



CHAPTER III METHODOLOGY

This chapter describes the research methodology of the study. The description begins with the design of HybridNTELL model. Then, research design to evaluate the model, population and sample, and stages of research is described. This section includes a pilot study which is briefly described with results and suggestions for improving the main study. Then, the research instruments, methods of data collection and analyses are concurrently presented.

3.1 The design of HybridNTELL model

The process of HybridNTELL model design includes four important stages. First, an analysis of the context of English as a foreign language education where the model was implemented offers a preliminary understanding of the model design. Second, the theoretical framework is addressed to create the scope of the model design. Third, the components of the model are presented. Finally, the procedure of the HybridNTELL model implementation is described.

3.1.1 Context of HybridNTELL model

Before I discuss the research design and development of HybridNTELL in detail, it is important to give readers an analysis of the specific context of situation where an implementation of the HybridNTELL model can lead to good benefits for the learners. The context is composed of the social conditions of English language use in Thailand, the curriculum implemented in an institution, and the learner population.

3.1.1.1 The social conditions of English language use in Thailand

In Thailand, English is considered a foreign language and learned as a subject matter mostly for high stakes examinations. Like many other EFL contexts (i.e. Japan, Hong Kong, China, etc), the way Thai university students learn English has been overshadowed by the washback effect of public university entrance examinations. Most high school students are prepared for the exam with a large dosage of examination practice, model answers, examination tips, and so forth. They still carry with them the exam-oriented learning culture, which is the major sensitive issue in language instructional design.

The other issue is that the native language is valued and unquestioned. Public standards for English proficiency are quite tolerant and interaction in English is very

limited and not necessary for daily functions. Consequently, there is a wide range of EFL learner motivation as well as proficiency level (see *Learner* topic: 97).

In addition, expansion of opportunities to pursue higher education produces a fast rate of increasing enrollment to universities and colleges. Most English classes in institutions are large and relatively difficult for all integrated communicative skills practice. Thus, lecturing method with addition of drill-and-practice is still widely used leaving very limited opportunities for language use as “a social exchange of meanings” (Halliday & Hasan, 1985: 11), in other words, in meaningful and authentic communications.

All of the above limitations put a great challenge to EFL teachers especially in higher education. Teachers are expected to attain the goal of turning out students who will be “independent lifelong learners, creative thinkers and problem solvers” and who in the near future will increasingly rely on electronic resources to keep abreast of advances in knowledge, teachers are encouraged to use information technology (IT) in their lessons. This requires the main contribution of English language course to achieve the goal because English has become an international language widely used in almost every domain of global communication including electronic ones.

3.1.1.2 The curriculum implemented in the institution

To serve a growing demand of the EFL students to develop a working knowledge of English to participate in the global communication Chulalongkorn University where the project is implemented has recently launched Experiential English I and II. These two new courses remain compulsory for all first year undergraduate students in all disciplines excluding those with an English major.

Due to an increase in enrollment and the limited number of English teachers, classes are filled with up to 45-60 students. The crisis of large class has been turned to benefit with the instructional model, designed through the perspective of Vygotsky-inspired social constructivist theory. Learning language through meaning making and collaborating with other is the focal point.

The learning environment and tasks are designed to create social interaction in English. All classes are equipped with 20 multimedia networked computers for students and one computer linked to an LCD projector at the teacher’s desk. Five to six students work in groups. Each group is provided with two computers to work on tasks or projects. The infrastructure design and readiness was observed in accordance with Khan’s (2005) E-learning checklist.

Despite a supportive technology-rich environment, limited time in class and a lack of instructional design for this particular integrated learning environment does not allow teachers to monitor class interaction and provide sufficient feedback. Consequently, the goal cannot be fully achieved given that the students submit the end products out of insufficient process monitoring.

There is an urgent need of a learning model that serves for a more effective learning outcome within this technology-integrated learning environment. An analysis of learners' language ability and computer literacy is conducted to inform the model design.

3.1.1.3 The learners

a) Language ability. The population of approximately 5,000 comprises of the students register for the courses each year. In academic year 2006, half of the population remained in the foundation English course and the other half amounting to 2,646 registered for Experiential English course. The students' English proficiency was measured before the beginning of the Experiential English I using Chulalongkorn University Test of English Proficiency (CU-TEP), a standardized test developed by the University. The scores on CU-TEP are concurrent with the range of scores on the paper-based Test of English as a Foreign Language (TOEFL). According to the score report, the students' score range is between 350-643 with a mean of 454.03 and a standard deviation of 42.94 (see Table 3.1). Based on the descriptive scale of Common European Framework Reference (CEFR), the students' proficiency range from A1 described as basic or breakthrough stage to C2 described as very advanced or mastery stage.

Table 3.1
Descriptive statistics on population's English proficiency

	Range	Minimum	Maximum	Mean	Std. Deviation
N = 2646	283	350.00	643.00	454.03	42.94

Level	CEF	Cambridge ESOL	IELTS band	TOEFL	TOEIC
Very advanced	C2 Mastery	620+	7.5 - 9.0	276+	910+
Advanced	C1 Effective Operational Proficiency	560-619	6.5 - 7.0	236 - 275	701 - 910
Upper Intermediate	B2 Vantage	480-559	5.5 - 6.0	176 - 235	541 - 700
Intermediate	B1 Threshold	420-479	4.5 - 5.0	126 - 175	381 - 540
Upper Basic	A2 Waystage	380-419	3.5 - 4.0	96 - 125	246 - 380
Basic	A1 Breakthrough	310-379			
Beginner					

Figure 3.1 Common European Framework Reference

However, the scores are used to inform students of their English proficiency rather than to place students in different class based on their proficiency. As a result, classes are composed of students with mixed ability.

b) Computer literacy. A survey of students' computer literacy was conducted with 236 students to inform the design of the model especially in the preparation stage. The HybridNTELL ICT Literacy Survey was developed based on the following questions on the students' networked computer familiarity, perceived computer skills, and computer uses.

Results showed that all students are familiar with computer and the Internet. The majority of students (67%) have been using computer and Internet for six to ten years while the other 33% have been using computers and Internet for one to five years.

23% of the students reported that they have good computer skill; 71% reported that they have moderate computer skill; and 9% reported that they have limited computer skill. The last part of the questionnaire is an open-ended question on computer uses. The students has a wide range of activities on computer, namely doing assignment using MS office, communicating with friends (i.e. through chat programs, email), playing online games, joining a community, creating a blog, listening to songs, watching video clips or movies, free software downloading, information searching, and using some specific computer applications (i.e. Macromedia, Adobe, 3DMAX, etc.).

The findings show that the students have enough basic computer skills to learning in a technology-integrated learning environment. The next section describe

the design of HybridNTELL and a pilot study taking into account the aforementioned analyses.

3.1.2 Theoretical framework and key constructs

The theoretical framework I use to design the contexts of foreign language learning practices is based on social constructivist perspectives. Social constructivist theorists (Lantolf 2000a, 2000b; Donato 2000; Wertsch 1991; based on Vygotsky 1978) maintain that learning is *socially situated* activity rather than an individual activity. Individuals obviously do play a role in learning, but what they will eventually be able to do by themselves, they first achieve collaboratively during social interaction. Additionally, in this view of language learning, the social constructivist perspective ‘erases the boundary between language learning and language using.’ (Lantolf and Pavlenko 1995: 116). Social constructivist theory, therefore, offers ‘a much more holistic perspective of language learning, where individual and social merge into one and where use and knowledge are indistinguishable’ (Ellis 2005: 229). Based on social constructivist theoretical framework, the following key constructs are described as the conceptual thinking of design process.

3.1.2.1 Content-based EFL learning

HybridNTELL model takes the view of whole-language education which is influenced by Vygotsky’s classic idea of *Language and Thought* (see Chapter II). The focal realization of content-based EFL learning is grounded upon the simple idea that language is learned best in the context of use. When language is whole, relevant, and functional, learners have real purposes for using language, and through their language use they develop control over the processes of language. In whole language, each learner builds on his or her own culture, values, and interest. Each builds on his or her own strengths.

The only strong justification of content-based EFL learning for university students lies on the fact that the students are diverse and are in the transition to real-life language use. Their English has been fostered with enough linguistic resource that they can retrieve to advance their skills in real context of use. Content-based approach thus provides semi-pedagogical/authentic language use arena for them to use whatever linguistic skills they have to develop further. This first key variable answers the first question of what the EFL students learn in HybridNTELL environment. What’s more, it has interwoven the next four key variables together and produces a meaningful learning context.

3.1.2.2 Zone of Proximal Development

Vygotsky (1978: 86) defined the ZPD as ‘the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers’. Thus, when any skill required is above the potential level boundary of the child’s ZPD, there is no potential for internalization even with mediation. According to Vygotsky, potential level is more indicative of mental growth than actual development: ‘the learner who is able to respond to such help [that provides by a teacher or more experienced peer] must be considered to be at a more advanced developmental level than the one who fails to do so, because the learner who responds to help can be expected to show a more rapid rate of actual development’ (Aljaafreh and Lantolf 1994: 468). It appears that two children at the same actual level of development have different ZPD due to their different potential levels. Thus, HybridNTELL model aims to examine students’ actual level and their development towards their potential level through mediation.

3.1.2.3 Mediation

We believe that zones of proximal development are created within the learners in the context of activities. Vygotsky helps us understand that as learners transact with their world, they are capable of doing more than they appear to be and that they can get much more out of an activity or experience if there is a more experienced person (e.g. teacher or more capable peer) to mediate the experience for them. However, research (e.g. Pontecorvo & Zuccheromaglio, 1990; Teberosky, 1990; Tudge, 1990) showed growing evidence explaining that collaborative learning between peers, regardless of ability, activates the zone of proximal development.

The concept of mediation informs the design of teacher and learner role in HybridNTELL model to support functions of language use in the learning environment. The role of teacher as a mediator means that the teachers do not abdicate their authority. They realize that helping learners to solve a problem is better than giving them a solution. From Vygotsky’s perspective, teachers mediate learning by asking a question, offering a useful hint, directing attention at an anomaly, calling attention to overlooked information, and supporting learners as they synthesize what they are learning into new concepts and schemas. Moll (1990) suggested that classes should be social communities where teachers value each learner, help the learners to value themselves and each other, and win the respect of their students.

In a content-based EFL learning environment, text and technology can be considered as mediation. HybridNTELL model provides Teacher Mediation Scale adapted from Aljaafreh and Lantolf's (1994) levels of internalization from interpsychological to intrapsychological functioning (see Table 2.1). The scale provides a systematic reliable degree of help that can assist the teacher in their provision of mediation. Also, the teacher's job is to involve learners in relevant functional activities and experiences that will stretch their capabilities, mediate the learners' transactions with the world in minimally intrusive ways, supporting learning without controlling it. Thus, we find opportunities to encourage learners to work in collaboration on a variety of problems that are important and meaningful to them.

3.1.2.4 Internalization

Successful learning involves shifting control within activities from social to the individual. Vygotsky (1981: 163) states that 'any function in the child's development appears twice or on two planes. First it appears on the social plane, and then on the psychological plane.' In other words, it appears first between people as an interpsychological category, and then within the child as an intrapsychological category. Viewing language learning process, it is through internalization that linguistic forms and functions first used in collaboration with others during social interactions are internalized for independent use. 'Others' could be a teacher or more capable peers. Based on this belief, having students working in groups is equally important in class. Social constructivist theorists view that participating in social activities mediates learning. Vygotsky (1987) explained that 'external' social activities in which the learner participates are the main source of 'internal' cognitive development. Thus, through using language forms and functions in interactions with other students to achieve tasks, students can internalize the language and use them independently in the future. This explanation was confirmed by Donato's (1994) research finding that learners were able to produce jointly a particular grammatical construction which was beyond their individual abilities. Similarly, Muller (2005) and Coulson (2005) found that jointly performed tasks enable students to correct each other's ill-formed utterances and solve linguistic problems that lay beyond their individual abilities. Ellis (2005) further elaborates on social interaction that when learners have the opportunity to interact with other users of the language (e.g. teachers, native speakers or other learners), "they are able to perform functions in the language that they cannot perform by themselves. With time and practice they internalize these

functions, learning to perform them independently. In this way, learning involves a progression from the inter- to intra-mental as learners shift from object and other regulation to self-regulation” (p. 349).

3.1.2.5 Goal-directed learning

Based on Activity theory partially articulated by Vygotsky and later refined by A.N. Leontiev (1903-1979) (Lantolf 2000a; Wertsch 1985). Activity theory provides a holistic perspective on human behavior that people do things because they are motivated to do them. There are four interconnected concepts here: motives, goals, actions and operation. People begin with *motives* to do activities that are directed to *goals*. Their *actions* consequently are goal-directed requiring some kinds of *operation* to accomplish the goal. As a language learner participates in social activities (i.e. in class), new knowledge is jointly constructed in dialogic communication where each carries their own motive, goal, action and operation to share with counterparts.

Social constructivist theory explains how learners shape the goals of any activity to suit their own purposes and understanding. In other words, any given activity is interpreted and reshaped by students in actual performance and outcomes are diversified due to performers’ orientation and interpretation (Coughlan and Duff, 1994; Roebuck, 1998, 2000 as cited in Lantolf and Thorne, 2006). The diversity is due to the fact that an individual’s history impacts action and motives for their learning. For this reason, personal interests became a central focus of curriculum

The above mentioned key constructs of Social constructivist theory are incorporated into the design of HybridNTELL to provide an environment for social interaction using mediational tools, encourage goal-directed activities, facilitate internalization process, and support performance within each student’s ZPD. This process allows the students to investigate their actual stage of development and direct their own learning to achieve potential stage of development. Finally, the students are expected to be more autonomous in their learning process and develop their language skills.

3.1.3 HybridNTELL model design overview and components

3.1.3.1 Model design overview

HybridNTELL model is a learning model operated on two platforms of interaction. Synchronous face-to-face classroom interaction and asynchronous online interaction are used equally and complementarily as the platforms for communication. Learning autonomy is the main goal which guides the organization and development

of the model. The concept of learning autonomy through social constructivist perspective offers four interactive dimensions of autonomy development in HybridNTELL model. The four dimensions are assumed to require different degrees of autonomy from the least to the most as follows: reactive-interdependence, reactive-independence, proactive-interdependence, and proactive-independence. The four dimensions of autonomy are viewed analytically into the dimensions of the *psychological planes* and those of the *motives* (see Figure 3.2).

The first two dimensions of learning autonomy (*interdependence* and *independence*) are based on Vygotsky's work on psychological planes in developmental psychology. He explained that learning begins from the starting point of the learners' existing knowledge and experience and develops through social interaction or some other means of mediation (e.g. tasks, resources, technology). Based on the belief that every function in the ZPD appears twice: first, on the social level (inter psychological), and later, on the individual level (intra psychological), collaboration is viewed as a key factor in the development of autonomy (Little, 1996). In this 21st century, collaboration is even viewed as an act of being autonomous since learners must have 'the capacity to participate fully and critically in social interactions' (Little, 1996: 210); and 'to cooperate with others and solve conflicts in constructive ways' (Kohonen, 1992). This constitutes what Littlewood defined as 'collective structure' of autonomy (1999).

The other two dimensions are based on Vygotsky's concept of motives in pedagogical goal-directed activity: teacher-directed (other-regulated) and learner-directed (self-regulated) dimensions. Littlewood (1999) relatively proposed two types of autonomy: reactive and proactive autonomy. The *reactive* type, once a direction has been initiated, enables learners to organize their resources autonomously in order to reach their goal. Learners do not create their own directions. The *proactive* type is the kind of autonomy we find when learners determine objectives, and make informed pedagogical decisions based on some form of evaluation (Little & Dam, 1998). The learners affirm their individuality and set up directions in a world which they themselves have partially created.



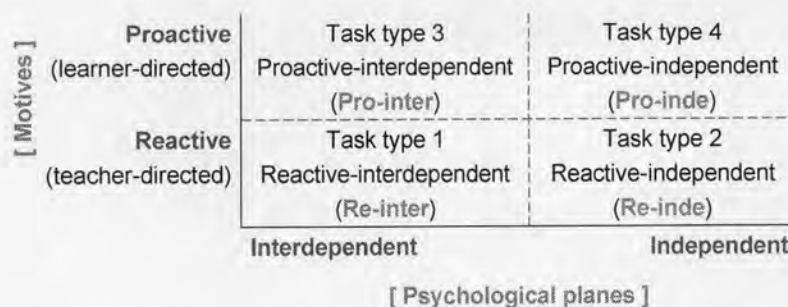


Figure 3.2 Four interactive dimensions of learning autonomy in HybridNTELL environment

The four dimensions of autonomy are used to frame the task design in HybridNTELL learning environment (Figure 3.2). Accomplishment and performance in each task type shows learners' development in each dimensions of learning autonomy. The four task types are plotted to foster each dimension of autonomy: task type 1 for reactive interdependent (re-inter) dimension of autonomy, task type 2 for reactive independent (re-inde) dimension of autonomy, task type 3 for proactive interdependent (pro-inter) dimension of autonomy, and task type 4 for proactive independent (pro-inde) dimension of autonomy (Phadvibulya, 2005).

All task types are created based on the belief that university level learners should “deploy whatever language they already have, and look for ways of building on that, of improving and expanding on their current language capabilities (Willis, 2005: 15) where meaning is central and opportunities for language use abound (p 5). Interdependent tasks (re-inter and pro-inter) are designed from the notion that the learners co-construct the activity they engage in during the task. In re-inter tasks, the co-construction of knowledge is based on goals set by the teacher while in pro-inter tasks, the students co-construct the activity based on their *own socio-history and locally determined goals* (Lantolf, 2000). In doing interdependent tasks, learners are provided with collaborative dialogue platforms – asynchronous online and synchronous in class – as mediated learning tools. For independent tasks, learners are encouraged to search for their own mediated learning tools under teacher's guidance and reflect on their learning in a weblog. This idea is supported by a number of researchers viewing “reflection as a key psychological component of autonomy” (Benson, 2001: 90).

In HybridNTELL environment, learning is an ongoing interactive process. Each of the same task type offers different levels of challenge to different learners. The learners' response to those challenges in different level was interpreted as their degree

of autonomy. Despite holding different criteria according to its nature, each task is considered equally important for EFL learner autonomy development and is given an equal weight on their learning outcome.

3.1.3.2 Model design components

a) Platforms.

Primarily class events are organized on both face-to-face and online platforms. The platforms serve as an arena for discussion on process and product presentation for language learning and use. Figure 3.3 exemplifies how face-to-face platform of HybridNTELL classroom environment differs from traditional classrooms. This model was applied to a class of 40-60 students with mixed abilities based on social constructivism theory. Social interaction is considered a valuable mediation of learning so not only student-teacher interaction but student-student interaction are useful for effective learning process. Classes were organized in order that collaboration can be easily made. Seats are arranged in group of four to six. If multimedia computers are available, they can be placed on the shared table where every member can access and work on tasks requiring collaboration.

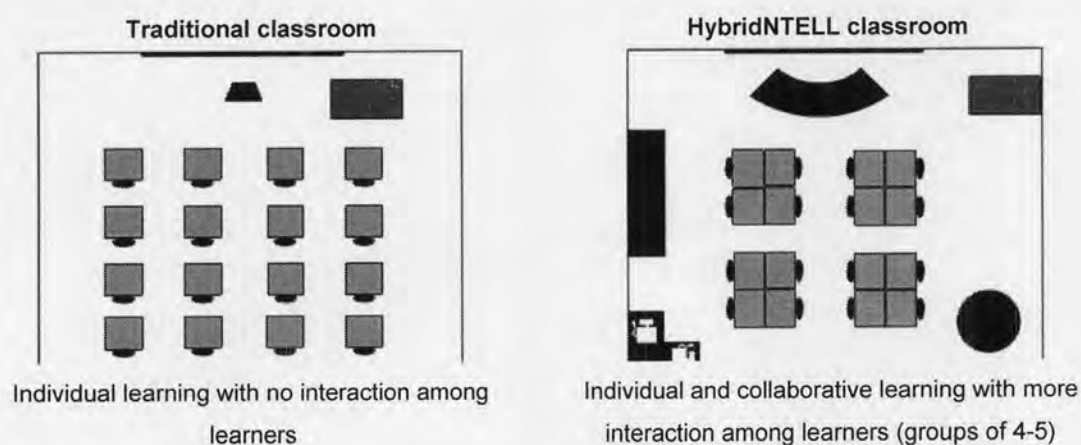


Figure 3.3 HybridNTELL classroom

Figure 3.4 describes HybridNTELL online platform which is accessible by any member, from anywhere and at anytime. It is recommended that the platform is created upon a pedagogy-based learning management system, for example, Moodle, WebCT, Blackboard, etc. Within the environment, content is customizable due to the fact that everyone is empowered to help construct the flexible and adaptable learning environment. Thus, learning occurs through the act of creating something for others to see, by observing actions of peer, and from relating new knowledge to personal

contexts. Thus, a community of practice can be created out of flexible nature of online platform.

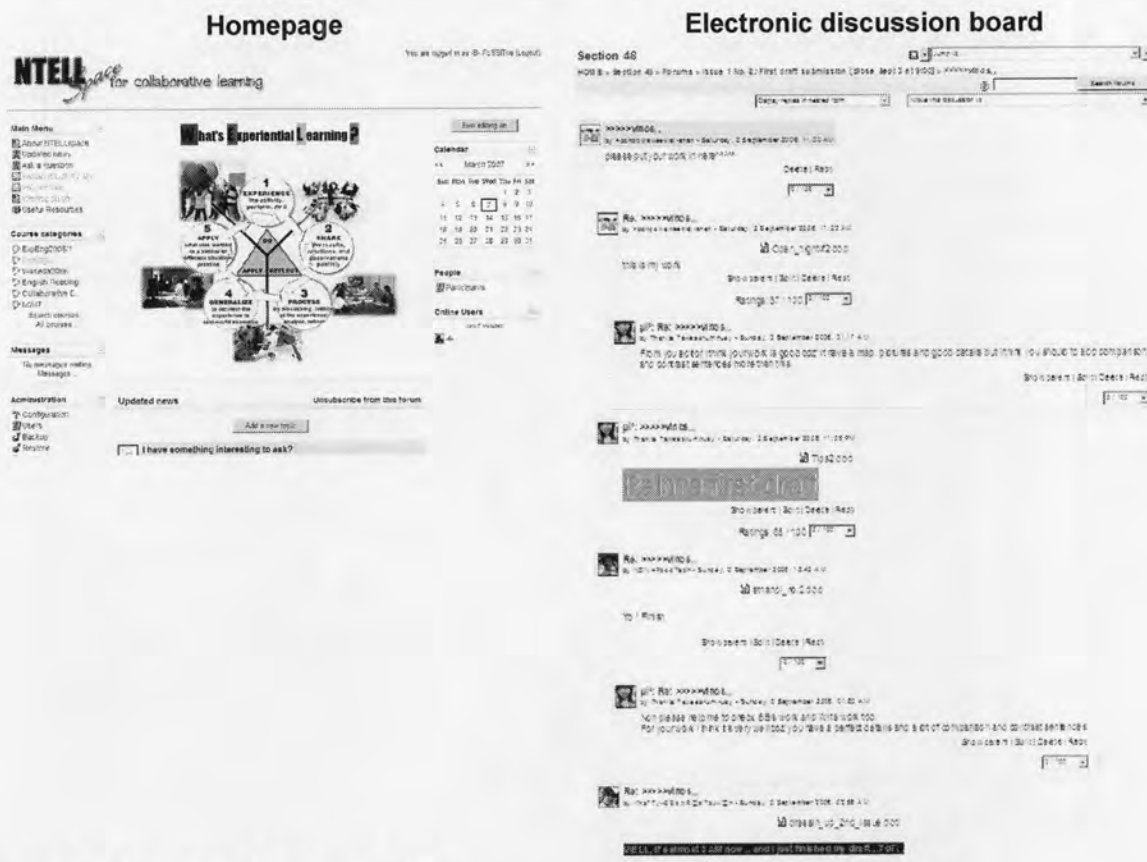


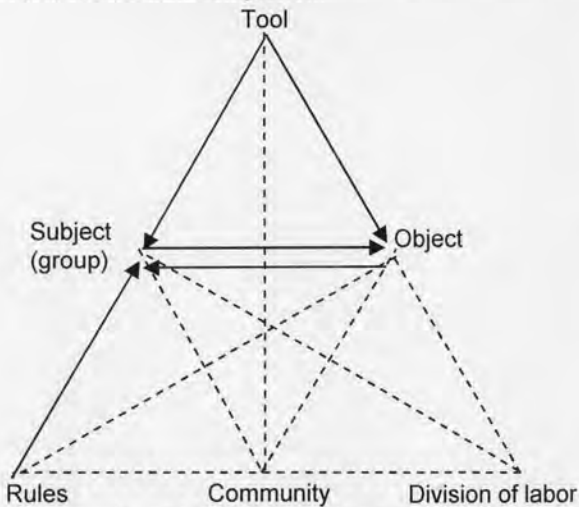
Figure 3.4 HybridNTELL online platform

b) Task design

Task types. There are four task types designed especially for HybridNTELL based on social constructivist theory. The four tasks are intertwined on the two dimensions of learning process. The first dimension is a dichotomy between teacher-directed (impersonalized motives) and learner-directed (personalized motives) learning. The second dimension is a dichotomy between interdependent (interpsychological) and independent (intrapyschological) learning.

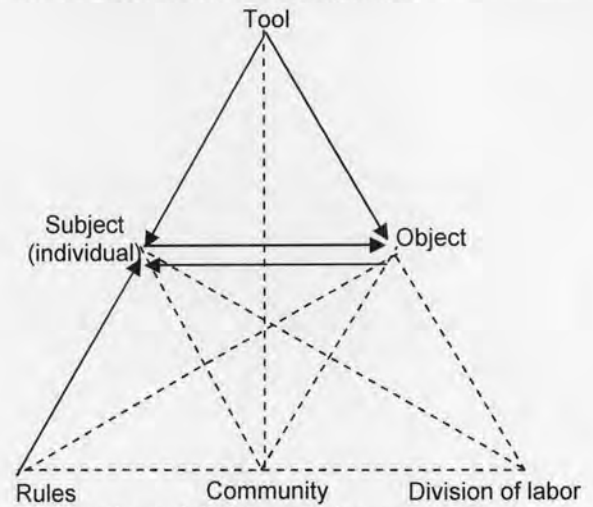
Furthermore, in HybridNTELL environment, there is no useful separation between ends and means in learning. What we learn today is the means of further learning tomorrow. There are no end products, no mastery goals; rather, each goal is part of the means to a new goal, a new schema, a new concept, a new view of the world. Based on Vygotsky's and Dewey's view of developmental psychology, HybridNTELL model expanded Engestrom's model of activity theory (Figure 3.5) for task design as follows:

Task type 1: reactive-interdependent
The students work in groups towards the goal (object) assigned by the teacher and the teacher provides scaffolding and mediation tool. The teacher sets the rules for the task completion.



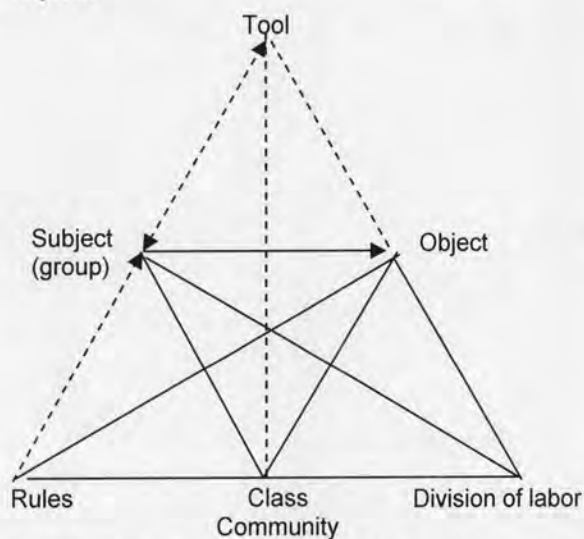
Community and division of labor are not necessary and play limited role in the learning process
Task: Group writing

Task type 2: reactive-independent
The students work individually towards the goal (object) assigned by the teacher and the teacher provides scaffolding and mediation tool. The teacher sets the rules for the task completion.



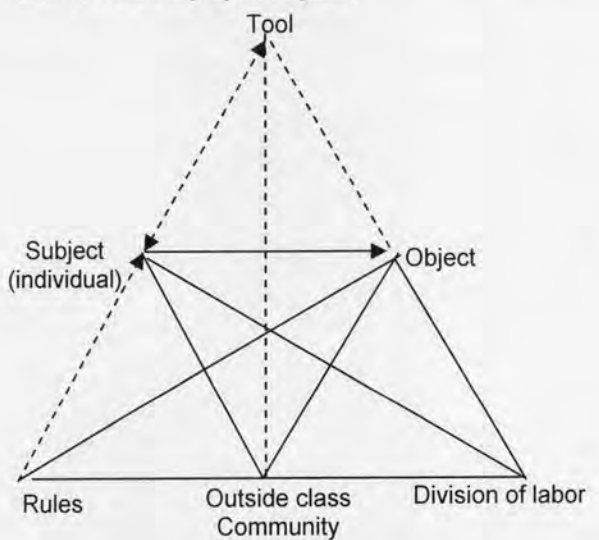
Community and division of labor are not necessary and play limited role in the learning process
Task: Individual writing after group writing

Task type 3: proactive-interdependent
The students work in groups towards a shared goal (object) directed by the group members. The teacher and other mediation tools are available only upon request.



Community and division of labor are very necessary and play an important role in the learning process inside classroom environment
Task: group online magazine project based on the current theme predetermined in the curriculum. The students in group search for any sub-theme to focus on in their magazine. Each member contributes an article in weekly magazine. Each week two members take turn to be editors who are in charge of leading discussion, writing quality control and presentation.

Task type 4: proactive-independent
The students work individually towards a self-directed goal (object). The teacher and other mediation tools are available only upon request.



Community and division of labor are very necessary and play an important role in the learning process outside classroom environment.
Task: self-directed learning reported in portfolio. The students are required to search for activities to practice English and report the process and product of the activities they have done in their portfolio.

Figure 3.5 Characteristics of the four task types

Engeström's model of modern activity system (Figure 2.1) provides an analytical framework and a terminology to describe a variety of activities as they unfold in practice. In particular, it is possible to use activity theory to represent language learning activity designed in HybridNTELL environment as seen from the perspective of different actors participating in the learning activity over a period of sixteen weeks. In the environment, tasks are organized around the collective participation and contribution of knowledge in classroom website. Different sections of the website are to be realized by smaller teams cooperating with each other. Motivated by the initial object of the language learning activity, in this case the construction of the website, the subjects (who can be individual students, teams, or even teachers) carry out chains of actions that are oriented towards the realization of the website.

These goal oriented actions may focus on language use, such as the creation of the information given by the site, or on the development and acquisition of transferable skills, such as information retrieval, or organization of presentation. The realization of actions by the subjects is mediated by a number of tools and artifacts. The latter may have been externally created and include the students' group websites providing linguistic information on topics relevant to the students' chosen themes (e.g. movies, traveling, music, food, books, etc.). As the activity unfolds, artifacts are also created by the subjects, such as written or spoken texts (e.g. content for the website, reports, minutes, postings, oral presentations, etc.). Non-material tools can be of a cognitive or metacognitive nature, such as planning and intentions, organizing, and decision-making, and include both the first and second languages. Material tools include technology, such as networked computers available in the self-access language unit, the NTELL Environment, and generic software, such as Microsoft Office, email, or electronic dictionary software (e.g. CollinsCOBUILD), which are all externally enabled by the university.

The individual subject belongs to a wider community comprising his/her class group and the teachers. The community's collective activity is mediated by the range of available tools and language learning artifacts previously outlined, in particular by communications tools provided by the NTELL environment, and by a certain division of labor. The division of labor is horizontal, where a team of students collaborate and distribute the realization of sub-tasks (e.g. research, between themselves, and also

vertical. In that case, the teachers impose a certain way of completing the task and grade the students' performance.

Finally, a number of rules and conventions, such as the assessment regulations and the requirement to use English to communicate, mediate the relationship between either the subject or the community and the object of the learning activity. Through the realization of the activity or actions, the object is transformed into an outcome, which can be measured in terms of language performance, transferable skills and learner autonomy. In other words, as students direct their actions towards the construction of the website, they develop and consolidate a range of skills and competencies that can be assessed. As the language learning activity unfolds, a number of influences, external pressures or internal contradictions, such as the participants' unfamiliarity with the technology, may momentarily disrupt the activity and change its object.

The representation of the language learning activity system developed so far is still essentially descriptive. It provides nevertheless a starting point to carry out judgmental and empirical analyses, which can address a variety of issues and research questions relevant to the investigation of the relationship between the HybridNTELL and learner autonomy. The interweaving of individual and collaborative actions mediated by technology indeed offers a suitable context for such an investigation. It is necessary, however, to further explore the mediating role of tools and artifacts, and in particular that of Information Technology, from an activity-theoretical perspective as well as the human factors offered in the hybrid learning environment.

Theme. All language tasks take into account both content and language for communication related to given broad themes (e.g. entertainment, technology, environment) defined in the curriculum. Language functions are embedded in each theme (i.e. language for comparison and contrast related to entertainment; language for time sequence related to technology; language for causal relationship related to environment). Basically, four language skills (i.e. listening, speaking, reading, writing) are interactively combined with linguistic mechanisms (i.e. pronunciation, spelling, grammar, vocabulary) based on the concept of content-based language learning.

Language and skills focus. Both productive and receptive skills are promoted integratively through tasks. Each task requires the students to activate at least two language skills out of four: reading, writing, listening and speaking. Themes are used

to frame language focus of particular series of tasks. However, the concept of emergent grammar is encouraged so the students retrieve their linguistic knowledge accumulated over ten years and bring it to use.

Team building. To keep balance between having mixed ability group and learners' opportunity to form a group with shared interests, a stratified random assignment technique is used. Since learners need both language and computer literacy to complete tasks, both proficiency scores and results from computer literacy survey are taken into account. Based on the scores and survey results, learners are labeled 1-5 as illustrated by the following steps:

1. English proficiency test is used to grade learners into:
10 highest (H), 10 mid (M), 10 lowest (L)
2. Computer literacy survey delivered at the beginning of the course is used to grade learners into:
Proficient (P) and Non-Proficient (NP) users regardless of language proficiency
3. Learners are asked to get together in a group of five under the condition that each member has different number:
1 (H), 2 (M), 3 (L), 4 (P), 5 (NP)

Then, they can form a group with any other four people who get different numbers. Now it is more likely to get a group with mixed ability in which members are willing to work with each other.

The role of learner-peers-teacher. Learners are prepared with a series of orientations on self-directed learning and team building for working collaboratively or cooperatively in groups of four to six. In Re-inter, learners in groups are provided with content and instructions to accomplish a task. They work on the task collaboratively towards a shared goal resulting in one final product. In Re-inde, an individual learner is provided with content and instructions to accomplish a task. In Pro-inter, learners in groups are assigned to accomplish a task based on their interests. Each comes with an individual interest so they have to negotiate to reach a mutual agreement on the task. They work on the task cooperatively with a shared goal towards which each contributes a part of the final product to accomplish. Each week, two members in group take a turn to play the leader roles. In Pro-inde, an individual learner is assigned to accomplish a task based on his/her interest. In class (as a learning community), learners are encourage to display their product in either online

or face-to-face platform so that others can learn from and they can be informed of their actual and potential ability.

The teacher assesses and gauges the student's ability to understand within the context of a realistic, tangible, and concrete problem. Then, he/she can select learning activities and facilitate steps that enhance the chances for learner success as well as provide instructional support. The role of teacher, thus, follows the old Chinese saying, "Give a man a fish; you have fed him for today. Teach a man to fish; and you have fed him for a lifetime".

Table 3.2 and 3.3 shows a summary of task types and interactions between learners, peers and teachers on each type.

Table 3.2

A summary of task types and interactions between learners, peers and teachers

Learning conditions and roles	Task types			
	Re-inter	Re-inde	Pro-inter	Pro-inde
Task specification	T	T	T	T
Content	T	T	L/P	L
Procedure	T	T	L/P	L
Language	T/L	T/L	L/P	L
Help	T/P	N/a	P/T	N/a
Feedback	T	T	T/C	L/T

Note: T = Teacher; L = Learner, P = Peer; C = Class; N/a = Not available (only when asked)

Table 3.3

Activities/Platform

Activities	Platforms	Task types			
		Re-inter	Re-inde	Pro-inter	Pro-inde
<i>Process</i>					
Discussion	F2F	CA	N/a	CA	E
	Online	N/a	N/a	CA	E
<i>Product</i>					
Presentation	F2F	CS	CS	CA	CA*
Publication	Online	CS	CS	CA	CS
	Printed	CS	CS	CA*	CS

Note: CA = Compulsory for all tasks; CS = Compulsory for some tasks; E = Elective; N/a = Not available

* Only final product

c) Ways to assess learning outcomes

Assessment of learning outcomes in HybridNTELL model are based on learners' performance. Formative assessments are done periodically in class based on the four task types and summative assessments are done in the middle and after the course.

Formative assessments. In interdependent tasks, learners' performance in groups and degree of teacher assistance (Figure 3.8) observed are assessed. In independent tasks, final product of individual learner's performance is assessed. In

Pro-inter tasks, learners' performance in groups and individual as well as degree of teacher assistance observed are assessed. In Pro-inde tasks, final product of individual learner's performance is assessed. In interdependent tasks, group accountability is assessed. Peer assessment is selectively assigned in some tasks Pro-inter tasks. Learners' performance on each task are evaluated by two raters in terms of content and language use. In order to ensure inter- and intra-rater reliability in assessing students' performance, the following procedures are accomplished. First, the two raters used the standardized guideline produced by the committee of course developers (see Figure 3.6). Second, the raters had two 'calibration' meetings: before and after rating. If there is more than five points of discrepancy between any two ratings, the two raters discuss the differences and alignment. Then they attempt to seek for an agreement on the ratings. Finally, a correlation coefficient is used to ensure the reliability of the two sets of ratings.

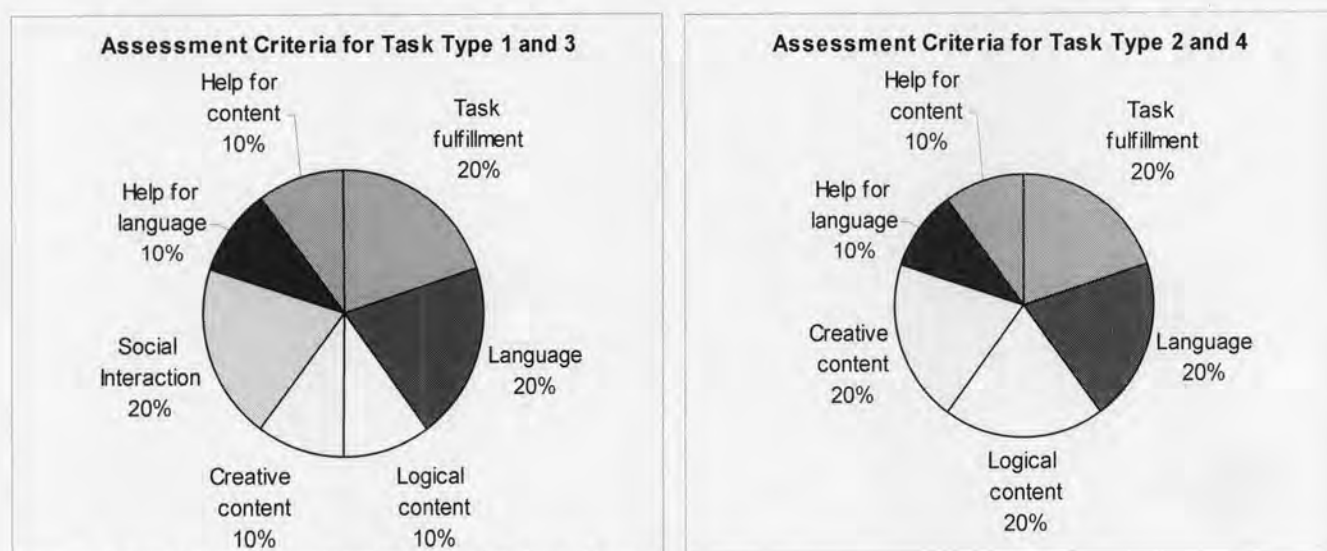


Figure 3.6 Assessment criteria for the four task types

Two raters work on the first three criteria: task fulfillment, content and language use/skills which amount to 60 percent. The other 20 percent is from the teacher's observation of help (20 percent) and social interaction (20 percent). Degrees of help, as illustrated by Figure 3.6, are recorded by the teacher during small group conferences where the teacher also participates. Participation is observed both in class and in online discussion board. For independent tasks, 20 percent for participation is assigned to each student's ability in content developing while working alone.

Degrees of help are observed by the teacher while providing help to each student or students in groups. Whether help is provided when students ask for or when

the teacher sees students' need will be counted as help and assessed from the criteria illustrated below in Table 3.4.

Table 3.4
Description of the assessment criteria

Task fulfillment	(Phadvibulya and Pratontep in Experiential English curriculum 2006)
5	- Highly complete achievement with concrete evidence
4	- Complete achievement with adequate evidence
3	- Moderate achievement with some evidence
2	- Sufficient effort in achievement with some evidence
1	- Minimal effort in achievement with little evidence
0	- No achievement with no evidence
Teacher mediation	
For content	(Based on Bloom's taxonomy) relevant to creative content
2.5	- Teacher helps them evaluate their content
2	- Teacher helps them synthesize their content
1.5	- Teacher helps them analyze their content
1	- Teacher helps them apply their content
0.5	- Teacher helps them understand their content
0	- Teacher helps them search for content
For language	(Adapted from 'levels of internalization from interpsychological to intrapsychological functioning' by Aljaafreh and Lantolf, 1994)
2.5	- Learner corrects errors independently
2	- Teacher spots errors
1.5	- Teacher indicates the nature of errors
1	- Teacher provides clues for correction
0.5	- Teacher provides correct forms
0	- Teacher provides correct forms with explanation
Social interaction	
	(Adapted from Storch (2002) based on Fink's (200) criteria for contributions assessment
4-5	- Active expert, collaborative or novice participant
2-3	- Moderate expert, collaborate, or novice participant
1	- Passive expert, collaborate, or novice participant
0	- Absent participant
	(They cannot choose an ecology to work with but their roles)
Logical content	
	(Based on Experiential English curriculum 2006 and Hughey, Wormuth, Hartfiel, and Jacobs 1983)
4-5	- Fluent expression ideas clearly and stated/supported well-organized and very thorough development statements and supporting details with logical sequencing and cohesive
2-3	- Somewhat choppy main ideas stand out, but organization unclear limited development of statements and supporting details, logical but incomplete sequencing
1	- Ideas confused or disconnected lacks logical sequencing and development of statements and supporting details
0	- Does not communicate no organization, incomprehensible and illogical OR not enough to evaluate
Creative content	
	(Adapted from Besemer and O'Quin 1987 and Hughey, Wormuth, Hartfiel, and Jacobs 1983)
4-5	- Excellent, knowledgeable substantive development of expression showing novelty, good application, analysis or synthesis
2-3	- Some knowledge of subject adequate range but limited development of expression showing novelty, good application, analysis or synthesis
1	- limited knowledge of subject little substance inadequate development of expression showing novelty, good application, analysis or synthesis
0	- Does not show knowledge of subject non -substantive, not pertinent, no expression of novelty, good application, analysis or synthesis OR not enough to evaluate

Language	(Adapted from Hughey, Wormuth, Hartfiel, and Jacobs 1983)
4-5	<p>- <i>Sentence structure</i> Effective use of complex and simple sentence constructions with few errors of agreement, tense, number, word order/function, articles, pronouns, prepositions. <i>Mechanism:</i> Few errors in spelling, punctuation and capitalization <i>Vocabulary</i> Effective word choice usage, minor deviation from meaning, reader has no trouble substituting correct word</p>
2-3	<p>- <i>Sentence structure</i> Effective use of simple constructions but minor problems in compound and complex sentences, several errors of S-V agreement, verb tense, number, word order/function, articles, pronouns, prepositions but meaning seldom obscured. <i>Mechanism:</i> Occasional errors of spelling, punctuation, and capitalization <i>Vocabulary</i> Occasional errors of word form, choice, usage but meaning not obscured</p>
1	<p>- <i>Sentence structure</i> Major problems in sentence constructions, frequent errors of negation, agreement, tense, number, word order/function, articles, pronouns, prepositions and/or fragments, run-ons meaning confused or obscured. <i>Mechanism:</i> Frequent errors of spelling, punctuation, and capitalization <i>Vocabulary</i> Frequent errors of word form, choice, usage and meaning confused or obscured</p>
0	<p>- <i>Sentence structure</i> Virtually no mastery of sentence construction rules dominated by errors does not communicate OR not enough to evaluate <i>Mechanism:</i> Dominated by errors of spelling, punctuation, capitalization <i>Vocabulary</i> Essentially translation, little knowledge of English vocabulary, idioms, word form OR not enough to evaluate</p>

Note: In task 3, criteria for task fulfillment, content and language are used for both written work and presentation.

For content development, the students should be able to plan or select a topic for their work; to search for and retrieve information they need; to understand the resource they acquired; to evaluate whether they the information they integrated into their work is relevant and useful; and to present a well-organized product to the audience.

For language development, five points on the scale means the student can produce a product with error free or very few minor errors. Four points is given when the teacher found errors and informed the students by underlining the errors. The students then can correct those errors and resubmit their work. During small group conferences, the students can ask for further help as indicated on the scale 3-0. If the students avoiding help and fail to correct the underlined errors, they get 0 point on help. The students are informed of the language help scale because they are encouraged to be able to self-correct using multiple resources available. The criteria for content development are informed to the students. However, the fact that their

points will be deducted if they ask for help is exclusively for teacher's observation. The deduction makes no difference to the students' perception. The score is either 1 or 0 which means that whether they ask for help or not, the students are considered that they need help if they fail to do any of the criteria by themselves.

Summative assessments are related to themes and language functions defined in the curriculum. The students take two summative tests: one in the middle of the course and the other at the end. Two raters evaluate their performance on the tests in terms of content and language use. The guideline for evaluation is standardized across the curriculum.

3.1.3.3 Infrastructure design

Every Experiential English class was equipped with networked computers connected to the LAN and Internet are equipped. Learners are provided with self-access learning centers around the campus.

HybridNTELL model integrates online interaction in virtual learning community with face-to-face classroom environment in order to provide an extensive space and opportunities for communication. To serve the purpose of the hybrid learning environment, an internet-based learning management system (LMS) is used to manage shared events between inside and outside class community. A variety of LMS have been widely used for foreign language instruction. The multichannel Web tools of LMS allow language educators to create task-based activities which promote collective scaffolding and FL communication among the students and between the students and teacher.

Moodle or "Modular Object-Oriented Dynamic Learning Environment" www.moodle.org is the LMS tool used in HybridNTELL project to support face-to-face instruction. Moodle is an open source LMS used to create an online community. It runs without modification on Unix, Linux, Windows, Mac OS X, Netware and any other system that supports PHP (HTML-embedded scripting language), including most web host providers. Data stored in a single database: Oracle, IBM DB2, Microsoft SQL Server, Borland Interbase, Informix, Visual Foxpro, SAP DB, SQLite, Sybase, Microsoft Access, ADO, and generic ODBC database access, since it uses ADOdb (<http://www.adodb.sourceforge.net>). Learners need only a browser (e.g., IE, Firefox, Safari) to log on to the web course and participate in the community.

Moodle is customized and modified to serve HybridNTELL model with the following features of management and selected modules:

a) Management features

User account management: five types of user accounts can be assigned for different login permissions (administrator, students, course creator, teacher with editing permissions, and teacher without editing permissions). Roles can be directly assigned and all user interactions in the community are recorded once they log in by the tracking feature.

Community management: users can participate in a large-scale community for collaborative learning or a within-course community learning. Figure 3.7 shows an example of course homepage used for all communities access.

Figure 3.7 Sample of HybridNTELL community homepage

Course management: a course is populated with manageable and customizable activities and resources to serve different types of task. Access to nearly all lesson assignments can be made time- or password-restricted, however, only quizzes can be password restricted at this point.

Moodle also keeps automatic log reports of each student work (see Figure 3.8 for an example). This means that the teacher knows not only when students have completed or uploaded an assignment, but also how much time they spent on an assigned task or quiz. The teacher can also set deadlines or timeframes when assignments must be completed, and restrict access to learning tasks once the deadline

has passed. Students can look up their grades themselves. Teachers have also the option to download student grades in Excel format. Students can look up the assignments on a calendar by moving the cursor over a given day which will list all the assignments for that day. The calendar is optional and can be displayed on the front page.

Section 1 You are logged in as -B- PoSSiTiVe (Logout)

HOME » Section 1 » Participants » puppii rofytae » Activity report » All logs

puppii rofytae

[Profile](#) [Edit profile](#) [Forum posts](#) [Activity reports](#)
[Outline report](#) [Complete report](#) [Today's logs](#) [All logs](#)

[X]

Displaying 1519 records

Page: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 (Next)

Time	IP Address	Full name	Action	Information
Tue 30 January 2007, 12:32 PM	161.200.119.203	puppii rofytae	wiki view	Entertainment project (section 1): Modern Chic
Tue 30 January 2007, 12:32 PM	161.200.119.203	puppii rofytae	wiki view	Entertainment project (section 1): Entertainment project (section 1)
Tue 30 January 2007, 12:32 PM	161.200.119.203	puppii rofytae	wiki view	Entertainment project (section 1): Entertainment project (section 1)
Tue 30 January 2007, 12:31 PM	161.200.119.203	puppii rofytae	wiki view	Entertainment project (section 1): Cheers!!!
Tue 30 January 2007, 12:30 PM	161.200.119.203	puppii rofytae	wiki view	Entertainment project (section 1): GOURMET
Tue 30 January 2007, 12:30 PM	161.200.119.203	puppii rofytae	wiki view	Entertainment project (section 1): COOL
Tue 30 January 2007, 12:26 PM	161.200.119.203	puppii rofytae	wiki view	Entertainment project (section 1): Ezy ReAdInG!!
Tue 30 January 2007, 12:26 PM	161.200.119.203	puppii rofytae	wiki view	Entertainment project (section 1): Entertainment project (section 1)
Tue 30 January 2007, 12:25 PM	161.200.119.203	puppii rofytae	forum view discussion	Ezy ReAdInG!!
Tue 30 January 2007, 12:25 PM	161.200.119.203	puppii rofytae	forum view forum	Issue 1 No. 2: First draft submission [close Sept 3 at 9:00]
Tue 30 January 2007, 12:25 PM	161.200.119.203	puppii rofytae	course view	Section 1
Tue 30 January 2007, 12:23 PM	161.200.119.203	puppii rofytae	wiki view	Entertainment project (section 1): Ezy ReAdInG!! Issue 1 No. 1
Tue 30 January 2007, 12:22 PM	161.200.119.203	puppii rofytae	wiki view	Entertainment project (section 1): Ezy ReAdInG!!
Tue 30 January 2007, 12:22 PM	161.200.119.203	puppii rofytae	wiki view	Entertainment project (section 1): GOURMET
Tue 30 January 2007, 12:21 PM	161.200.119.203	puppii rofytae	wiki view	Entertainment project (section 1): GOURMET
Tue 30 January 2007, 12:21 PM	161.200.119.203	puppii rofytae	wiki view	Entertainment project (section 1): Modern Chic
Tue 30 January 2007, 12:21 PM	161.200.119.203	puppii rofytae	wiki view	Entertainment project (section 1): A 2day
Tue 30 January 2007, 12:20 PM	161.200.119.203	puppii rofytae	wiki view	Entertainment project (section 1): MuziC. bLa Bla bla

Figure 3.8 Sample log report of students' work

Content management: the system supports the user's creation and management of HTML text, images, audios, videos, and files. Moodle is a template-based system to which content must be added. This makes Moodle's interface very intuitive and allows for easy navigation. The whole page is presented in a "flat view" format. It is laid out in small blocks and organized around sections following a topic or weekly outline. Each section has its own tools such as lessons, quizzes, assignments, and forums which are all linked to a built-in grade book. All blocks on a page can be individually arranged, and the elements within each section can be easily moved around or be hidden. Figure 3.9 shows an example of a course setup in the topic format.

The screenshot displays a Moodle course interface. At the top left, it says 'Section 1' and 'HOME » Section 1'. A user is logged in as 'B- PoSSITive'. The main content area is titled 'Weekly outline' and is organized into two weeks. Week 1 (26 June - 2 July) includes activities like 'Ask a question', 'Portfolio Exchange', 'CU-TEP score [updated]', 'Entertainment project (section1)', and 'Experiential English 1 (unofficial) Result Summary'. Week 2 (3 July - 9 July) includes 'Suggested websites', 'Team Project & Presentation', 'Retelling & Paraphrasing [Download]', 'Reading materials', 'Paraphrasing [p. 37-38]', 'Project brainstorming', and 'Download for reading materials'. The right sidebar features 'Latest News' (no news yet), 'Upcoming Events' (none), and 'Recent Activity' (last activity on March 7, 2007).

Figure 3.9 Sample of a course setup in the weekly format

Moodle allows for the integration of a wide range of resources. These include any kind of text-based or html-formatted documents, multimedia resources such as graphics, video or audio (e.g., MP3 files), SCORMs (Goodwin-Jones, 2004), PowerPoint, Half-Baked exercises (<http://www.halfbakedsoftware.com>), or Flash-based applications. Lesson tasks within Moodle can be linked to any resources that are uploaded to one's server or that are available on the Internet. The students' exploration of any of the content-based resources can be easily assessed by using any of the Moodle-based evaluation and feedback tools

Moodle is powerful in content creation due to its built-in HTML editor. The degree of expertise required is essentially the same as for any word processor. More sophisticated presentations such as animations or text-specific feedback provisions need to be created by using outside multimedia authoring programs.

b) Modules

Forum module is the most important tool that helps learners construct and share new knowledge. Here, discussion among learners and teachers takes place. In this mode of communication, participants have time to think as they compose their messages. Archives of old messages are generally kept for several months and retrieved by a search tool provided. In HybridNTELL environment, forum is used as a discussion space for collaborative and cooperative learning process and a for all learning products to be displayed.

Quiz module allows the teacher to design and set quiz tests, consisting of multiple choices, true-false, short answer questions, etc modeling language use and function. These questions are kept in a categorized database, and can be re-used within courses and even between courses. Quizzes can allow multiple attempts. Each attempt is automatically marked, and the teacher can choose whether to give feedback or to show correct answers. Quiz module includes grading facilities. HybridNTELL model includes quiz module to prepare learners for common knowledge to be acquired in class and check understanding of a particular language functions.

Wiki module enables documents to be authored collectively in a simple markup language using a web browser. "Wiki wiki" means "super fast" in the Hawaiian language, and it is the speed of creating and updating pages that is one of the defining aspects of wiki technology. Wiki module in HybridNTELL enables participants to work together on a project using web pages to add, expand and change the content. Old versions are never deleted and can be restored so that learners can trace back their process of learning as an individual or a group. This can promote cooperative type of interdependent learning and highlight process learning rather than only learning outcomes.

Built-in **glossary module** allows teachers, individually or in cooperation with their students, to create their own text-, course-, or site-specific dictionaries. In this way, texts integrated within Moodle, especially authentic texts or resources, can be tailored to a particular level of language proficiency and thus be made more easily accessible to learners.

Moodle serves to develop and manage HybridNTELL community. An individual or a group can come and interact with the community. However, the interaction is confined only in the class community due to the restriction of access from outsiders.

Moodle's design is grounded in a social constructivist theory of learning. Learning tasks or projects can be designed so as to allow for cooperation between the instructor and students or among students by using different formats of social interaction. Students can be divided into subgroups, interact with each other synchronously in chat rooms, or engage in asynchronous discussions in Wikis and forums. The Wiki module in *Moodle* enables students to compose or work together on a text while online. Old versions are never deleted and can be restored. Forums can also be arranged in different ways. For example, they can be set so that only the

teacher or any of the students can post content to a forum or start a new discussion topic (thread). Other options exist that let the teacher either restrict or allow for further discussions and replies within a thread.

HybridNTELL community also allows an integration of Weblog <www.blogger.com>, or Multiply <multiply.com> or any kind of free website publishing tool, to enhance proactive learning and provide each learner their own space to manage their self-directed learning products as well as means to interact with authentic audience. The learners are encouraged to use Weblog to collect, manage, share their work and to monitor their personal development. Each learner can create a personal weblog and link it to the community page on HybridNTELL environment. The personal weblog is where a learner can create their own identity, culture and history through their personal interest. According to past research, identity creation is a way to motivate and encourage autonomy in learning.

3.1.3.4 HybridNTELL procedure

A face-to-face meeting takes place every week for three hours: 90 minutes on Tuesday and 90 minutes on Thursday. In the first seven weeks, a series of orientations are delivered (see Table 3.6). Then, the HybridNTELL tasks were implemented in the next nine weeks (see Table 3.7). The use of technology-enhanced language learning provides more contact hours and flexibility in the online learning environment. Then, some curriculum-based tasks are modified and added to serve the practice of four dimensions of autonomy development in HybridNTELL environment. Table 3.5 shows how tasks offered in HybridNTELL environment are different from those offered in other classes.

Table 3.5
Differences between HybridNTELL classes and other classes

	Other classes	HybridNTELL classes
Task type 1	Comparison of two movies Interview project	- Comparison of two movies in class - Comparison of two interview scripts - Comparison of two trips around New Zealand (for web publication purpose)
Task type 2	Comparison of two trips around New Zealand	- Comparison of two movies and vote for the favorite movie online - Comparison of two interview scripts and vote for the favorite story online - Comparison of two trips around New Zealand (for email to the best friend)
Task type 3	Final project presentation based on the sub-themes the group selected Time: 15 minutes Division of labor: fixed roles	Online magazine project presentation based on the sub-themes the group selected Time: 5 minutes for each week Division of labor: rotating the leading roles (2 editors for each week)
Task type 4	Task cycle: No Outside class language learning practice and reflection collected in a portfolio (at least 5 entries)	Task cycle: 3 Outside class language learning practice and reflection collected in a portfolio (at least 5 entries)

Table 3.6
A series of HybridNTELL model orientations

Time frame	Content
Week 1	- Experiential English course orientation : syllabus, learner's role, teacher's role, goal setting - ICT survey - Ice breaking session & Team building
Week 2	- Learning tools training: E-dictionary use (e.g. CollinsCOBUILD, Merriem Webster, Oxford, etc.) : tools for pronunciation practice, synonym search, spelling check, lexical choice and collocation search - Information search training - MS Office tool training
Week 3	- NTELL environment training : web course training (enrollment, tools and functions, - Weblog creation and anchoring them on the web col
Week 4	- Introduction to portfolio (task type 4) : Guide to process, practice and resource - Presentation skills
Week 5	Task type 1 and 2: introduction and practice
Week 6	Task type 3 practice
Week 7	Task type 4 first submission and conference

After the orientations, the four task types are run on three cycles in the process. Online meetings can be both flexible and definite based on task requirements. In other words, process of class delivery is semi-structured as presented in the following three cycles (see Table 3.7).

Theme: Entertainment

Note: T1 = Re-inter, T2 = Re-inde, T3 = Pro-inter, T4 = Pro-inde
T1 and T2: cycle 1 curriculum-based, cycle 2 and 3 HybridNTELL model only
T3: HybridNTELL model only adapted from final project presentation
T4: curriculum-based

Table 3.7
The process of the four task types delivery in three cycles

	Face-to-face meeting	Online meeting	T4
Week 8 Tue	Warm-up activity - Introduction to the theme - 'Entertainment' Comparison and contrast techniques and modeling- T1: comparing two movies-	- Product display online - T2: comparing two movies, vote the favorite and give reason	
Thur Week 9 Tue	T1 & T2 feedback - T3: Magazine online project planning* - division of labor - Submission of the project outline* - Preparing for the grand opening of project - (a brief presentation about the project) Interview task assigned* -	- Weblog building for group magazine - Preparation for the grand opening	T4

Table 3.7 The process of the four task types delivery in three cycles (Continued)

Face-t

	<i>Face-to-face meeting</i>	<i>Online meeting</i>	<i>T4</i>
Week 10 Tue	T3: Class conference in groups with teacher - Preparing for magazine advertisement - Planning for the next issue -	- Write and submit the 1 st draft of the first issue to the electronic discussion board - Two editors host the online conference	
Thur	Advertisement - Reflection in class - Planning for the next issue -	- 2 nd draft submission - Preparing for the magazine advertisement	
Week 11 Tue	T3: Class conference in groups with teacher - Preparing for magazine advertisement -	- Write and submit the 1 st draft of the second issue to the electronic discussion board - Two editors host the online conference	
Thur	Bring interview scripts to the class - T1: Compare the information from the interview and post to the discussion board	- 2 nd draft - Interview task due	
Week 12 Tue	T1 & T2 Feedback and conference - T3 & T4 conference -	- T2: select 2 interviews from any group to write a comparison and contrast paragraph	T4
Thur	Advertisement - Planning for the third issue -	- Preparing for the second issue advertisement - Write and submit the 1 st draft of the third issue to the electronic discussion board - Two editors host the online conference	
Week 13 Tue	T3: Class conference in groups with teacher - Preparing for magazine advertisement -	- 2 nd draft	
Thur	T1: Comparing 2 trips to post on a web-reviewer	- T2: Comparing 2 trips for your friends	
Week 14 Tue	T1 & 2 Feedback - T3 conference -	- Preparing for the third issue advertisement	T4
Thur	Advertisement - Reflection -	- Organizing T4	
Week 15 Tue	Conference on T3 - Peer evaluation -		
Thur	T4 conference -		

Table 3.7 The process of the four task types delivery in three cycles (Continued)

	Face-to-face meeting	Online meeting	T4
Week 16 Tue	T4 presentation -		T4
Thur	Course wrap-up - T4 final submission -		

These collaborative dimensions of the learners' language development have most frequently been referred to by the metaphor of *scaffolding* (i.e. the dialogic process through which one interactive participant assists another in performing Re-inter and Pro-inter that he or she cannot perform alone). This dimension is supported by Donato (1994: 10) that "in social interaction a knowledgeable participant can create, by means of speech, supportive conditions in which the novice can participate in, and extend, current skills and knowledge to higher levels of competence." The functions of scaffolding through the series of tasks and support are based on the ones identified by Wood, Bruner, and Ross (1976): (1) recruiting interest in task; (2) simplifying the task; (3) maintaining pursuit of the goal; (4) marking critical features and discrepancies between what has been produced and the ideal solution; (5) controlling frustration during problem solving (i.e. limitations on linguistic knowledge or content knowledge); and (6) demonstrating an idealized version of the act to be performed

Achieving these functions of scaffolding, learners learning with HybridNTELL should produce a good learning outcome. Theoretical-based design can ensure HybridNTELL construct validity to a certain extent. Still the model needs to be evaluated to yield reliability of its use.

3.2 The research of HybridNTELL model

Researching HybridNTELL model involves a pilot study and the main study. The pilot study was conducted to ensure usability and practicality of the learning model. Findings from the pilot study were used for modification and adjustment made before the main study was conducted.

3.2.1 Pilot study

The HybridNTELL model was evaluated for both effectiveness in learning model design and system design. The pilot study was conducted one year before the main study. Four instruments were used to collect the data.

1. Chulalongkorn University Test of English Proficiency (CU-TEP) was used as the pretest and curriculum-based achievement test was used as the posttest measured by letter grades: A, B+, B, C+, C, D+, D, and F. A correlation analysis was conducted. The relationship between the scores from the two tests is not significant ($r = .24, p = .36$). Further analysis on the students' development (see Figure 3.9) revealed that the students learning with HybridNTELL model regardless of their previous proficiency level have an equal chance to develop their language skills. 100 students (4 from the high proficiency group, 65 from the moderate proficiency group and 31 from the low proficiency group) made high degree of achievement in curriculum-based test. 70 students (30 from the moderate proficiency group, and 40 from the low proficiency group) made moderate degree of achievement and 45 students (6 from the moderate proficiency group and 39 from the low proficiency group) made less degree of achievement.

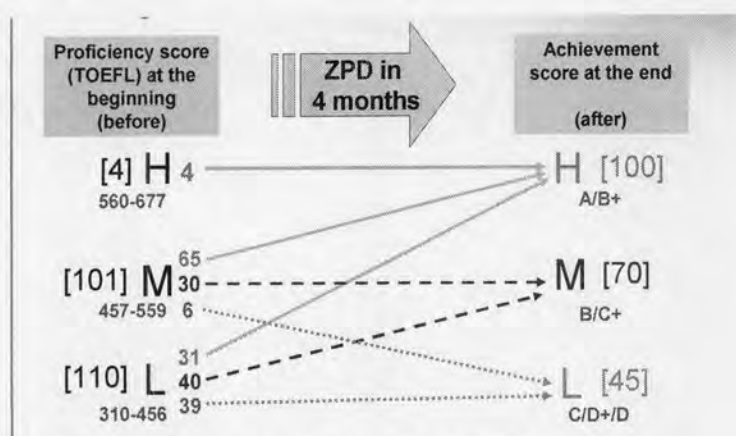


Figure 3.9 Students' development after learning with HybridNTELL model

2. HybridNTELL tasks were used to conduct a correlation analysis between the task performance and achievement test scores. The results show that there is a high correlation between the two variables ($r = .79, p < .01$). This implies that students who demonstrated higher degrees of autonomy based on their task performance assessment had higher achievement scores.
3. NTELL system can support online interaction of more than 200 students all at once. The students had no problem navigating through and interact in the online communities.
4. Students' perceptions were investigated. The participation in the online community tracked ranges from 1-21 hours a week with an average at 12

hours a week. The majority of the participants showed positive attitudes towards the HybridNTELL with the following reasons:

1. I learn language from authentic communication.
2. I can spot my mistakes in actual language use.
3. I learn from more capable peers.
4. I can use language plus express my creativity.
5. I think the skills I learned in English class are applicable to other subjects.
6. I think the online environment makes learning more convenient, flexible (practice anytime), and serves personal interest (so it increases motivation).
7. I can access to information easily.
8. I have a chance to express my thoughts, ideas and opinions more
9. I learn how to use vocabulary in context.

The negative attitudes towards learning in the HybridNTELL environment reported by the learners are:

- (1) the system failing to support heavy traffic (32%)
- (2) lack of mutual cooperation in group (25%)
- (3) limited language proficiency to communicate (20%)
- (4) lack of facility (10%)
- (5) too much workload from other courses (6%)

The pilot study ensured the usability of HybridNTELL environment and partially effectiveness of the model. The students' positive attitudes reported and their achievement show how the learning environment benefited them. However, the pretest and posttest were different so they measured only the student's achievement comparing within group and cannot tell if the students actually improved their English proficiency.

3.2.2 Adjustment and modification

Results and observation from the pilot study of the HybridNTELL model (Phadvibulya, 2005) were used to adjust the design and evaluation of HybridNTELL environment for the main study as follows:

1. Two equivalent sets of CU-TEP were used to assess the students' English proficiency at the beginning and the end of the course. 90 students were recruited in an empirical investigation on how HybridNTELL and students' improvement in English proficiency.
2. A systematic investigation into the NTELL environment was made (Table 3.8). Although the pilot study indicated that the online system used in HybridNTELL environment responded well to the design, in order to make the model replicable, the system design needs to be evaluated against a standardized guideline. Khan (2005) system design was selected to calibrate HybridNTELL model system

<ul style="list-style-type: none"> - The course encourages students to make comments about each other's assignments in the online discussion forum - The course encourage students to set up their peer study groups - Learner-learner interaction is encourage in the course - The course support interactions through the use of peer evaluation, help sessions, collaborative projects - The course is interactive among students, between students and teacher, and with online resources - The course directs learners to explore external sites where they can analyze and compare materials - The course promote inside collaboration by providing a supportive environment for asking questions, clarifying directions, suggesting or contributing resources, and class members working on joint projects through asynchronous tools such as web-based threaded discussion forums, wiki, and web-log - The course considers the situational and topical interest factors of cognitive motivation - The students receive ongoing feedback on their performance in the various learning activities - The course encourage students to actively participate and contribute in online learning activities 	
<p>Interface design</p> <p>Page and site design</p> <ul style="list-style-type: none"> - the Web documents are available in PDF, HTML, Text files, and Word processed - the pages of the course use reasonable blank or white spaces (about 20%) to help readers' eyes move through the content more easily and comfortably - the text throughout the course legible - throughout the course, background colors of screens are compatible with the foreground colors of the screens so that they complement rather compete - the site has consistent look with the course print materials so the learner can easily make the connection between online course information and correspondence that comes printed forms - the course use consistent font type across elements such as heading, body text, link, etc. - the course use standard font type so that text appears the same in different computer platforms and browsers (e.g. Arial, Times Roman, Helvetica fonts) - the course use a consistent layout including color and the placement of titles and content on Web pages - the choice of graphics enhance the learners understanding of the site's purpose - the pages on the course Website load within 3 seconds - parts of the page appear even though the site is not fully loaded - colored graphics are clearly interpretable when printed in black and white <p>Navigation</p> <ul style="list-style-type: none"> - the course provides structural aids (i.e., unit, lesson, activities, etc.) to help learners navigate the course - the course provide a site map to help learners navigate the course - pages of the course fit within any graphical browser window without any horizontal or sideways scrolling - all links are clearly labeled and serve an easily identified purpose so that the learners have enough information to know whether they should click a link - the site does not contain so many links as to be distracting - the course use a consistent color for both unvisited and visited links - the course is consistent with the use of terminology throughout - the course indicate the size (e.g. 13k, 200k, etc.) of the multimedia files used - the course have structural flexibility by providing students the choice of multiple pathways through the instruction - the course website is easy to navigate - no part of the course links to pages that are under construction 	<p>The researcher, the colleague and the four students</p>

- | | |
|---|--|
| <ul style="list-style-type: none"> - the learners are informed when they use outside links that lead to different websites - the course website includes a search feature - the course use consistent symbols and words as navigation aids - every page of the course have links back to the site's main - all the links in the course link to the correct locations | |
|---|--|

3. *Assessment of Contributions of Group Members* (Fink, 2002) was used to encourage students' contribution to the team (see Appendix A). At the end of the semester, all group members assess the contributions that each member of the group made to the work of the group. The contribution should presumably reflect the students' judgment as follows:

- Preparation: were they prepared when they came to class?
- Contribution: did they contribute productively to group discussion and work?
- Respect for others' idea: did they encourage others to contribute their ideas?
- Flexibility: were they flexible when disagreement occurred?

The students are advised to raise the evaluation of members who truly worked hard for the good of the group and lower the evaluation of those they perceived not to be working as hard on group tasks. The assessment is kept confidential by the teacher.

4. Online language learning resources are provided on the websites for further study or reference. In NTELL environment, websites related to language learning were posted in *Glossary* section. The students make keyword search for websites that suit their need.

5. Objective assessment was incorporated to support the holistic assessment in Pro-inter tasks to predict the students' potential development in their ZPD. Three developmental measures was selected from the past studies in three aspects of development: fluency, accuracy and complexity. The measures include (1) the total number of word count for fluency development, (2) the ratio of error-free T-units per total number of T-units for accuracy development, and (3) the ratio of total number of clauses per T-units for complexity.

6. In task type 4, more objective guideline to portfolio assessment was added (see Appendix D)

3.2.3 The main study

3.2.2.1 Population and participants.

HybridNTELL is implemented with a group of 143 Chulalongkorn University students selected from the whole population of 2,646 students. 50 social science students were in one class (labeled class A). 47 biological science students were in another class (labeled class B). 46 technological science students were in the other class (labeled class C). The group's score range falls within the standard deviation of the population based on the 68% rule in excluding the outliers from the experiment. The score range based on the CEFR can be illustrated in Figure 3.10. The students are stratified into high proficiency group (H) with test scores ranging from 480-559, mid proficiency group (M) with test scores ranging from 420-479, and low proficiency group (L) with test scores ranging from 380-419.

Level	CEF	Cambridge ESOL	IELTS band	TOEFL	TOEIC
Very advanced	C2 Mastery	620+	7.5 - 9.0	276+	910+
Advanced	C1 Effective Operational Proficiency	560-619	6.5 - 7.0	236 - 275	701 - 910
H Upper Intermediate	B2 Vantage	480-559	5.5 - 6.0	176 - 235	541 - 700
M Intermediate	B1 Threshold	420-479	4.5 - 5.0	126 - 175	381 - 540
L Upper Basic	A2 Waystage	380-419	3.5 - 4.0	96 - 125	246 - 380
Basic	A1 Breakthrough	310-379			
Beginner					

Figure 3.10 Population in the experiment based on CEFR descriptors

Being aware that the students were selected from three different classes, I ensured the homogeneity in effects from HybridNTELL environment by controlling the following major variables: the teacher, the content, the sequence of the content and the delivery methods. Since English proficiency and computer literacy are considered major effects and key variables in grouping the students in the HybridNTELL environment, the two variables in three classes are described in Table 3.9. The mean scores, ranges of scores, standard deviations and students' perceived computer literacy and familiarity are discussed.

Table 3.9
Three HybridNTELL classes

	Mean scores	Ranges	SD	Computer literacy	Computer familiarity
Class A (n=50)	458.75	403-547	28.45	2.67	8.45
Class B (n=47)	452.87	390-541	34.56	2.34	8.76
Class C (n=46)	450.83	393-537	30.54	2.79	9.11
Population	454				

Note: Class A = 50 social science students; Class B = 47 science students; and Class C = 46 science students.

Stratified random sampling method is used to recruit participants from the H-M-L groups. From each group, 30 students were randomly selected to participate in the experiment. In total, there are 90 students participating in the experiment: 30 from the high proficiency group, 30 from the mid proficiency group and 30 from the low proficiency group.

There is no comparison group in terms of effectiveness testing but development of learners from each proficiency group was compared to ensure HybridNTELL model effectiveness to students with all proficiency levels.

3.2.2.2 Research questions

For language teacher and learners, working appropriately within the learner's ZPD is a pedagogical matter. The concern of the empirical investigation of HybridNTELL model is to discover how the model when it is implemented effectively, leads to language learning. This study employed both qualitative and quantitative analyses to evaluate effectiveness of HybridNTELL model. The evaluation was conducted in nine weeks in three EFL classes for first year students at Chulalongkorn University.

The empirical investigation of HybridNTELL model was driven by social constructivist theory, articulated primarily through this research project, to frame the following four guiding research questions:

1. To what extent do students with different English proficiency levels demonstrate different degree of autonomy during a language learning course?
2. To what extent do students exhibit different degree of autonomy in four different types of tasks?
3. Is there any interaction effect between students' English proficiency level and task types on their degree of autonomy?
4. How does the EFL students' development of autonomy in Hybrid NTELL model enhance their language development?

3.2.2.3 Research instrument, data collection and analyses

The process of data collection involves selection of instruments, data sources and types, method of data analysis, validity and reliability of the measurement. The report of data collection and analysis is guided by the four research questions addressed at the beginning of the experiment as follows:

Research question 1: To what extent do students with different English proficiency levels demonstrate different degree of autonomy during a language learning course?

Students' with different English proficiency levels were hypothesized to demonstrate different degrees of autonomy in language learning. To investigate whether the students' learning outcome follows the assumption, between-group one-way analysis of variance (ANOVA) was conducted. The English proficiency scores of 90 students, 30 students in each different English proficiency groups, and their overall performance in the four task types were examined. The students' different English proficiency levels constituted three levels of the independent variable (high, moderate and low proficiency levels). Their English proficiency were measured by Chulalongkorn University Test of English Proficiency (CU-TEP) which is the university-based standardized test used widely in Thailand. The dependent variable was the degree of autonomy the students demonstrated during a language learning course assessed from their performance in the four task types. The degree of autonomy was measured by a set of holistic assessment schemes (see page 109-111) based on the course curriculum designed by the course committee. The students' task performance were double rated by a colleague of the researcher who have extensive knowledge of the dissertation study and teach in the same course where the HybridNTELL model was implemented.

The method of double rating (for inter-rater reliability) used throughout this study was based on the formula by Miles and Huberman (1994). The method is that a second rater verifies the judgment of the original researcher. The number of agreements is divided by the number of agreements and disagreements. For example, if two raters in a study agree on 90 items out of a total of 100 items, then the inter-rater reliability is 90%. The discrepancies in the judgment were discussed and come to an agreement in all cases, thus final inter-rater reliability must be 100%.

The results from data analysis were reported in descriptive statistics: mean score and standard deviation based on each proficiency group. Then, to test whether

degrees of autonomy of learners with different English proficiency levels are significantly different, the between-group one-way ANOVA based on Tukey's honestly significance difference (HSD) was used to investigate the differences of degree of autonomy demonstrated between the three proficiency groups.

Table 3.10 shows a summary of research instrument selection, data sources and types, method of data analysis, validity and reliability of the measurement to investigate how the three proficiency groups demonstrate degrees of autonomy during the language course.

Table 3.10

A summary of method for the investigation into how the three proficiency groups demonstrate autonomy during the language course (research question 1)

Instruments	Data sources/type	Data analysis	Validity and reliability
- Chulalongkorn University Test of English Proficiency (CU-TEP)	English proficiency score/numerical	A descriptive statistic	Criterion-related validity (concurrent with TOEFL) and Standardization process
- Holistic assessment on task performance	- Scores on students' task performance/numeric	A descriptive statistic	Curriculum-based assessment scheme and double rating method
	Effect of CU-TEP test scores on task performance	Between-group one-way ANOVA, Tukey's honestly significance difference (HSD)	

Note: similar research instruments were used in answering research question 2 and 3

Research question 2: To what extent do learners exhibit different degree of autonomy in four different types of tasks?

Students' degrees of autonomy exhibited in four different types of tasks: reactive-interdependent, reactive-independent, proactive-interdependent, and proactive-independent tasks were hypothesized to be different. To investigate the variation of students' degree of autonomy exhibited across the different task types, within-group one-way analysis of variance (ANOVA) was conducted. The four different task types constituted four levels of independent variable. The dependent variable was the students' degree of autonomy assessed from their four task performance scores.

The results from data analysis were first reported in descriptive statistics: mean score and standard deviation of degree of autonomy the students demonstrated in each task performance. Then, the analysis of differences between the students' task performance using within-group one-way ANOVA based on Tukey's honestly significance difference (HSD) was reported.

Research question 3: Is there any interaction effect between students' English proficiency level and task types on students' degree of autonomy?

The first two research questions aimed to investigate the main effects from the students' English proficiency levels and their task performance on the degree of autonomy they demonstrated. In addition to each of these main effects, there is a third possible effect for it is conceivable that whatever the effect of different tasks on the students' development of autonomy, it may not be the same degree for students in different English proficiency groups. The analysis in the third question was to investigate whether there was any interaction effect between the two main effects.

Given that researchers are increasingly beginning to understand that there is an intimate relationship between autonomy and effective learning, the hypothesis for research question 3 was produced based on the belief that students' with high English proficiency level perform well in every task while those with limited proficiency level have a more limited level of performance in those tasks. Thus, no interaction effect between students' English proficiency levels and task types on their degree of autonomy was expected. Students' with high proficiency level were assumed to perform well in every task while those with limited proficiency level relatively demonstrated limited level of performance in those tasks. To examine whether there was an interaction effect between the differences in three English proficiency groups and their performance in four tasks, 3 x 4 factorial analysis of variance (ANOVA) was conducted. The two independent variables were the students' proficiency levels (three levels) and the four task types (four levels). The dependent variable was the students' degree of autonomy demonstrated in the task performance.

Research question 4: How does the EFL students' development of autonomy in HybridNTELL model enhance their language development?

The above three research questions were to investigate if the students have an equal chance to develop their EFL learning autonomy in HybridNTELL. The fourth

research question examined the effectiveness of the HybridNTELL model aiming for the students' autonomy and language development. Based on the hypothesis students with higher level of proficiency develop their language significantly with better progress than those with lower level of proficiency given that they were assumed to exercise a higher degree of autonomy in their EFL learning. To investigate the students' language development, their improvement of proficiency level was first investigated. Then, their curriculum-based achievement was examined.

To provide further explanation on the levels of improvement and achievement, the students' development of performance in the four task types based on the holistic scale was examined. Then, the students' language development was assessed by a set of objective scales measuring their improvement of fluency, accuracy and complexity of their language use in task performance as well as their ability to control the use of curriculum-based language focus.

The results from the analyses of four sets of dependent variables were reported in descriptive statistics. The first set of variables was the pretest and posttest scores measured by using CU-TEP before and after the course. The second set of variables was the group of students' and the population's curriculum-based achievement test scores measured at the end of the course using the final examination. The third set of variables was the students' performance and development in the four task types. The fourth set of variables was the students' language development in three task cycles.

The first set of variables, the difference between pretest and posttest, was investigated by a Paired-sample *t*-test to find out the students' improvement of English proficiency level overtime. Then a repeated-measure ANOVAs was used to investigate whether the improvement was affected by their English proficiency levels before the beginning of the course. The second set of variables, the difference between the achievement test scores, was investigated by an independent *t*-test to find out whether the students' demonstrated a higher achievement than the population given that they English proficiency levels were not different before the beginning of the course. Table 3.11 presents a summary of data collection and analysis of the four sets of variables for the fourth research question.

Table 3.11

A summary of data collection and analysis for research question 4

Instruments	Data sources/type	Data analysis	Validity and reliability
- Chulalongkorn University Test of English Proficiency (CU-TEP)	English proficiency score/ numerical	Descriptive statistic/ A paired-sample t-test/ a repeated-measures ANOVAs	Criterion-related validity (concurrent with TOEFL) and Standardization process
- Curriculum-based achievement test (Final test)	Summative scores of the subjects and scores of the population/ numerical	Descriptive statistics/ Independent t-test	Construct validity (based on curriculum)/ double rating method
- Holistic assessment on the development of task performance	- Scores on students' task performance/ numeric	Descriptive statistic	Curriculum based assessment scheme and double rating method
Objective assessment - Fluency: word count - Accuracy: error free T-unit/ T-unit - Complexity: Clause/T-unit - Comparison and contrast features count	Students' writing in task type 3/ discourse	Frequency count/ Descriptive statistics	- Construct validity based on the developmental index proposed by Wolfe-Quintero, Inagaki and Kim (1998) - Data coding and Double rating method

The examination of the students' opportunity to develop EFL learning autonomy in HybridNTELL environment and its effectiveness on students' development explained only what has happened in the learning environment. Through social constructivist perspective in designing and evaluating the HybridNTELL model, it is important to investigate why the phenomenon has happened. The further investigation was then done in the second phase of data collection and analysis initiated during the experiment.