The TALL Language System

An Integrated, Research-Based Approach to ESL Instruction

Dr. C. Ray Graham, Brigham Young University
Dr. Kent Parry, Brigham Young University

Global Educational Technologies

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INTRODUCTION

In the last twenty years, continuing research has enhanced our understanding of second language acquisition and cognitive theory. However, the findings of much of this research have yet to be implemented in language instruction. In his keynote address to the Foreign Language Education and Technology conference in 2005, Tom Welch observed that in practical terms, we are hardly farther along in teaching languages than we were a century ago. In particular, the use of technology has not been integrated with classroom instruction (Welch, 2005). Most of the software designed to teach language has been done by companies in which there is little connection between the user and the developer. Thus the programs, for the most part, are designed and used as stand-alone supplements to teaching and are not integrated into the instructional design itself.

Teachers trained in the latest and best methods often face practical difficulties in implementing these methods in the classroom. Teachers may feel frustrated by the difficulty of meeting individual needs of faster or slower learners, or providing enough language input and interaction for each learner.

Much of the software for language learning that has been developed in the last twenty years includes engaging and interesting activities, but beneath this attractive veneer of graphics, audio, and video, most software is only able to drill and practice the material it presents. While drill and practice have their place, both research and classroom experience indicate that much more is needed to develop competency in a second language.

The Technology Assisted Language Learning (TALL) system is different from other programs of language instruction. Developed at a university, the TALL system's design is informed by second language and cognitive theory and research. Using the TALL system in the classroom supports the language learning values of teaching professionals. Software and classroom interaction are integrated, creating a combination which is more effective than either element alone.
The TALL system's major design principles and features are based on principles of cognitive theory and second language acquisition. In this document, we will examine several of these principles and features, including:

- Blended learning
- Communicative language teaching
- Task-based learning
- Spaced review
- Adaptability
- Vocabulary selection
- ACTFL language proficiency guidelines
- Motivation to learn
- Massive input
- Just-in-time grammar

These principles and features combine to help learners become proficient speakers as quickly and easily as possible. The TALL system especially facilitates the development of oral language, so that learners can actually use the language they learn, from the very first day.
This document briefly explains each principle or feature, the research that supports it, and its application in the TALL system.

BLENDED LEARNING SYSTEM

Blended learning refers to the combination of multimedia elements on a computer with classroom instruction with a teacher and peers. Although the TALL system began using blended learning over a decade ago, the concept has only recently gained currency in the world of computer assisted learning. Blended learning uses each of its two elements (computer assisted learning and classroom interaction) for what each does best (Osguthorpe and Graham, 2003). Together the two elements of blended learning combine to create a whole system, which is stronger than its constituent parts.

Teacher/Classroom Strengths

Teachers have long played a crucial role in language learning. Many functions can be most effectively carried out by a caring and well-trained teacher. Teachers provide interactive activities in the classroom. Teachers and fellow learners can also be extremely motivating to a learner. When learners produce either spoken or written language, teachers provide the best, most personalized feedback. Teachers can also help learners set achievable goals for their language learning.

Teacher/Classroom Weaknesses

Because a classroom situation usually involves one teacher for ten or more learners, teachers by necessity are limited in how much time they can spend with each learner one-on-one. The pace of instruction in class must proceed at an average speed which is often too fast for some learners and too slow for others. This can be frustrating to both teachers and learners. It can also be difficult for teachers to know exactly how well each learner knows a particular concept because he or she is responsible for so many learners and so many concepts. Teachers are vital, and as technology evolves, it should be used to support them and their learners.
Computer Strengths

In language learning, there are several things that computers have historically done well. Among these are: 1) the ability to provide massive amounts of comprehensible input to learners through the use of video and other multimedia assets without requiring teacher time; 2) the ability to provide learner support materials in the form of written texts, translations, pictures, etc. which

enable learners to comprehend and process texts repeatedly and individually, and in greater depth than is possible in a teacher-fronted classroom; 3) the ability to track learner performance and adapt learning schedules to individual needs better than a teacher can in a classroom setting alone; and 4) the ability to tirelessly provide learners with learning activities designed to meet individual needs.

Computer Weaknesses

On the other hand, computers are very poor at providing oral interaction. They do not provide the social interaction that motivates the learner to want to use language in the many situations necessary for the development of communicative competence. They are inadequate at providing feedback about the quality of the oral and written language produced by learners and in helping learners set individual learning goals. In all of these areas the teacher and the classroom setting are essential to the success of the learner.

BLENDED LEARNING IN TALL

TALL is a language learning system that fully integrates the use of face-to-face instruction and technology-assisted instruction. The following table outlines the way the TALL system utilizes the two forms of instruction:

Table 1. Roles of teachers and computers in the TALL system.

In the TALL system, the teacher	In the TALL system, the software
• introduces new tasks to the class and provides motivation to learners • oversees the correct implementation of the technology for learning • organizes pair work, small group interactions and teacher-fronted instruction to reinforce material learned in the computer-assisted part of the system • conducts one-on-one practices with learners and helps them set individual learning goals • sets up simulation experiences to evaluate learner progress and give learners authentic practice experiences	• provides opportunities for the learner to hear and see the tasks performed in context by native speaker models • provides practice with the basic language tools needed for performing the tasks, including vocabulary, phrases, pronunciation, etc. • assesses learner performance with these tools and keeps track of how well every learner knows each word, phrase, and grammar principle • systematically recycles items that are not yet mastered • adjusts the presentation of materials to learners' responses • provides the teacher with detailed reports about the performance of each learner

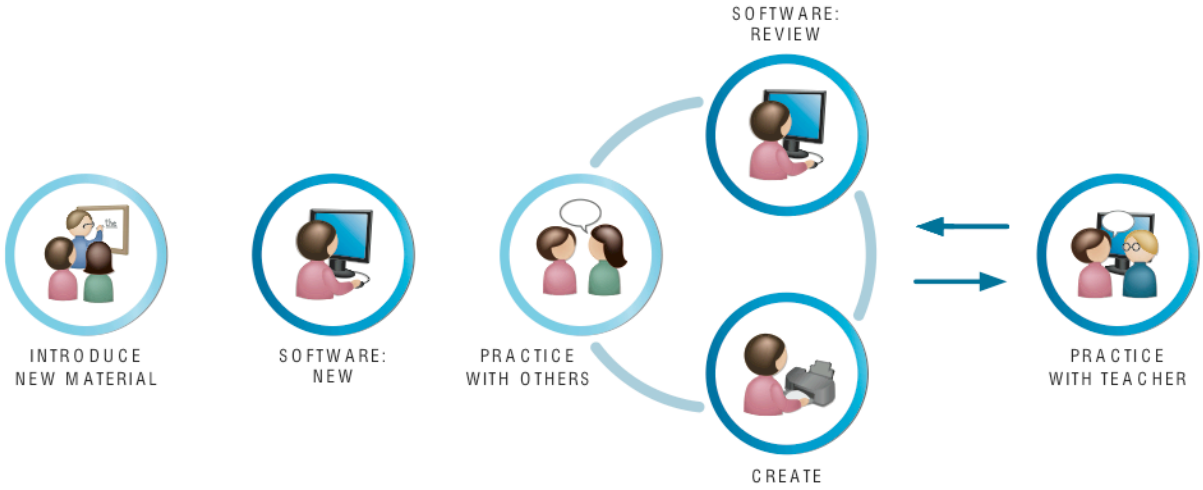


Figure 1. The TALL Model

TALL's blended learning design enables learners to gain knowledge in ways that would not be possible without the integration of technology and the classroom.

COMMUNICATIVE LANGUAGE TEACHING

The Communicative Language Teaching (CLT) approach is learner-centered and emphasizes the use of language for communication in real-life situations. A syllabus using this approach is designed around the real-world tasks that a learner needs to perform in the target language, rather than around grammatical features.

In CLT, the role of the instructor is different from that of traditional teaching methods. In the traditional classroom, the teacher is the focus and is solely responsible for the content of the course and the motivation of the learners. In CLT, the teacher serves as a facilitator, allowing learners to share responsibility, set goals, and take charge of their own learning.
CLT also emphasizes that language is developed through communication. In particular, grammar instruction is used as a tool to improve communication, not as an end in itself. CLT also stresses the proper use of language in a range of social situations. Thus, learners must be exposed to authentic example texts taken from real-life situations, and teachers must create realistic opportunities for learners to use that language in the classroom.

Other features of CLT are as follows (Finocchario and Brumfit 1983):

- Communicating meaningful information is paramount.
- Dialogues, if used, center around real-life functions.
- Contextualization in a real-life situation is a basic premise.
- Drilling may occur, but peripherally.
- Translations may be used where learners need or benefit from it.
- Reading and writing can start from the first day.
- Fluent and acceptable language is the primary goal.
- Intrinsic motivation will spring from an interest in what is being communicated by the language.

COMMUNICATIVE LANGUAGE TEACHING IN TALL

The methodology adopted by TALL reflects the CLT approach. In TALL, the computer presents the learner with multiple listening experiences in which they are exposed to authentic communication. This is particularly true of the movies integrated into levels 3 and 4 of the TALL software. These movies are engaging to watch, and at the same time, they present characters involved in performing real-world tasks that learners are expected to be able to do.

Much of the listening material also has learning aids which enable learners to process the language in depth. In the TALL system, the computer activities provide the learner with the tools to communicate, and both the software and classroom activities emphasize real-life situations and communication in context. Learners use the software to practice the vocabulary, phrases, and grammar involved in performing each task to prepare for communicative interactions with other learners and the teacher.

Throughout the classroom portion of the TALL system, learners are involved in a variety of communicative activities, practicing the performance of the tasks. They engage in one-on-one encounters with the teacher in which their ability to perform the tasks is assessed, feedback is given, and goals are set for further work. The culmination experience for each set of tasks is to perform a simulation with native speakers in which the learner has to communicate effectively. The total focus of this practice is to help learners to develop real-world communication skills.

TASK-BASED LEARNING

Many language textbooks and other learning materials are organized around grammar principles, teaching them in order of perceived usefulness or frequency. However, research in second language acquisition over the past three decades has shown that focusing instruction on learning grammatical forms does not lead to fluency in real language use (Lightbrown and

Spada 1999; Doughty and Long 2003). Task-based language learning (TBLL) was developed to address this weakness. Nunan (1999) defines task-based language learning as “an approach to the design of language courses in which the point of departure is not an ordered list of linguistic items, but a collection of tasks” (p. 24). This is closely related to communicative language teaching (CLT).

The focus of TBLL is on providing learners with the language components and forms that they need in order to be able to accomplish particular real-world tasks. Learners need to be able to greet others, introduce themselves, talk about their families and their interests, etc. A TBLL curriculum will provide them with the tools and the practice that they need in order to perform these tasks in socially appropriate ways.

A second feature of TBLL is the use of communicative pedagogical tasks. That is, learners do not go through repeated mechanical drills or respond to questions designed to display their knowledge about the structure of the language. Instead, TBLL focuses on providing experiences where learners listen to multiple examples of authentic communication in a real social context, and then interact in order to solve problems and communicate ideas, needs, and desires.

TASK-BASED LEARNING IN TALL

The TALL system uses the TBLL approach. The TALL syllabus was designed to involve the learner in a set of general core language tasks. The core tasks were selected by examining a number of curricular resources including the American Council for the Teaching of Foreign Languages’ (ACTFL) proficiency guidelines, the Council of Europe’s European Language Portfolio, and dozens of commercial textbooks for the teaching of English at various levels. Based on these sources, as well as each task’s usefulness to many different types of language learners in many different contexts, the tasks were assigned to a proficiency level from one to four.

Table 2. Example tasks from TALL Courses.

TALL Course			
Basic English Level 1	Basic English Level 2	Intermediate English Level 3	Intermediate English Level 4
• Meet Someone New • Talk about Family • Talk about Routines	• Describe People • Make an Appointment • Ask and Give Directions	• Give Instructions • Apologize • Make Invitations	• Describe an Event • Support an Opinion • Talk about Advantages and Disadvantages

Activities within each lesson begin with having the learners observe others performing the task and then developing the vocabulary, phrases, etc., for the performance of the task. They culminate with multiple opportunities to perform the task in a variety of contexts. Finally, learners experience an integrated simulation involving the performance of several different tasks.

SPACED REVIEW

In order to use the language, learners need to be able to retain what they have studied and to use it when necessary. Part of becoming a fluent speaker is having the ability to speak without constantly pausing to remember words or grammar structures. Such pauses are eliminated when the material is put into long-term memory in such a way that speakers can recall it without hesitation.

One of the most dependable phenomena in all experimental psychology is the effect of spacing the presentation of material. Research shows that when learners see the material frequently at first, and then at increasingly long intervals of time, the material is solidly retained in long- term memory. In research conducted with learners who studied Spanish for three years, those learners whose study involved spaced review remembered 72% of the vocabulary they had studied 50 years earlier (Bahrick 1984). Those whose study did not involve spaced review remembered less than 10%. Learning which involves spaced review allows for better recall and also decreases the amount of time it takes to master the material. This study confirms that material that is reviewed over time is more likely to be retained over time.

SPACED REVIEW IN TALL

The TALL system includes spaced review as an integral part of the software. For example, after learners do various activities in the software to learn new vocabulary words, the software will show them the same words to review the next day, but then will not show these words for a couple of days. The words will later reappear in another review activity. If learners remember the words after this short period of time, the words will disappear again and reappear after another delay in a test. However, if learners cannot remember the words, they are put back into the review cycle until they are mastered. In this way, TALL's Spaced Review system helps learners move the material into their long-term memory. When the material is in the learners' long-term memory, they become masters of the material. The learners can then use the material in communication quickly and easily. Review that is not spaced and repeated may only allow the learners to recognize that they have seen the material before, not actually use the material for communication.

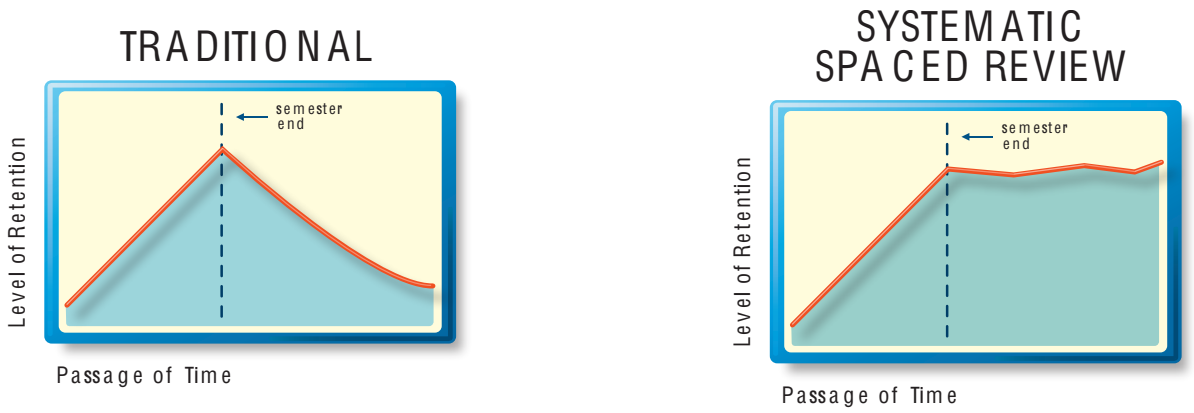


Figure 2. Retention of material over time.

ADAPTABILITY

Not all learners are alike, and individual learners will struggle with certain concepts or skills and not with others. One difficulty of teaching is challenging learners who are ready to move ahead while helping learners who need extra time or assistance. Lev Vygotsky's Zone of Proximal Development theory explains the importance of adaptability in language learning. The theory states that for instruction to be effective, information must be presented at a level just above the learners' current level of understanding. They must be pushed beyond what they already know to what they can know with some extra help.

For best results, the teacher or instructional materials should keep instruction within this zone for each learner. In the language classroom with traditional materials, it is very difficult to provide an environment that adapts to each learner's zone of proximal development for each new concept or skill.

ADAPTABILITY IN TALL

The TALL software adapts to individual learners' abilities as they learn new vocabulary, grammar, and phrases. The software is designed to let learners spend more time on the material they are struggling with, less time on the material they learn easily, and almost no time on the material they already know. The software can do this for literally hundreds of concepts at the same time.

The questions the software gives the learners will be easier or harder depending on their previous answer. For example, if while working on the computer a learner easily remembers the word "acquiesce" but struggles with "engineer," the computer will adjust accordingly, presenting activities with the word "engineer" more often than the word "acquiesce". Eventually the item is

moved to a test. If answered correctly, the item is considered mastered. If not, it simply moves back into the review activities. TALL was designed to help all learners learn as much as possible as fast as they can, whether they are the fastest or the slowest learners. It does all this while helping each learner feel challenged but not overwhelmed.

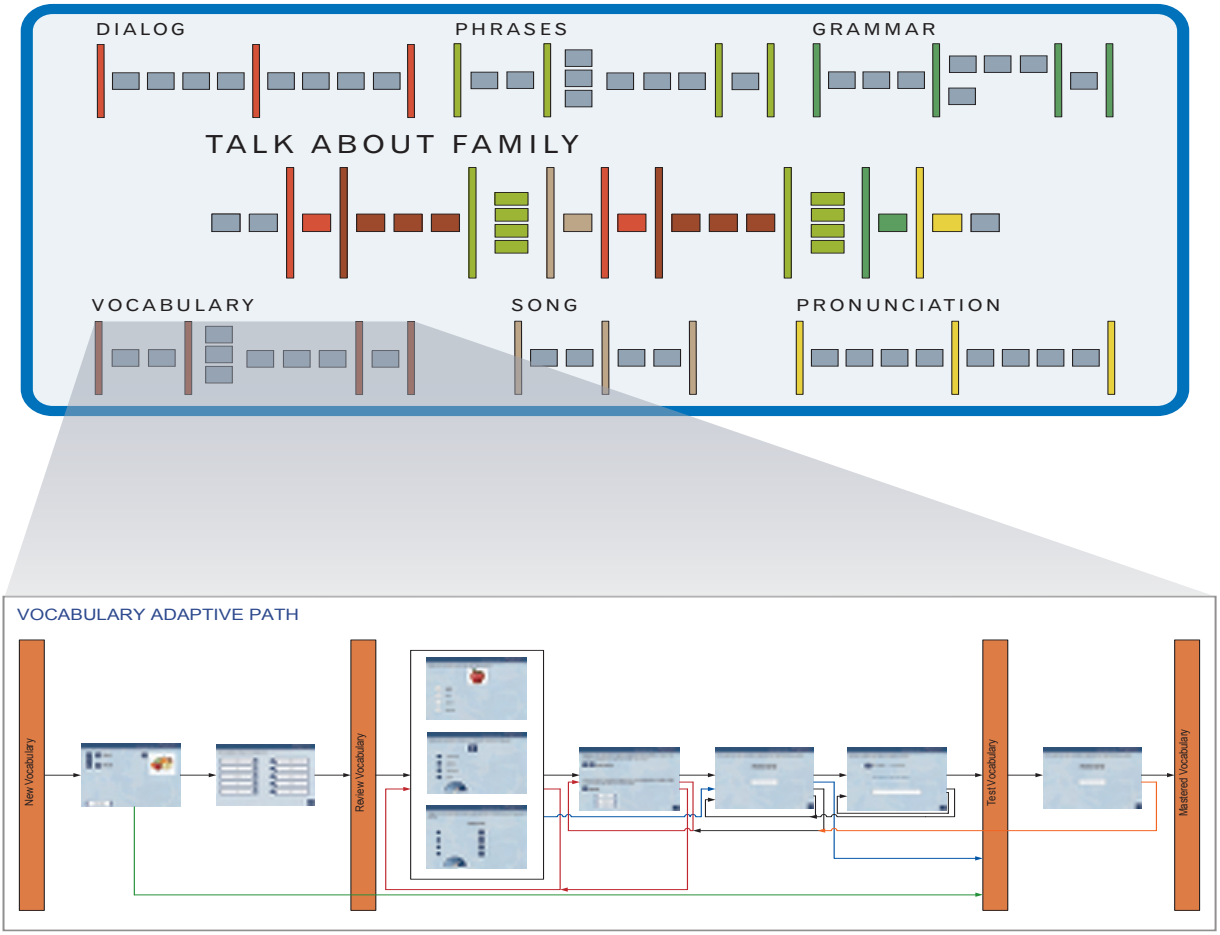


Figure 3. This is a high-level view of what happens in the software. The light blue boxes represent individual activities. For each vocabulary word, the user would do only the activities that they need to do to master a given word. Some words will go through many activities, while others skip through just a few very quickly, depending on the needs of the individual learner.

VOCABULARY SELECTION

The impetus for the “Global English” movement has come from the discovery that most communication in English, especially oral communication, relies on a rather small number of words. For example, Biber, Johansson, Leech, Conrad and Finnegan (1999) found that 12 verbs accounted for over 45% of all verbs used in a large sample of spoken English.
West (1953) identified a list of 2,000 word families that account for between 80 and 90% of all words used in most spoken and written texts in English. These are the words which occur very frequently in all contexts. Therefore, most language teaching researchers believe that learning these words should be a high priority for all learners of English, whether they wish to attend an American university, use English in a business context, or simply visit a country where English is spoken.

In addition, Xue and Nation (1984) and Coxhead (2000) have identified around 600 words which occur frequently in academic English. These words should become a priority for anyone wishing to attend an English-speaking university or read newspapers, professional journals, textbooks, or other material of an academic nature.

VOCABULARY SELECTION IN TALL

Since the objective of the TALL program is to help language learners actually use the language, words taught in the software are those which are known to be most frequent and useful. After the language tasks were assigned to a difficulty level, vocabulary frequency lists were consulted to identify the most frequent and useful words related to that particular task. The 1,000 most frequent words in English are taught in the two levels of Basic English. The next 1,000 words are included in the two Intermediate English courses. The Academic English strand teaches many of the 600 most common academic and professional words. See Tables 3-5 on the following.

Tables 3-5. Examples from Nation's Word Lists

List	1-1,000 most frequent words	
Example Words	human	dog
	month	snow
	blue	question
	teacher	sing
	winter	usually
Corresponding TALL Course	Basic English Level 1 Basic English Level 2	

List	1,001-2000 most frequent words	
Example Words	discussion	praise
	caution	convenient
	arrange	solve
	combine	essential
	jump	information
Corresponding TALL Course	Intermediate English Level 3 Intermediate English Level 4	

List	Most frequent academic words	
Example Words	ensure	required
	access	instance
	military	project
	consequence	community
	resource	technical
Corresponding TALL Course	Academic English	

ACTFL PROFICIENCY GUIDELINES

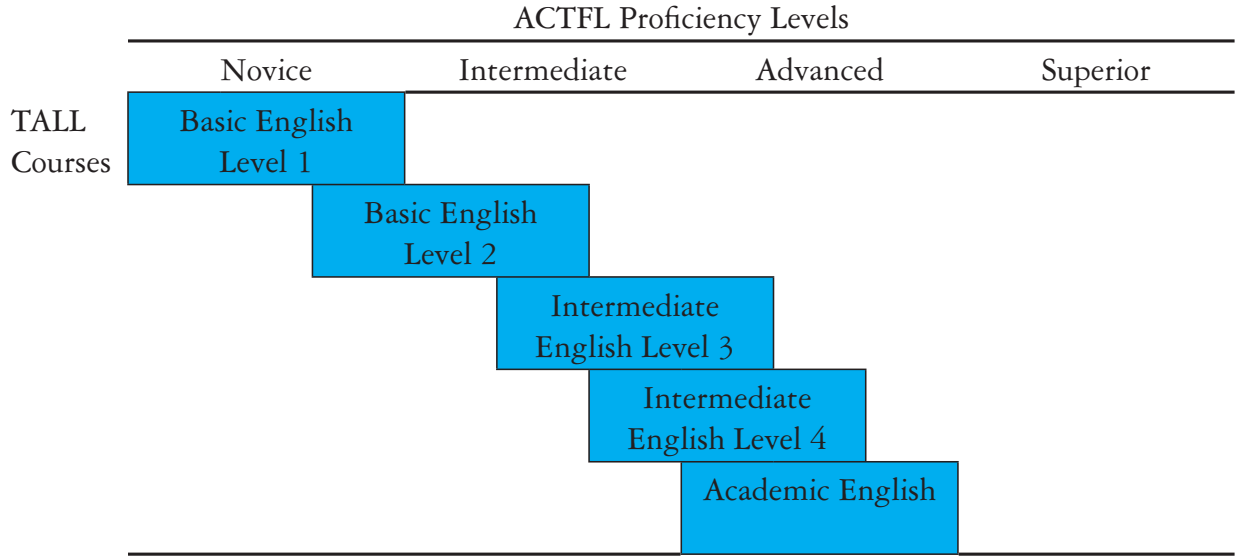
The American Council on the Teaching of Foreign Languages (ACTFL) has developed a set of oral proficiency standards and testing procedures that can be applied to learners of any language (Breiner-Sanders, Lowe, Miles and Swender, 2000). These standards are widely recognized and used by institutions such as universities, employers, and government agencies. An individual whose oral proficiency is tested by an ACTFL certified tester can receive official results which can be used to meet employment or academic requirements.

ACTFL divides language proficiency into four levels: Novice, Intermediate, Advanced, and Superior. Each proficiency level is further broken down into low, mid, and high sub-levels. A person is considered to be at a particular level when he or she can perform certain types of language functions (i.e. ask questions, consistently use past or future tenses, hypothesize and speculate).

ACTFL PROFICIENCY GUIDELINES IN TALL

The TALL system courses were designed according to ACTFL Proficiency Guidelines. Each course is designed to teach language that is appropriate for that proficiency level. Each course is also intended to help learners move from one proficiency level to the next. Generally, it is easier and faster to progress at the lower proficiency levels than at the higher levels. Thus, learners in Core 1, who may begin at a novice low or mid level of proficiency, can be expected to reach a low intermediate level by the end of the course, while learners in Core 4 may begin at an intermediate mid level and end the course at advanced high.

Table 6. Where TALL courses fall on the ACTFL Proficiency Scale



MOTIVATION TO LEARN

There is no shortcut to learning a language. Acquiring a new language requires a lot of time and effort; without motivation, learners will not have any interest in spending the time and effort required. Motivation is critical to a learner's success.

John Keller's (1983) Attention, Relevance, Confidence, and Satisfaction (ARCS) model explains how motivation can be maintained.

- **Attention**: gaining and keeping of the learners' attention.
- **Relevance**: learners understand the reasons why they need to know something.
- **Confidence**: the amount of confidence the learners have both in the effectiveness of the program and in their abilities to complete it.
- **Satisfaction**: learners feel they have been rewarded by the learning experience.
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As learners gain more confidence, they are more motivated to learn. However, if they feel too confident or lose confidence in their abilities to complete an activity, their motivation begins to decrease. The balance of building confidence and presenting a challenge is critical to learners' success.

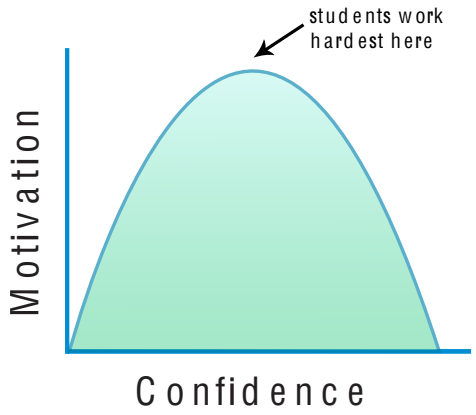

Figure 4. The effect of confidence on motivation. Motivation only increases with confidence to a point, and then it will decrease. To keep students motivated, they cannot feel overly confident.

MOTIVATION IN TALL

The TALL system uses the principles of the ARCS model to motivate learners.

Attention
The TALL system keeps the attention of the learners through its various activities, including peer practices, practices with the teacher, creative assignments, simulations, and interactive software

lessons. The learners' attention is also held within each of these activities because TALL materials are centered on thought-provoking situations and real-life applications.

Relevance
One way TALL helps learners to see the relevance of the material is through simulation experiences. This simulation is an opportunity to practice multiple tasks with a native speaker in a scenario that approximates real life. Having such opportunities motivates learners to prepare for the various real-life scenarios they will encounter outside class. This helps them to quickly realize the relevance of the things they are studying.

Confidence
Based on the confidence aspect of the ARCS model, TALL uses a principle called "stretch but don't overwhelm." Both the software and the in-class instruction of the TALL program are designed to adjust to each learner's ability. These adjustments give learners confidence in their abilities, yet keep them challenged, motivating them to continue to improve.

Satisfaction
In the TALL program, learners find satisfaction in many ways. Positive feedback from teachers and peers is one source of satisfaction. Learners are also provided with performance reports that show their progress. Mastering tasks and participating in simulations are additional sources of satisfaction, as the learners are able to actually use the things they have learned.

INPUT AND INTERACTION

As mentioned earlier, proficiency in language is gained not by understanding the structure of the language, but by the quantity and quality of input and interaction. There is solid consensus that the first major cause of language development is comprehensible input (Doughty and Long 2003). In addition, Long's (1996) Interaction Hypothesis claims that interaction is a crucial part of acquisition. Thus, the success of language instruction depends on how much input it provides, and how many opportunities for interaction it gives the learner.

A second factor which has been shown to contribute to the development of language is that of comprehensible output (Swain, 1985). Just as interaction increases the comprehensibility of input for a given learner, so does a learner's attempts to produce language that is comprehensible to others contribute to the acquisition process. Recently, Swain (1995) has claimed that as learners communicate, they focus on the forms and structures of the language in more detail. For this reason, language instruction that involves communicative interactions is widely considered to be the most efficient way to develop language skills (Bygate, Skehan, and Swain, 2001; Lightbrown and Spada, 1999; Swain, Brooks, and Tocalli-Beller, 2002; Hall and Walsh, 2002).

INPUT AND INTERACTION IN TALL

Comprehensible Input
TALL provides comprehensible input to learners in a variety of ways. These include video and audio segments of native speakers performing real-world tasks, and video and audio of presentations and monologues. Increasing the comprehensibility of the input is done using visuals, pre-listening activities, the introduction of key vocabulary, showing the text of audio and video segments, and translations of important words. TALL regularly checks learner comprehension with activities that require verbal and non-verbal responses.

Interaction
In the TALL classroom, large amounts of input are provided by the teacher and by pair work and small group interactions. Interactive activities with peers and teachers require learners to demonstrate comprehension, and any problems can be immediately noticed and resolved in the process of communication.

Comprehensible Output
Opportunities for producing language are provided largely in the classroom segment of TALL. Through pair work, small group interaction, one-on-one practice with the teacher, simulations and outside assignments, learners interact and engage in meaningful communication. Reading and writing exercises also provide opportunities for receiving input and producing language. To the degree that learners participate fully, they will have many opportunities in each lesson to produce the language.

JUST-IN-TIME GRAMMAR

As mentioned above, knowledge of grammar does not produce fluent speakers of a language. There are many learners who do very well on grammar tests but have little ability to comprehend or speak a second language. On the other hand, many native speakers who speak flawlessly have difficulty explaining the grammar rules of the language.

Researchers have distinguished between “focus on forms” and “focus on form” (Doughty 2003) in second language instruction. “Focus on forms” is the deliberate teaching of grammar in order to produce understanding of the grammar, in the hope that understanding alone will allow the learner to use the form correctly. “Focus on form” refers to bringing grammar to the attention of learners as a part of communicative language practice. It is generally conceded that focus on grammar for grammar’s sake does little to contribute to correctness during communication,

while making learners aware of structures as a part of communicative language practice can contribute to the development of greater accuracy during communication.

Research into the “focus on form” type of grammar instruction suggests three possible ways that it can contribute to the development of communicative ability. First, direct grammar instruction may help raise learners’ consciousness of a form which they have not noticed when they have read or heard it, so that learners may learn to recognize the feature and listen for it in the future (Sharwood Smith, 1981; Ellis, 2000). A second purpose for grammatical knowledge is that it may serve as a memory device, helping learners remember how to produce a particular form until they can produce it automatically (compare to Blair, 1982). Third, grammar instruction can be a means of “flooding” learners with examples of a form which occurs infrequently, giving them more intensive practice with a form that they might not encounter in everyday speech except once every week or so.

JUST IN TIME GRAMMAR IN TALL

The TALL system uses a “focus on form” methodology for grammar instruction. TALL presents grammar in a way that does not require learners to develop a rich base of grammatical terminology, but rather helps learners remember the structure of particular utterances. Instead of presenting learners with a discussion of rules, TALL prefers to show learners animated examples in which the focus is on the relationship between form and meaning. “Just-in-time grammar” refers to the use of grammatical explanations and exercises presented as a part of a task-based approach where performing the task is paramount and the grammar presentation is a tool to facilitate communication and increase accuracy.

CONCLUSION

With a foundation of sound theory, research results, successful implementations, and research-based improvement, the TALL system includes the best components of a successful ESL program. The system incorporates the many teaching approaches that are proven to be essential to successful language acquisition. Combining these concepts with the strengths of both teacher instruction and technology-assisted instruction makes the TALL system an effective and rewarding way to both teach and learn a foreign language.

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