that could be known objectively in 'terms of entities, properties, and relations'. Objects and events had inherent meaning that existed whether or not an individual had awareness of them. The task of instruction was to symbolically represent external knowledge (reality) so that the learner could accurately acquire its meaning.

The paradigm assumptions of constructivism were in distinct contrast; knowledge (i.e. reality, truth) was not external and objective, but was a subjective construction. Constructivists acknowledged the existence of an external reality, but one could only be known subjectively. Learners actively interpreted reality, bringing to bear existing cognitive structures in the process of assimilating new information (Duffy and Jonassen, 1992: 1-16).

It was noted that students in Web-based courses became problem solvers involving in real-world problems as they took responsibility for their own learning. A study supporting this idea was done by Nakamishi (2003). Divergent task in Nakamishi's study showed that students enjoyed thinking and seeing things in different perspectives while they were performing the task. Nakamishi used the idea of debating (divergent task) to design internet lesson plans to be used with Japanese students in CALL (Computer Assisted Language Learning) classrooms and computer equipped classrooms in order to explore its effectiveness. The task was designed for reading and oral skills. The finding showed that students enjoyed thinking about the topic and not only learned English, but also saw things in many different perspectives.

In conclusion, to design an effective on-line instruction decision about how technology was used in the learning process was directly connected to beliefs about the learning process.

3. Types of Web-based Instruction

Aggarwal and Bento (2000: 2-16) classified the Web usage into three models: 1) Web support for information storage, 2) Web support for two-way interaction, and 3) Web-based teaching.

3.1 Web support for information storage

In this model, the Web was used to support synchronous or asynchronous teaching. When a traditional classroom was equipped with live Web access and projection capabilities, a teacher supported a regular face-to-face lecture or discussion by taking students into virtual field trips of public Web sites. If course materials were posted on the Web (such as lecture notes or presentations) a teacher also used them during class to support a presentation. Students accessed the Web outside of class at any time/any place. If course-specific materials were online, students took tutorials at their own place, reviewed lecture notes, and never lost the course syllabus.

3.2 Web support two-way interaction

The Web allowed teacher and students to interact in powerful and dynamic ways to create learning communities. ChatRooms provided real-time interaction, and were best suited for informal exchanges or quick questions and answers. Web

discussion boards combined almost real-time capabilities with the flexibility and potential depth of asynchronous communication. Materials posted to a Webboard were accessed from anywhere, anytime, while privacy and confidentiality was preserved by thread, author, date, and category. These features made Webboard an ideal forum for outside-of-class interaction, where teacher and students conducted case discussions, explored topics and shared resources.

3.3 Web-based teaching

The information and interaction capabilities of the Web led to the development of 'exclusive Web-based courses', where all teaching took place on the Web, with no face-to-face interaction. This model had several variations, depending on decisions made in the following areas:

3.3.1 Course development: A Web-based course was developed by: a) the faculty member who will teach it, b) another faculty member in the same university, who then supervises the teaching faculty, c) cooperatively with faculty from the same or different universities, where each develops one or more course modules.

3.3.2 Place of course delivery: The course was entirely Web-based, without faculty and students meeting face-to-face, and with students in place throughout the world; the course was taught mostly on the Web, with a few face-to-face interactions required (usually at the beginning and the end, sometimes the middle of the course); and the course was taught in a mixed mode, with some students taking it in the classroom (supported with Web information and interaction), and others taking it entirely on the Web.

3.3.3 Timing of course delivery: The course was structured so that there were time limits for students to complete each unit or module i.e. the course started and ended at a certain date, and course units or topics were taken in a sequence of fixed stages by a group of students within certain time periods, or the course was taken without time limits i.e. the students were free to progress at their own pace through the materials.

3.3.4 Level of interaction: The course could place varying degrees of emphasis on using the Web for transmission of information or for interaction

between students and faculty. It was always possible to use the Web as a part of, rather than as complete Web supported course.

Aggarwal and Bento stated that there were several issues concerning when moving into a fully Web-based, any place/anytime, educational environment, such as technology (hardware & software), administration (student support, library, advising, registering etc.), and pedagogical issues (quality and control).

4. Technology in language teaching

This part looked at the ways teachers incorporated technology in language teaching. Since 1970s, psychologists and educators began to recognize the importance of the individual in the learning process. As the premises of the humanistic movement filtered into L2 methodologies, CALL courseware was adapted to a more humanistic design based on intrinsic motivation, and inter-activity. In 1970s and 1980s with the emergence of CLT, communicative uses of technology were developed. Word processors, on-line databases, and telecommunications offered unique opportunities to engage English language learners in functional uses of language by providing them a collaborative learning environment, authentic audiences, and real-world tasks (Phinny, 1989). In 1980s and 1990s, with a focus on meeting the cognitive and academic language proficiency needs of L2 learners, TBI and content-based teaching became widely accepted pedagogical practices in L2 teaching (Nunan, 1999). Internet resources and CD-Rom databases as well as simulation and authoring software ideally supported content-based and task-based instruction. The development had moved from the age of information to the age of communication with learning environments in which students were not just receivers of information, but had the capability to create new information using networked computer systems.

Buell (1999: 216-238) mentioned that ESL/EFL teachers were using the Web and other CALL resources today to help their learners in these areas:

- Give learners experience in the knowledge construction process.
- Give learners experience in and foster their appreciation for multiple perspectives
- Embed learning in realistic and relevant contexts

- Encourage ownership and a voice in the learning process for learners
- Embed learning in social experience
- Foster the use of multiple modes of knowledge representation
- Foster awareness of the knowledge construction process

He also mentioned CALL resources for teachers to give students immediate access to a world of authentic language samples, tasks, and audience. Additionally, some of those resources contained links to other home pages and resources including thousand of non-electronic periodicals and books. Some sites also contained links to grammar rules or even grammar resources for interactive exercises: multiple choice drills, reading comprehension practice, and listening exercises that were scored and corrected as the learner watches. English learners with an Internet connection anywhere in the world could visit at least three Web sites to get personal assistance with their academic writing. On-line labs were provided to fulfill requirements for peer tutoring or teaching ESL composition. For listening and speaking practice, radio network programs were available on-line for all over the world users. All of these sites were linked to sites from which learners could download the free software easily. With specific types of software, there were possibilities to employ technology effectively in the language classroom. A typical language program offered work in reading, writing, listening, speaking, grammar, and vocabulary. Healey (1999: 116-136) provided some examples of CALL softwares for language learning as follows:

1. Simulations

Students could use simulation to work on a number of these subskills. Students could work as a class or in a small group each take a role within the simulation. Students needed to skim the on-screen information to find facts relevant to their role. Because

the simulation had time limits, quick, accurate reading was essential. A simulation that used longer readings helped students work on scanning to decide whether a specific reading covered a topic they needed to know about. Students needed to recognize topic sentences and supporting details if part of their task was to justify, either orally or in writing.

2. Speed reading software

Students helped set their goals for speed reading based on what they felt they need to and could accomplish.

3. The World Wide Web

Teachers could give groups of students a list of Web sites related to a specific topic and the task of gathering information about the topic. Each person could easily scan the different site and report the main idea and a few significant details back to the group. For learners who were engaged in workplace-related or academic Web work, finding reliable information on the Internet was a real-life task. For listening tasks, the most authentic computer-aided tasks for listening came from the Internet. LiveChat with audio in which speakers and listeners were on-line simultaneously provided opportunity for learners to ask questions.

4. Hyper-media

In hypermedia text, linked to related topics could help learners see how reading material applied to a wider context. Questions that popped up in the midst of reading helped weak readers focus on ideas that were important to the progression of the text and model good reading behavior. Pop-up questions also reminded readers to think about similarities or differences in their own experience in order to personalize what they were reading.

5. Speech recognition

This was one of the newest enhancements in commercial software for language teaching. The technology could judge a student's oral response to a multiple-choice question or for pronunciation.

6. On-line writing

In terms of authentic tasks, the best approach to learning grammar might be on-line writing with e-mail.

7. Concordancing software

A concordancer allowed users to select the text file to search which let learners see how words were used in different ways in different styles of writing or speaking.

Computers were used to offer practice in specific skill areas via drills at some stages of language learning. Computers also made it easier for learners to interact

with language and with each other. However, tasks that required creative language use and had a connection to learners' real-world needs were essential.

Butler-Pascoe and Wiburg (2003) provided a framework for the development of successful technology-enhanced language learning environment as follows:

1. Provide interaction, communicative activities, and real audiences: Students worked in group projects engaging in tasks that required that they interact with materials, the computer, and each other.
2. Supply comprehensible input: English language learners needed to be exposed to a sufficient amount of language that was understandable to them. Technology capabilities could play a major role in expanding their language experiences.
3. Support development of cognitive abilities: Technology offered students new tools that encouraged cognitive development. Students used cognitive skills to research their topic, rewrote their information from essay to a ply format, designed layouts for their brochures and writing, peer edit, and published their final products.
4. Utilize task-based and problem-solving activities: TBI required students to share information and worked collaboratively to complete a project or solve a problem.
5. Provide sheltering techniques to support language and academic development: Teachers could use a variety of different sheltering strategies such as using an organized Web site to provide contextualization on certain topics, transformed the on-line text into a play in which each student took a role of a character.
6. Be student-centered and promote student autonomy: The technology-enhanced environment supported student autonomy and developmental growth through each stage of language development for example offering teacher ability to individualize grammar assignments based on errors made in each student's writing.
7. Facilitate focused development of English language skills: This process was greatly facilitated by computer functions that allowed students to compose, peer edit, and easily revise and edit their writing. Students could use selected

software to improve troublesome structures and practiced paragraph and essay construction.

8. Use multiple modalities to support various learning styles and strategies: With its multimedia capabilities, technology offered aural, visual, tactile, and kinesthetic learners a variety of computer-based activities that were well suited to their preferred styles.

9. Support collaborative learning: Through the Internet, students could establish ties to other students around the world or participate in ChatRooms or on-line discussions with experts on subjects of interest to them.

10. Meet affective needs of students: Computers were ideally suited to provide both a comfortable learning environment and sufficient levels of stimulation. Students needed a safe place where they were motivated to take risks, guess answers, and used their creativity.

11. Foster understanding and appreciation of the target and native cultures: Students had the opportunity to share their culture and to learn the culture of the language they were trying to acquire through e-mail.

12. Provide appropriate feedback and assessment: Electronic portfolios, computer-based work checklists, peer review sheets, cloze tests, learning logs, and multimedia projects were a few of the many ways computers could be utilized to give students feedback on their work and evaluate their progress.

5. The design of a Web-based course

In order to design a Web-based course, a practitioner should be concerned with the components of a courseware which would make a difference to learning. There are some key components of a Web-based course. They are as follows:

5.1 Factors affecting the design

Miller and Miller (Abbey ed., 2002: 163-66) proposed that designing Web-based instruction should be guided by the following factors: (a) theoretical orientation, (b) learning goals, (c) content, (d) learner characteristics, and (f) technological capabilities.

5.1.1 Factor one: theoretical orientation

There were some specific points from the learning theories that offered explicit guidance on how to develop the specific events in the learning environment or methods of instruction that facilitated learning. The instructional theories were as follows:

5.1.1.1 Directed instruction was grounded primarily in behaviorist learning theory. Behavioral approach was the predominant school of thought in the first half of the twentieth century. Since the behaviorist viewed human learning as observable behavior, the experimental analysis of behavior or competency-based approach dominated the field of educational technology during the 1950s and 1960s.

The developing guidelines were as follows:

- The instruction goals and objectives were stated.
- Instructional analysis (task analysis) was required to see whether the learners had the lower-level skill required to learn successfully.
- Tests and measures matched what was taught.
- Instructional strategies were carefully structured to provide appropriate conditions for the kind of learning involved.
- Evaluating and revising instruction to improve a better course.

5.1.1.2 Information processing theory reflected the 'mind as computer' metaphor and the study of humans as information processors. The focus was on descriptions of mental structures and processes that accounted for representations of knowledge. Reflecting objectivist assumptions, this approach reduced the mind to basic elements and delineated the mechanisms of knowledge acquisition. The task for designers of Web-based instruction was to integrate the theoretical assumptions and instructional implications of information processing theory and the unique features of the Web: hyper-linking structure, enhanced media, and synchronous and asynchronous communication capabilities.

From the perspective of instructional theories based on information processing theory, the correspondence between the associative, non-linear, hierarchical hyper-linking structure of the Web provided opportunities for learners to achieve the presentation of the instructional goals. The developing guidelines were as follows:

- Organize new information for presentation.
- Carefully link new information to existing knowledge.
- Use a variety of techniques to guide and support students' learning processes, including focusing questions, highlighting analogies, mnemonics, and imagery.

5.1.1.3 Constructivist theory was based on principles of learning derived from branches of cognitive science such as the work of Piaget, and Bruner. Some of these concepts included: learner construction of meaning, social interaction to help students learn, and student problem-solving in 'real-world' contexts. Learners constructed their own meaning based on their experiences. This was related to schema development as defined by Piaget that each individual had a unique mental structure which allowed the individual to make meaning from their experiences through social interaction which provided mediated interpretations of experiences upon communication among individuals (Vygotsky, 1978).

The comparison of the three theories was seen in the following chart.

	Behavioral perspective	**Information processing perspective**	**Constructivist perspective**
What is learnt?	A change in the probability of a behavior occurring.	A change in knowledge stored in memory.	A change in meaning constructed from experience.
What is the learning process?	Antecedent → behavior consequence	Attention → encoding → retrieval of information from memory	Repeated group dialogue and collaborative problem solving.
What is the teacher's primary role?	Arrange external → contingencies.	Arrange conditions to support memory processes.	Model and guide. • Provide opportunities to solve realistic and meaningful problems.
What can the teacher do to carry out the role?	• State objective • Guide student behavior with cues. • Arrange reinforcing consequences to immediately follow students' behavior. Respond to cues.	• Organize new information. • Link new information to existing knowledge. • Use a variety of attention, encoding, and retrieval aids.	• Provide group learning activities. • Model and guide the process of constructing knowledge within the context of mutual problem solving.
What is the student's primary responsibility?		Actively synthesize information.	Explore like a scientist.

Chart 3. Comparing the Three Theoretical Perspectives of Learning

The shift from behavioral to information processing to constructivist strategies involved an important shift in the extent to which the students directed their own learning. With behavioral strategies, responsibility lay almost entirely with the teacher. Students learnt by responding to cues the teacher built into the environment. In contrast, with constructivist strategies, teacher and students shared responsibility for directing learning. Students learnt by collaborating with one another and with the teacher to solve mutually determined problems. Information processing strategies occupied a middle ground. Teachers presented the cognitive supports that facilitated effective information processing or students developed them for their own use.

5.1.2 Factor two: learning goals

Theory and learning goals were closely related. In the objectivist paradigm, the goal of learning was knowledge acquisition. Much of the attention given to the analogous structures of the Web and human information processing centered on the 'added value' that Web-based instruction offered. This 'added value' was a learning environment that supported enhanced representation of expert knowledge and presentation of cognitively-based strategies that increased accurate knowledge acquisition. From the constructivist perspective, the goal of learning was construction of meaningful knowledge. The 'added value' was a structure that permitted expression of learners' comprehension.

These different views and different uses of the Web environment had resulted in different goals. Different goals required different instructional approaches. Therefore, learning environment included strategies for learning outcomes ranging from memorization to problem-solving.

5.1.3 Factor three: content

Theory and content were also closely related. Theory influenced how content was structured. Content structure influenced the choice of instructional strategies.

Theory influenced content in two ways: the orientation of the course design, and the theoretical perspective in which course design was grounded.

Instructional approaches grounded in information processing theory used the associative, non-linear structure of the Web to represent the content's associative and

non-linear structure. Thus, acquisition of content also involved presentation strategies.

Reigeluth's Elaboration Theory (1999) was associated with objectivist prescriptive strategies. Elaboration theory used a top-down approach; sequencing of the content was presented from simple to complex or from general to detailed, and learners were guided to new content by the previous content presented. External links provided access to subject matter resources. Depending upon course goals and learner abilities, designers could incorporate greater control of external hyperlinking opportunities, while at the same time maintaining control of sequencing at the macro-level.

In contrast, constructivism emphasized content in terms of learner's growing knowledge about the subject matter. Content was introduced in authentic contexts, such as case studies or as real-world problems. Learners sought resources to address the presenting instructional problem or case. They accessed content in a way that was meaningful to them; therefore, sequencing varied as learners built unique knowledge structures (McGuire, 1996). It was this high degree of learner control over sequencing that differentiated constructivist learning from instruction based on information processing theory.

5.1.4 Factor four: learner characteristics

Jonassen (1991: 83-92) mentioned two problems that limited the effective use of hypertext environments such as unrestricted learner control of sequencing and lack of learner ability to meaningful integrated unstructured information. The reason given was that many learners became 'lost in hyperspace'. A course developer needed to consider learner characteristics if they were to create effective instruction. Within learner characteristics, course developer should consider cognitive characteristics, motivation, knowledge, and social context. Cognitive characteristics included epistemic beliefs, cognitive styles, spatial ability, metacognitive skills, and learning styles. Brown (2000: 113) defined the term style as referring to consistent and rather enduring tendencies or preferences within individuals. Styles were those general characteristics of intellectual functioning that pertained to one as individual, and that differentiated one from someoneelse–these were the styles that characterized a general pattern in individual's thinking or feeling. There was ample

evidence to support the idea that learners benefited from instructional approaches that helped them reflect their own learning. The more awareness students had of their own learning styles and how they worked, the more they knew how to use those characteristics to access the necessary information and knowledge from a lesson.

Several types of learning styles mentioned in hypertext learning environment were reported to affect learning. For example Soo and Ngeow (1996) found that a multimedia English proficiency program benefited learners with all three perceptual learning styles- auditory, visual, and kinesthetic-equally. Differently, Cristi (1992) reported no significant differences between cooperative and individualized computer-based learning environments on the auditory and visual learning styles but the differences were found between student's age and the amount of time required to complete the task. Reid (1998) distinguished four perceptual learning modalities – 1) visual learning, 2) auditory learning, 3) kinesthetic learning, and 4) tactile learning. Reid distributed questionnaires to 1,388 Japanese students of varying language backgrounds to investigate their preferred modalities. The result showed a general preference for kinesthetic and tactile learning styles.

Another factor was motivation, particular important learner characteristic, because of its reciprocal effects on performance in hyperspace. Grabowski and Curtis (1991) adapted Keller's model of motivational design to identify four motivational factors that influenced learning in hypermedia environments. They were 1) interest or attention, 2) received relevant of information, 3) self-confidence, and 4) resulting satisfaction from successful access.

Several studies indicated that motivation both intrinsic and extrinsic caused impacts on how much effort students put into their learning. Lin (2003) administered a questionnaire-based survey to 46 first year junior college students in the first semester of 2001 at Wenzao Ursuline College of Languages in Taiwan. All of these students were majoring in Spanish and taking English listening and writing as one of their required language courses. The survey was related to the English listening and writing course. The results of the survey indicated that the majority of EFL learners had a positive attitude towards the use of multimedia resources in their language program. The classroom observation discussion showed that generally the students were interested in carrying out the tasks. Above all, CMC environment was

found to be useful in improving students' proficiency, and the students found small group discussions more interesting and stimulating.

Research on language learning presented a number of variables that had influences on the process of the learners' language learning which affected learning outcomes. Thus, the developer should first ensure that instruction is well designed and should ensure that learners understand the rationale of Web-based course, possess skills to use Web technologies, and comprehend the value of learning. Therefore, developers should assess learner's knowledge and skill levels with regard to study habits, computer literacy, and the Internet communication tools to identify what was needed to design a Web-based course.

5.1.5 Factor five: technological capabilities

Advances in Web technologies enhanced the capabilities of browsers, servers, and project management and communication tools. Web servers provided enhanced database connectivity, virtual reality environments that were shared, and distributed object services, that replaced Web browsers. In order to operate Web-based teaching efficiently, a competent technological infrastructure needed to be implemented to serve faculty and students both on-campus (such as the computer lab, library, or student center) and off-campus (such as from home or work). The user-friendly hardware and software systems which helped maintain the accuracy and reliability for the user. Users must own or have access to equipment necessary to use the Web, namely computers, communication modems, and communication software. The required computers must meet the minimum requirements to connect to an Internet service provider and have e-mail capability.

5.2 Web learning environments

In Web-based courses, learning took place in a variety of environments beyond the traditional classroom and the Web was used to replicate and expand the possibilities of each of those environments. Two critical dimensions, time and place allowed one to classify those teaching environments into four major types as can be seen in Chart 4 (Aggarwal and Bento, 2000:4).

		TIME	
		SAME	**ANY**
PLACE	SAME	Type I Traditional classrooms	Type II Lab modules
	ANY	Type III Distance learning Video, audio programs	Type IV Correspondence courses

Chart 4. Time and Place Dimensions of Teaching Environments

From this chart, it was concluded that type I represented the traditional face-to-face classroom. Students attended class at the same time, and place. Students worked individually or in group during class time or on their own time. Type II represented teaching environments where students came at different times to receive modularized instruction at the same place such as a lab. Type III represented distance learning programs where students from widely dispersed geographic areas were taught simultaneously through one-way or interactive audio and video technology. Type IV environments had traditionally been represented by correspondence courses, where students learnt on their own anywhere, anytime, and took exams as needed.

The Web was used to support all four types of teaching environments. When synchronous environments (type I & III) were enriched with live Internet connections and projection capabilities, the Web was used to support or simulate lectures, case discussions and classroom interactions in multiple ways by:

- serving as platform for simultaneously delivering presentations (text, audio and video) to students in a class (Type I) and/ or dispersed throughout the world (Type III),
- allowing synchronous virtual visits to sites dedicated to relevant topics or organizations,
- enabling real-time or almost synchronous discussions and impromptu dialogue through text-based technologies such as ChatRooms and

Webboards, or full video and audio interaction through software such as CU-Seeme and NetMeeting.

The same Web capabilities were used asynchronously to support and expand Types II and IV environments. When the Web was used in Type II environments, students gained access to an unprecedented wealth of multimedia information, tutorials, materials, and resources to perform lab assignments, do library research, or complete modules of instruction at their own place. They also gained the capability to interact asynchronously, outside of class, with their classmates, teams, and instructors through Chat, Webboard or interactive Web-based video technology.

In Type IV environments, the Web allowed students to benefit from the anytime/ anyplace flexibility of earlier correspondence courses associated with synchronous modes of instruction. This was where Web-based teaching achieved its maximum contribution in eliminating time and space barriers, while still achieving interaction. Students learnt from home, office, or wherever they were, by accessing Web-based lectures, tutorials, materials, and books, completing and submitting Web-based assignments, exercises, and interacting in Web-based forums and taking Web-based quizzes and exams.

There were several studies that compared the achievement of students in technologically mediated classroom with traditional classroom and found that technology could enhance learning achievement. Some of those studies were done by Thirunanarayanan and Perez-Prado (2002). They compared the achievement of students enrolling in two sections of a course on teaching English to speakers of other languages (ESOL), one taught in a classroom setting and the other offered online. Participants included 29 students enrolling in the online section and 31 students in the classroom section. Students in the online section of the course scored significantly lower than students in the classroom-based course on a pretest. A t-test of student achievement on a posttest showed no significant different in achievement among students enrolled in the two sections of the course. The findings suggested that students in the online section of the course achieved more than their classroom-based counterparts.

Berge, Collins, and Dougherty (2000:32-55) concluded that Web environment meant more than the use of document uploaded and electronically linked together. Course content should be designed specifically for use with an interactive, electronic

medium that was capable of accommodating different types of audiovisual information. It meant maintaining high standards of quality while promoting accessibility, motivation, and interactivity for students who were learning in this environment. The effects of multimedia on language learning in Rama's report indicated that the visual and interactive media increased motivation, class participation and speech production with a marked reduction in classroom stress. Rama (1998) did a multimedia-oriented pedagogic approach to language teaching. These contemporary online TELL resources were evaluated for their interactivity, collaborativeness and controllability. These resources included the videotape, CD-ROM, laserdisc (LD) and other software programs as textbook supplements for Russian language instruction including other independently produced resources. The conclusions of the study strengthened the argument for consistent multimedia inclusion in the curriculum since students reported greater comprehension and recalled enhancement on both linguistic and paralinguistic platforms. The visual and interactive media served to produce marked increasing in motivation, class participation and speech production with a marked reduction in classroom stress. Since learners were typed on the basis of learning styles, thereby allowing for the development of correct and incorrect approaches to instructional delivery really reflected and supported the way they learnt.

5.3 The instructional design models (ISD)

The Instructional Design (ISD) Models which the course designers frequently followed in order to create an instructional program were Dick & Carey Model, ADDIE Model, PIE Model, and a Web-based model for university instruction provided by Duchastel (1996 cited in Stephenson, 2001: 117).

5.3.1 Dick and Carey Model

This model described all the phases of an interactive process that started by identifying instructional goals and ended with summative evaluation. This model consisted of:

Stage 1: Instructional goals

- Desirable state of affairs by instruction

- Need analysis: analysis of a discrepancy between an instructional goal and the present state of affairs or a personal perception of needs.

Stage 2: Instructional analysis

- Purpose: to determine the skills involved in reaching a goal.
- Task analysis: by the product of which would be a list of steps and the skills used at each step in the procedure.
- Information-processing analysis: about the mental operations used by a person who has learned a complex skills.
- Learning tasks analysis: about the objectives of instruction that involve intellectual skills.

Stage 3 Entry behaviors and learner characteristics

- Purpose: to determine which of the required enabling skills the learners bring to the learning task.
- Intellectual skills
- Traits of personality

Stage 4 Performance objectives

- Purpose: to translate the needs and goals into specific and detailed objectives.
- Functions: determining whether the instruction related to its goals.

Stage 5 Criterion-reference test items

- To diagnose an individual possessions of the necessary prerequisites for learning new skills.
- To check the results of student learning during the process of a lesson.
- To provide document of students progress for parents or administrators.
- To evaluate the instructional system itself (formative/ summative evaluation).
- To determine the performance measures before development of lesson plan and instructional materials.

Stage 6 Instructional strategy

- Purpose: to outline how instructional activities will relate to the accomplishment of the objectives.
- The best lesson design: to demonstrate knowledge about the learners, tasks reflected in the objectives, and effectiveness of teaching strategies.

Stage 7 Instructional materials

- Purpose: to select printed or other media intended to convey events of instruction.
- Use of existing materials when it is possible.
- Need for development of new materials.
- Role of teacher: it depends on the choice of delivery system.

Stage 8 Formative evaluation

- Purpose: to provide data for revising and improving instructional materials.
- To revise the instruction so as to make it as effective as possible for larger number of students.
- One on one: one evaluator sitting with one leaner to interview.
- Small group
- Field trial

Stage 9 Summative evaluation

- Purpose: to study the effectiveness of system as a whole.
- Conducted after the system had passed through its formative stage.
- Small scale/ large scale
- Short period/ long period

5.3.2 ADDIE Model

ADDIE Instruction Design was one of the models which ease of use. It consisted of the following five steps:

• Analyze: Goals and objectives of the presentation and nature of the participants

- Design: Design concerned with subject matter analysis, lesson planning, and media selection. The choice of media was determined by contingencies of the participant's needs and available resources.
- Development: Development was a process of creation and testing of learning experiences and sought to answer questions.
- Implement: Implementation was the presentation of the learning experiences to the participants utilizing the appropriate media.
- Evaluate: Evaluation was of two levels. The first level was to gauge the success of the participant obtaining and retaining the demonstrated skills and understandings. The second level was to determine how successful the instructional design package was in facilitating participant learning.

5.3.3 The PIE Model

Newby and others (2000) proposed the PIE Model consisting of planning, implementing, and evaluating. The planning required that the instruction was developed and sequenced in a manner that the learner could effectively process. This plan helped to delineate learners' present knowledge and skills, and it also suggested ways to reduce the difference between the two. Implementation focused on putting the plan into action based on what situational constraints exist, using selected instructional materials and activities. The emphasis during evaluation is on the assessment of two things: the effectiveness of the materials, and the overall learning students achieved.

5.3.4 Web-based University Model

In order to give instructors the ability to offer students a more complete range of learning methodologies, Duchastel (1996 cited in Stephenson, 2001: 117) provided a web-based model for university instruction as follows:

- Specify goals to pursue.
- Accept diversity of outcomes.
- Request production of knowledge.
- Evaluate at the task level.
- Build learning teams.
- Encourage global communities.

This model recognized that Web technology enabled students to explore for knowledge and to be active participants in producing knowledge, rather than just regurgitating facts. It also recognized that by using different knowledge sources and cognitive skills, teams could produce different answers or outcomes. In an information-rich environment, Duchastel claimed that it was more appropriate to guide the students toward expected end-results and let them organize their learning on their own.

5.3.5 The General Instruction Model

Andrews and Goodson (1980 cited in Jonassen ed., 1988) compared forty instructional design models and found the general agreement on the major components of the instructional development process. They were the analysis phase, the development or synthesis phase, and evaluation phase. Accordingly, the design of the Web-based course for this study used the basic principles of the instructional design model in general that was analysis phase, development phase, and evaluation phase.

- The analysis phase was to analyze goals and objectives of the presentation and nature of the participants.
- The development phase was the presentation of the learning experiences to the participants utilizing the appropriate media in synchronous and asynchronous communication.
- The evaluation phase was to evaluate the effectiveness of the Web-based instruction.

5.4 Delivery technologies

To develop a Web-based course, one of the concerns was the technology to be used. Romiszowski (Khan ed., 1997: 30-35) proposed three main types of technology in WBI.

5.4.1 Electronic performance support system

An Electronic Performance Support System (EPSS) was an integrated system for training and reference materials which were electronically stored and distributed. It could stand alone such as CD-ROM disc or personal computer, or could be networked from the central server to users. The delivery medium could be a local area network of computers owned by the employing organization.

5.4.2 Multimedia, hyper-media, and the Web

Most hyper-text and hypermedia products had been 'stand-alone' systems in that although they offered the end-user the possibility of 'browsing', or 'navigating' a particular knowledge domain in a flexible, learner-directed manner, browsing was limited to the information documented in a particular CD-ROM or other media package. The World Wide Web was a hypertext system that allowed the contributors of information to create links between their contributions and any of the other documents or 'sites', and allowed the Internet users to navigate freely from one site to another by simply clicking on the highlighted indicators of existing links.

5.4.3 Computer mediated communication (CMC)

CMC was a much broader concept than 'computer conferencing'. It included any form of organized interaction between people, utilizing computers or computer networks as the medium of communication. There were other characteristics of CMC that were of value even if the educational process was not or should not be carried out at a distance. For example, the 'asynchronous' nature of interpersonal communication in a computer network, where individuals read messages and then responded in their own time, taking as long as they needed to think out their responses.

Appropriate software and services selected for Web-based teaching and learning in a given context reflected decisions about educational strategy, goal, task, activities, time, place and richness of interaction. It was selected within the following framework (Klobas and Renzi, 2000: 47):

Educational strategy	Characteristic of strategy	Characteristic of Web-based software for teaching and learning
Lecture or presentation	Teacher presents material to a class.	Readings or presentations prepared or converted to HTML format or Web pages as index of downloadable material (text, tables, presentations) or audio video material live or recorded and distributes via streaming technology.
Workshop or laboratory	Students complete sets of tasks designed to develop their skills; often live or recorded demonstrations presented or prepared by a teacher are included.	Activities prepared using WWW or other technology (including multimedia technologies), made available to students from a Web page.
Self-guided instruction	Students work individually (often in geographical isolation), to complete assigned readings and exercises.	Readings, references, and activities, prepared using WWW technology or distributed from a Web page.
Seminar or tutorial	Students, working in relatively small groups, discuss set topics, cases, or readings, with the teacher's guidance.	Discussion or conferencing software.
Consultation	Students (individually or in small groups) meet with the teacher to obtain answers or guidance on topics.	Electronic mail, chat, audio and video conferencing.
Collaborative learning	Students work together; the students learn through collaboration with one another rather than from material delivered by the teacher.	Discussion or conferencing software, e-mail, chat, audio /video conferencing, specific tools for community building and collaborative work.

Chart 5. Web-based Software for Teaching and Learning Strategies

5.5 Types of communication

The definition of communication in the age of telecommunications was 'communication between different parties separated in space and/or time, mediated by interconnected computers.' Various educational technologies allowed communication among students and teachers working at the same time (synchronously) or at different times (asynchronously) and in the same place or different place (on-campus or off-campus, in the same or a different geographical location, in the same or a different time zone or country). The richness of a communication medium referred to the extent to which the medium conveyed the intonation of voice and expression of physical gesture that accompanied face-to-face communication. Synchronous communication was communication between two or

more people in real time, such as classroom-based discussion, or telephone communication. In asynchronous communication, the participants were not both online at the same time.

Klobas and Renzi (2000: 48) showed communication tools in two families reflecting both the timing and the richness of communication supporting different types of task and offering different advantages for use in Web-based teaching and learning.

Family communication tools	**Timing of communication**	**Richness of communication**
E-mail	asynchronous	Low: text only, but some can be enriched to moderate with attachments and HTML enhancements including hot links.
Distribution lists	asynchronous	Low: text only, but some can be enriched with clickable links to Web sites (URLs) and other objects (documents, etc.)
Forum and conferencing	asynchronous	Low: text only, but some can be enriched to moderate with attachments and HTML enhancements including clickable links.
Chat	synchronous	Moderately low: text, but presence enhanced by synchronous timing
Desktop audio video	asynchronous, synchronous	Moderate to high, depending on extent to which hardware and network support vocal intonation and physical gesture; richness lower when used asynchronously because immediacy of response is lost.
Integrated tools	synchronous, and /or synchronous	Varies, according to tools included

Chart 6. Software and Services for Communication

These two types of communication provided different advantages and disadvantages. The tools for these two types of communication were as follows:

5.5.1 Synchronous communication

5.5.1.1 Communication tools

Turbee (1999: 346-387) suggested tools for synchronous communication and how to incorporate some of them into the language learning classroom as follows:

5.5.1.1.1 Web Chat

Chat was one of the easiest synchronous formats to use because it required only a Web browser and a uniform resource locator (URL, a Web address) to use it.

Chat systems were often structured in 'rooms' with public or private conferences, but some systems (i.e. ICQ) allowed direct point-to-point Chat between two or more participants. WebChat had some advantages for the language learner in that the participants could communicate during one fixed period of time.

Smith (2001) investigated task-based synchronous computer mediated communication (CMC) and its relationship to second language lexical acquisition among learners of English. The subjects were 24 non-native speakers of English from Michigan State University engaged in multiple communicative tasks in pairs using Chat Net, a browser-based Chat program. The results of the study showed that learners were found to negotiate for meaning when problems in understanding arose. The results from pre-and post-test indicated that there was a more direct link between negotiated interaction and second language acquisition. Post-treatment questionnaire and interview data suggested that learners found the experience in task-based CMC activities valid, useful, enjoyable and virtually stress-free.

5.5.1.1.2 Audio exchange

Real-time, voice-to-voice conversation (i.e. with the software CU-SeeMe) took place through the Internet. Students would prepare for synchronous voice exchanges as they would for any oral presentation. Practice with social exchanges, such as turn-taking strategies and polite requests and interruptions, made the experience more harmonious. Sound and image packets (files) could also be sent as e-mail attachments. Students could create their own sound files in response to those they received.

5.5.1.1.3 LAN and intranet conferencing

Conferencing was semi-synchronous or asynchronous, depending on the time elapsed between messages and reply. The interval was controlled by the user, not the medium. Messages were posted in chronological order of arrival with no overlap; they could be read sequentially. Conferencing gave both instructor and students more crucial advantages over the ChatRooms. Firstly, the user had time to think and edit before hitting the 'send' button. Secondly, conference discussions could easily be integrated with classroom materials; the postings were permanently stored for rereading or printing by participants and teachers. Teachers could create corrective or grammatical exercises based on student production.

5.5.2 The advantages and disadvantages of synchronous communication

The characteristics of synchronous communication could facilitate successful networking projects in that students could work collaboratively in pairs or in groups. This advantage provided opportunity for students to discuss with their peers or teachers including getting immediate responses as seen in the review. Technology such as Chat was for electronic socialization to permit students to interact with other students to do other projects, or to allow students to interact online with an expert.

This same factor could also generate communication disadvantages. The communication made at the same time might cause difficulty in accessing the networks. Another disadvantage was that real-time communication did not provide much time for students to prepare and correct their mistakes therefore students were not able to think out a more structured, more complex response. Moreover, it was not convenient for students to attend class at the fixed time regularly.

5.5.3 Asynchronous communication

5.5.3.1 Communication tools

Asynchronous (time-delayed) exchanges were a great way to share information and socialize with native speakers or other ESOL students. Tools for asynchronous communication were as follows:

5.5.3.1.1 Electronic mail

Electronic mail was the most used asynchronous communication medium. Once students had visited and lurked on a list, they could begin to participate in threaded discussions and debates by reading messages and posting replies to newsgroups, discussion forums, bulletin boards, and Web-based conferencing.

Teachers and peer group were important factors in designing CMC e-mail writing in language classroom. Kern (1996) investigated content-based e-mail exchange with peers, and cited examples of existing e-mail projects. The particular focus was an ongoing project designed to promote the learning of language, history, and culture through written dialogue between students in an elementary French class at the University of California at Berkeley and students in a history class at the Lycee Frederic Mistral in Fresnes, France. The finding indicated the primary importance of the teacher in organizing coherent and meaningful e-mail projects, to stimulate student motivation, and to avoid superficial exchanges. This study was consistent with Li

(1998). Li investigated the efficacy of using e-mail in the form of a class mailing list to help ESL students practice and develop academic writing skills beyond the spatial and time limits of a writing classroom. The subjects were 22 ESL students in a freshman composition course. In an ex-post facto design, this study involved within-subject repeated measures of data collected from different e-mail writing tasks over the course of a semester. The results indicated that students displayed more sophisticated language when the students were given more freedom and control of the learning activities. Furthermore, the results suggested that motivation, attitude, and anxiety had some significant contributions to the variation in ESL students' writing performance while they composed in an electronic mode.

5.5.3.1.2 Usenet or Bulletin Boards (Webboard)

The Usenet was a kind of universal bulletin board. It provided students opportunities for asynchronous writing exchanges such as questions to and answers from on-line advice columns, and opportunities to write with other authors by using creative writing resource.

5.5.3.1.3 In-house Intranets

In-house intranets provided opportunities for two-way communications. Since e-mail and Webboards are major communication tools in asynchronous Web-based learning, they were used to enhance network communication. Kelm (1996) did a study comparing corollaries between theories regarding second language acquisition and characteristics of electronic network communications. Results from this comparison indicated that electronic network communications followed many of the principles expressed in language acquisition theories, especially in the ability to present a natural language environment with concrete referents, promote communication among peers, provide expansive feedback, allow correction to be independent from communication, treat network communication as experiential learning activities and allow socialization and communication to take precedence over form. On balance, the implementation of electronic networks had the potential to assist language instructors in reaching their goal of bringing individuals together so that they might communicate across linguistic boundaries.

A study on interaction and negotiation of meaning was reported in Hamzah's study. Hamzah (n.d.) examined the application of CMC in English for Civil

Engineering learning setting to observe and describe the interaction opportunities created in the CMC environment, the features of interaction and how these led to L2 acquisition. The CMC tasks were e-mail communication and Web-based bulletin board discussion forum. The on-line data from these tasks were examined and analyzed for evidence of modified input, of negotiation of meaning, of other feedback and production of modified output-all factors considered to be conductive to interlanguage development and facilitative for SLA. It was concluded that the use of CMC could effectively facilitate the language learning process if the design of pedagogical activities in the CMC environment was guided by relevant theoretical rationale that would provide the pedagogical framework for the effective use of CMC to enhance L2 acquisition.

5.5.4 The advantages and disadvantages of asynchronous communication

Asynchronous communication was reported from research to be able to provide the following advantages. First, the participants had time to prepare material and deliver it after rehearsal and correction, and in some cases, withdraw it before others had read it. Second, students could choose when to respond to another participant's comment. This offered the benefit of allowing one to think out a more structured, more complex response, and the benefit of being able to participate at times that were personally convenient. Third, asynchronous communication did not require an in class presence, students could learn at their convenience. Moreover, electronic mail also provided an opportunity for students to work with cooperative groups, and they could learn how individuals worked together to accomplish tasks. Likewise, through the use of technology, those cooperative groups could include individuals who lived at great distances away from each other. This allowed students to learn to appreciate a wider variety of views of the world around them.

In contrast, the disadvantages of asynchronous communication were caused by the 'multi-speed' in presenting the contents or topics when they were presented simultaneously. Students were not able to follow the speed and this might cause a decrease in motivation. Moreover, asynchronous communication lacked immediate feedback. Since students had to learn independently, self- discipline was absolutely essential.

To sum up, both types of communication (synchronous and asynchronous) had both advantages and disadvantages. Selecting types of communication should be done carefully to ensure the most effective learning.

The course design frames in this study were shown in the following figure:

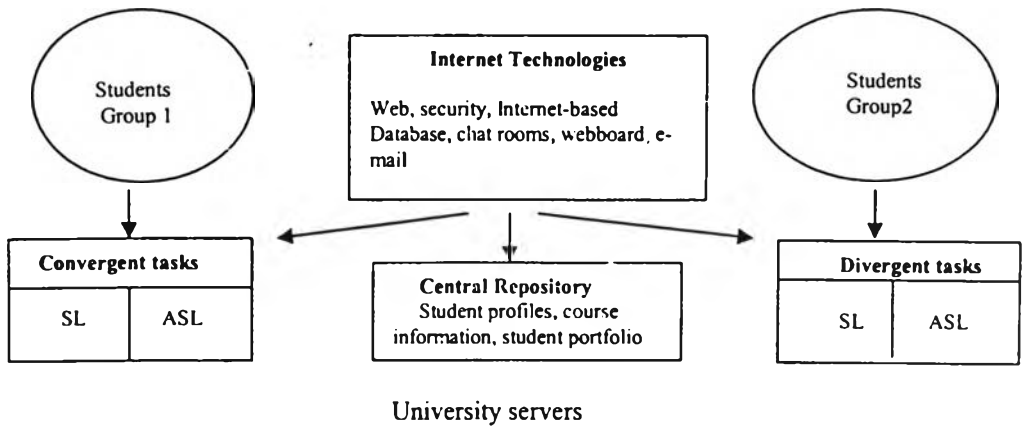

Figure 5. The Course Design Frames

Language Testing

The first part of this review provided the purposes of language testing. Next were types of language tests following with the framework for developing a language learning achievement test.

1. Purposes of Language Testing

Bachman (1990: 2) talked about language testing that it never took place in isolation. It was done for a particular purpose and in a specific context. He agreed with Carroll (1968) who provided the definition of a test as a procedure designed to elicit certain behavior from which one could make inferences about certain characteristics of an individual. He also added that a test was a measurement instrument designed to elicit a specific sample of an individual's behavior. In language learning, language tests could provide the means for more carefully focusing on the specific language abilities that were of interest.

Cohen (1994: 23-25) divided the purposes of the assessment into three categories: 1) administrative i.e. placement, exemption, certification and promotion, 2) instructional i.e. diagnosis, evidence of progress, feedback to the respondent, evaluation of teaching or curriculum, and 3) research i.e. evaluation, experimentation,

and knowledge about language learning, and language use. According to Cohen the average assessment was not used for more than several purposes, and the major split was between proficiency tests for administrative purposes and achievement tests for instructional results.

2. Types of Language Tests

Brown (1996: 1-10) categorized types and uses of language tests into two categories: norm-referenced and criterion-referenced tests. These two types of language tests served different purposes. Norm-referenced (NRT) was used for proficiency and placement whereas criterion-referenced (CRT) was used for diagnostic and achievement. NRT was used to spread students out along a continuum of scores so that those with 'low' abilities in a general area such as reading comprehension were at one end of the normal distribution, while, those with 'high' abilities were at the other end. In contrast, CRT was usually produced to measure well-defined and fairly specific objectives. Often these objectives were specific to a particular course, program, school district, or state. The primary focus in interpreting CRT was on how much of the materials each student had learned in absolute terms. CRTs usually consisted of numerous, shorter subtests. Each subtest would typically represent a different instructional objective, and each objective would have its own subtest. Because the subtests were often numerous, they must remain short for practical reasons (3-10 questions).

The differences between NRT and CRT tests were seen in the following chart (Brown, 2000: 3).

Characteristic	Norm-referenced	Criterion-Referenced
Type of Interpretation	Relative (A student's performance Is compared to that of all other Students in percentile terms).	Absolute (A student's performance is compared only to the amount, or percentage, of material learned).
Type of Measurement	To measure general language Abilities or proficiencies	To measure specific objectives-based language points
Purpose of Testing	Spread students out along a continuum of general abilities or proficiencies.	Assess the amount of material known, or learned, by each student.
Distribution of Scores	Normal distribution of scores around a mean.	Varies, usually non-normal (students who know all of the material should all score 100 %).
Test Structure	A few relatively long sub-tests with a variety of question contents.	A series of short, well-defined subtexts with similar question contents.
Knowledge of Questions	Students have little or no idea what content to expect in questions.	Students know exactly what content to expect in test questions.

Chart 7. Differences between Norm-Referenced and Criterion-Referenced Tests

As seen in Chart 7, norm-referenced and criterion-referenced tests contrasted in: a) the ways that scores were interpreted, b) the kinds of things that they were used to measure, c) the purposes for testing, d) the ways that scores were distributed, e) the structures of the tests, and f) the students' knowledge of test question content.

The key understanding differences between NRT and CRT score interpretations were in terms of 'percentage' and 'percentile'. On CRTs, teachers were primarily concerned with how much of the material the students knew; the focus was on the 'percentage' of material known. The percentages were interpreted directly without reference to the other students' positions. Hence, a high percentage score meant that the test was easy for the students. Similarly, a low percentage score meant that the test was difficult for the students.

On a NRT, the concern was different. Teachers focused on how each student's performance related to the performances of all other students. Thus, in one way or

another, they were interested in the student's percentile score, which told the proportion of students who scored above and below the student in question.

In short, CRTs looked at the amount of material known by the students in percentage terms, while NRTs examined the relationship of a given student's performance to that of all other students in percentile terms.

3. Developing a Language Achievement Test

The course used for this study was an ESP course; therefore, it was unavoidable to mention testing language for specific purposes as the constructional framework for the language achievement test. ESP or LSP was technical language – that were used in any academic, professional or vocational field, including cooking, law, physics, chemistry, air traffic control, or language teaching. It had specific characteristics that people who worked in the field must control. There were lexical, semantic, syntactic, and even phonological characteristics of language peculiar to any field, and these characteristics allowed people in that field to speak and write more precisely about aspects of the field that outsiders sometimes find impenetrable. According to Douglas (2000: 7-15), the reasons for testing language for specific purposes (LSP) were: first, language performances varied with both context and test tasks; therefore, the interpretation of a test taker's language ability must vary from performance to performance. The test task must be authentic to represent a specific purpose field in any measurable way. LSP testing required the use of field specific content in tasks which might be carried out in those filed. Thus, an important reason for using specific purpose measures was to interpret a person's test performance as evidence of language ability in a specific language use situation. Second, LSP tests used technical language in academic, professional or vocational field. It was this precision that was a major focus of specific purpose language use and was a major factor arguing in favor of specific purpose language tests. Since testing language for specific purposes was based on the same theoretical construct of contextualized communicative language ability as communicative test, LSP test was only a special case of the communicative testing.

This part presented how a language test was developed under the concepts of testing leaning achievement and testing ESP.

3.1 Learning achievement test

The meanings of 'achievement test' as given by Hughes (1989: 10) referred to the tests that there were two kinds: final achievement tests and progress achievement tests. Final achievement test were those administered at the end of a course of study. Clearly, the content of these tests must be related to the courses with which they were concerned. Hughes stated that there were some advantages since the performance on the test showed how far students had achieved those objectives.

Brindley (1991: 153-66) provided three definitions of 'achievement' as follows:

1. Achievement in the first definition referred to overall language gained over a period of instruction. This type of achievement was often assessed summatively in the context of program evaluation when educational institutions or teachers wished to establish how much of the language or of a particular skill had been learned as a result of the program. However, the focus was not on the attainment of specific course objectives but rather on general proficiency using standardized means such as proficiency test batteries or oral interviews in which learners' performance was rated using proficiency rating scales. Results of the tests might be given in the form of ratings which could be referenced against bands or levels of performance or of test scores and used by a variety of audiences in order to obtain an overview of learners 'overall gains' during the course. Such information might serve a range of purposes, including certification, selection for entry to or progression within educational institutions and for reporting on program results for accountability purposes.

2. Achievement in the second definition referred to the achievement of particular communicative objectives as part of a given course or unit of instruction. The focus was on 'functional' proficiency. This type of achievement was assessed continuously, usually at the end of an activity or unit of instruction but could also be assessed summatively through aggregation of information on attainment which had been collected throughout the course. Assessment at this level carried out using semi-formal means such as criterion-referenced tests, self-assessment profiles, progressive cards and objectives grids. The criteria which formed the basis of the assessment related to the ability to perform specific communicative tasks and were consequently very explicit. The information from these assessments was used to

indicate the extent to which the learners had mastered the communicative objectives of the course. At the same time, it provided the learners themselves an indication of their strengths and weaknesses and helped them to determine their future learning objectives.

3. Achievement in the third definition referred to the achievement of particular objectives relating to the knowledge and enabling skills which were part of a particular course of instruction. This type of achievement was assessed continuously by the teacher as the need arose in the classroom. The criteria which formed the basis for assessment were derived from the subskills and knowledge which were taught during the course and consequently did not relate directly to communicative performance. Assessment of achievement at this level was carried out primarily for reasons related to the curriculum: for monitoring progress, diagnosing difficulties and building learner's confidence.

According to Brindley, teachers tended to be concerned with the third level achievement since it was an integrai part of the day-to-day teaching/learning process which was the principal focus of their attention.

Brown (1996: 14) defined that an achievement test must be designed with very specific reference to a particular course. This meant that an achievement test was directly based on course objectives and was therefore criterion-referenced. Such test was typically administered at the end of a course to determine how effectively students had mastered the instructional objectives.

In conclusion, the achievement test in this study followed the definition of Brindley (the second level achievement) and Brown's. An achievement test meant a criterion-referenced test which was based on course objectives to perform specific communicative language tasks.

3.2 English for specific purposes test

According to Bachman (1990), all language tests must be based on a clear definition of language abilities, whether to derive from a language teaching syllabus or a general theory of language ability, and must utilize some procedures for eliciting language performance. That was, one needed a framework to use the same characteristics to describe the critical features of both language test performance, and non-test language use. Most current frameworks in designing language test were

based on the concept of language as communication, and recognized the importance of the context, both discourse and sociolinguistic, in which language was used. For a communicative language ability test, (Bachman, 1990: 81) the description given by Canale & Swain (1980), Savignon (1983), and Canale (1983) was that it was the ability to use language communicatively involving both knowledge of competence in the language, and the capacity for implementing, or using this competence. Bachman (1990: 84-5) proposed a theoretical framework of communicative language ability (CLA) as consisting of both knowledge, or competence, and the capacity for implementing, or executing that competence in appropriate, contextualized communicative language use. Bachman quoted Munby (1978, cited in Bachman: 84) to include linguistic encoding, socio-cultural orientation, socio-semantic basis of linguistic knowledge, and discourse level of operation in the framework for specifying an individual's communicative competence. The following figure was taken from Bachman (1990: 85) to present the components of communicative language ability in communicative language use.

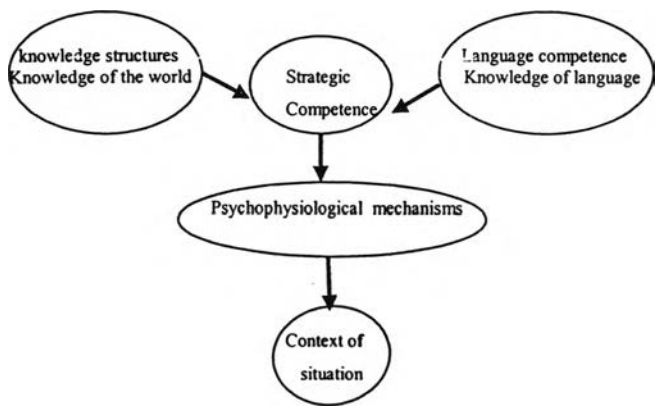

Figure 6. Components of Communicative Language Ability in Communicative Language Use

The descriptions of language competence presented by Bachman consisted of morphology, syntax, vocabulary, cohesion, and organization under one component, organizational competence and pragmatic competence. Pragmatic competence included abilities relating to the functions that were performed through language use. Whereas, organizational competence comprised the abilities involved in controlling

the formal structure of language for producing or recognizing grammatical correct sentences, comprehending their propositional content, and ordering them to form texts. The following diagram showed the interaction between the various competencies and the language use context that characterized communicative language test.

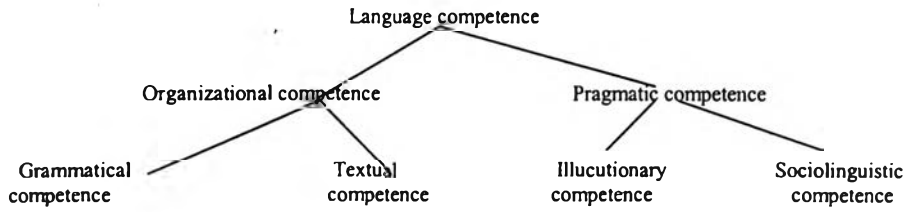

Diagram 2. Components of Language Competence

Grammatical competence included the competencies involved in language usage following Widdowson's description (1978). These competencies consisted of a number of relatively independent competencies such as the knowledge of vocabulary, morphology, syntax, and phonology/graphology. Textual competence involved conversational language use: Grice's maxims, Hatch and Long's conversational rules, Coulmas' conversational routines, Richards and Sukwiwat's conversational competence.

Pragmatic competence concerned the relationships between utterances and the acts or functions that speakers (writers) intended to perform. The characteristics of the context of language use were determined by the appropriateness of utterances.

Sociolinguistic competence controlled the conventions of language use that were determined by the features of the specific language use context; it enabled us to perform language functions in ways that were appropriate to that context.

Douglas (2000: 19-23) defined that an ESP test was one in which test content and methods were derived from an analysis of a specific purpose target language use situation, so that test tasks and content were authentically representative of tasks in the target situation, allowing for an interaction between the test taker's language ability and specific purpose content knowledge, on the one hand, and the test tasks on the other. Such a test allowed us to make inferences about a test taker's capacity to use language in the specific purpose domain. Douglas concluded that LSP testing, like other testing, had purposes but the notion of purpose was typically more

narrowly focused than in more general language testing. In specific language testing, the target language use situation was described in terms of characteristics of context and task which would be realized in the test so as to engage the test taker in test tasks, performance could be interpreted as evidence of language ability with reference to target situation. Finally, he also defined that LSP tests encompassed all the concepts of communicative language testing in that it employed all the keys terms of communicative language test: communicative language ability, specific contexts of use, and test constraints. Therefore, LSP test was a special case of communicative language testing.

Since all tests were developed for some purposes, testing language for specific purposes was developed both for academic purposes and for occupational or professional purposes (Douglas, 2000). The distinctive differences from more general purpose language testing were: authenticity of task and the interaction between language knowledge and specific purpose content knowledge. Testing language for specific purposes (LSP) referred to the branch of language testing in which the test content and test methods were derived from an analysis of a specific language use situation, such as Spanish for Business, Japanese for Tour Guides, Italian for Language Teacher, or English for Air Traffic Control (Douglas, 2000: 1). Therefore, LSP test tasks were developed on the basis of an analysis of characteristics of context and tasks in target language use situations which made references about language ability in the specific domain. The interaction between ability and task characteristics led to authenticity, which was the extent to which the test engaged the test takers in task characteristics of the target language use situations. Another important concept of specific purpose language testing was that it was a criterion-referenced test. Performance on the task was interpretable as evidence of the communicative language ability.

4. Language Test Construction

This part of the review provided the constructional frameworks for a language test by combining the features of communicative tests and LSP test together.

The aforementioned abilities were used as a framework for characterizing the construct the 'what' of a language testing.

5. Test Specifications

According to Bachman (1990), Bachman & Palmer (1996), and Alderson and others (1995), a test developer needed to develop test's specifications in developing test validity. The specifications for a test were classified according to the following dimensions.

5.1 The purpose (s) of the test: These included explicit decisions to make references about language ability or capacity for language use. This section outlined any constraints on the test situations, such as limitations on equipment, personnel, time, etc., and any special considerations such as the speed with which results were reported.

5.2 Description of the target language use (TLU) situation and list the TLU tasks: This part involved a description of the place (s), the target communicative events took place in, the materials and equipment, the time and physical conditions, the participants, and the types of communicative tasks being carried out. This information was based on the characteristics of the rubric, input, expected response, relationship between input and response, and assessment. As Bachman and Palmer (1996: 106) pointed out that 'not all tasks were appropriate for using as a basis for development of test tasks' because they might not meet all the criteria for good testing practice. Specifically, Bachman and Palmer considered authenticity and interactiveness separately from qualities of usefulness, while Douglas (2000:16-23) proposed a single quality of authenticity with two aspects, situational and interactional authenticity. He explained that in LSP testing there was no authenticity without both the TLU situational features and the interaction of the language user's knowledge with the LSP tasks.

5.3 Description of the characteristics of the language users/test takers: The framework made explicit the nature of the population for which the test was designed. Specify sort of learners who took the test –age, sex, - level of proficiency/ stage of learning, first language, cultural background, country of origin, level and nature of education, reason for taking the test, likely personal, and, if applicable, professional interests, likely levels of background (world) knowledge.

5.4 Definition of the construct to be measured: This section made explicit the nature of ability to measure, including grammatical, textual, functional, and

sociolinguistic knowledge, strategic competence, and background knowledge. This section provided a description of the precise aspects of specific purpose language ability in the TLU situation.

5.5 Description of the content of the test: Specify the types of test tasks included, based on the target language use situation and the construct definition. Features covered include the following:

- Number of sections/ papers in the test, how long and how they were differentiated.
- Target language situations.
- Text types which were chosen–written or spoken: The complexity of the language used in the test.
- Language skills that were tested.
- Language elements to be specified: notions and functions, speech acts or pragmatic features.
- Sort of tasks that were required–discrete point, integrative, simulated or authentic.
- Number of items for each section: This should concern the weight for each item.
- Test methods that were used whether they were multiple choice, gap filling, matching, transformation, short answer question, picture description, role play with cue cards, essay or structured writing.
- The rubrics that were used as instructions for candidates.
- The criteria that were used for assessment by markers.

5.6 Description of criteria for correctness: This provided a description of how responses were judged correct, or how they were assigned to levels on a rating scale, and how total scores were calculated. A decision made whether a single holistic score was given, or whether task scores was given and averaged.

5.7 Providing samples of tasks/ items that specs were intended to generate.

5.8 Plan development for evaluating the qualities of good testing practice: The concern of test's usefulness was in terms of six test qualities: reliability, validity, authenticity, interactiveness, impact, and practicality. In classroom test, the test tasks that provided higher degrees of usefulness were of authenticity, interactiveness, and impact.

Some features of LSP test were used to assess performance for example in speaking and writing skills. The framework proposed to be used for LSP testing was able to assess direct performance either actual communicative behavior or employ simulations of real-world tasks. For example assessing the ability of a trainee pilot to understand and respond to messages from the control tower when landing an aircraft. How to measure task performance was proposed in several models. In general, there was some consensus that measures were required in the three areas of complexity, accuracy, and fluency. Skehan (1998: 98-120) proposed the following set of task characteristics which affected the nature of performance.

- Familiarity of information: Tasks varied as to whether they required information that was similar to the participants because it was part of their personal experience, compared to tasks which required the assimilation of material presented by the experimenter.
- Dialogic vs monologic: Some tasks required interaction, and a discourse style that led participants to alternate in who held the floor.
- Degree of structure: Some tasks contained a clear macrostructure, with the time sequence underlying the task fairly identifiable. Other tasks did not have this clear over-arching structure.
- Complex outcomes: Some tasks required only straightforward outcomes, in which a simple decision had to be made.
- Transformation: Some tasks did not require participants to operate upon the information presented or retrieved, but simply to reproduce it.

The performance-referenced test characteristics were seen in the following chart.

	Direct (holistic)	**Indirect (analytic)**
Performance-referenced	Specific purpose tests: - tests based on observing real-world tasks - simulations of real-world tasks	Tests that seek to measure specific aspects of communicative proficiency discretely: - tests of specific academic sub-skills e.g. ability to cite from a published work. - tests of the ability to perform specific functions or strategies e.g. the ability to write a definition of a technical term.

Chart 8. Types of Performance-Referenced Assessment

The role playing/ simulation method was one aspect in interaction. It promoted effective interpersonal relations and social transactions among participants. The terms 'simulation', role-play', and 'role-playing game' were used interchangeably. Egberg (1999: 261-63) stated that role play could be used in two aspects namely to prepare students to deal with issues before doing a task and to demonstrate an understanding of the basic concepts of a completed task.

Scarcella and Crookall (1990: 47-54) stated that simulation facilitated second language acquisition in three aspects: 1) learners acquired language when they were exposed to large quantities of comprehensible input, 2) they were actively involved, and 3) they had positive affect (desires, feelings and attitudes). Comprehensible input was provided in simulations because students engaged in genuine communication in playing their roles. Students had the opportunity to try out new behaviors in a safe environment, which helped them develop long term motivation to master an additional language.

Tompkins (1998) examined role playing/simulation technique in a language classroom using Ladousse's format consisting of 11 factors in the role plays. A six-step procedure of Richards (1985) was used including preliminary activity, a model dialogue, learning to perform the role play with the help of role cards, listening to recordings of native speakers performing the role play with role cards, follow-up, and repeating the sequence. The conclusion of this study suggested that role playing/ simulation should be integrated with other language learning activities, given the preparation and care which was required in any language learning methods, and adapted to student needs and level. According to Skehan (1998), a simulation/ role-playing method met four criteria for task-based instruction: meaning was primary, there was a goal which needed to be worked towards, the activity was outcome-evaluated; there was a real-world relationship.

From literature review, it can be summarized relating to the hypotheses set for this study as follows:

The four basic elemental forms of learning emerged individual unique possibility-processing structures or styles of learning. As a result of our hereditary equipment, our particular past life experience, and the demands of our present environment, most people develop learning styles that emphasized some learning abilities over others. Through socialization experiences in family, school, and work,

one came to resolve the conflicts between being active and reflective and between being immediate and analytical in characteristic ways. Thus, individual developed one of the four basic forms of knowing: divergence, convergence, assimilation, and accommodation. Relating to TBI, convergent and divergent tasks were types of tasks that emphasized different knowledge development; therefore, performing these tasks by students of which their cognitive styles nurtured the task types might affect their leaning achievement. Thus, the learning achievement of learners who performed this type of tasks might be better than those performing convergent tasks. This led to the first hypothesis of this study.

The advantages of technology are that they can provide students with language experience as they move through the various stages of language acquisition. Beginning with the use of multi-media to provide comprehensible input in the preproduction stage, students proceed to programs that require limited responses, and in the more advanced stages, use their second language as they manipulate technology to solve a problem, complete a task, or communicate with real audiences around the world. It is technology-based experiences that students develop communicative competence by using English both productively and receptively in unrehearsed contexts. In WBI environments, time and place is a critical dimension which may have effect on language learning. Two types of Web environments: synchronous and asynchronous learning have both advantages and disadvantages. Thus, learning in these environments might affect learner learning. Asynchronous learning was the Web learning environment that believed to provide the maximum distribution to learning. Therefore, it might lead to better learning achievement. This led to the second hypothesis of this study. Furthermore, prior research reported that WBI had effect on learning in TBI. This led to the third hypothesis of this study.

The four-skill language achievement test in this study was constructed to test the communicative ability and language performance of English for specific purposes following Bachman (1990), Bachman & Palmer (1996), Alderson and others (1995), and Douglas' frameworks (2000). A performance measure was used to assess productive skills (speaking) to make the assessment more valid. Scoring was rated from the recorded voiced using criteria in communicative language dimensions. Holistic scoring was used as criteria for rating scales both in speaking and writing sub-tests.