

WEB-BASED INSTRUCTION :
TEACHING STUDENTS TO UTILIZE PROBLEM SOLVING STRATEGIES

by

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Abstract

In the last couple of years on-line courses have burgeoned on the world wide web. However, despite technological advances, there are a dearth of programs which aid students in developing problem solving skills. Currently, there are only five programs on the Test of English as a Foreign Language (TOEFL) exam that are available on the world wide web. All of five are based on a question, answer and evaluation format. The purpose of this M.Ed project is to develop a program that teaches students to utilize their cognitive and high order learning skills by providing multifaceted exercises that work on developing these strategies.

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Chapter One: Introduction and Theoretical Overview

The focus of this project is on constructing a web-based teaching tool for the Test of English as a Foreign Language (TOEFL) based on cognitive learning theory. The teaching tool is being constructed for those individuals who speak English as a second language, and would like to attend university in Canada or the United States. At most universities, success on the TOEFL test is an entrance requirement for all individuals whose native language is not English. The score that an individual receives on the TOEFL exam allows the admission board to determine whether the student has adequate English skills for enrollment into his/her chosen university or program. The test consists of three timed sections: Listening Comprehension, Structure and Written Expression, and Reading Comprehension. In addition to these three sections there is another test called the Test of Written English (TWE). The TWE score is combined with the Structure and Written Expression component.

In the past, the study tools available to English as a Second Language (ESL) students has comprised of textbook study guides and audiocassette materials. It has not been until recently that CD-ROM study tools and programs on the Internet have been available to students. Furthermore, the material that exists in the market today largely consists of study tools which require the student to memorize, rather than understand the how's and why's of the task in question. As an Academic Coordinator for an ESL institution, it is my job to ensure that students are well prepared with a sound understanding of the English language before they enter an institution of higher learning.

Rationale

Studies have shown that the use of hypertext media compared to traditional face-to-face (or correspondence independent study) instruction has shown positive and promising results (Liao,1998; Owston ,1997). The web trainer called the “TOEFL XL” that I have designed and partially developed for this M.Ed. Project will give students an alternative to traditional English language instruction and give them an active role in their own learning by helping students them to utilize problem solving strategies. Often when students are studying for standardized tests they tend to memorize the answers to test questions rather than understanding how or why a particular answer is appropriate. The benefits of an interactive web design allow students to both take responsibility and control of their learning.

There will be two parts to this project. In the first part of the project, I discuss the theory and the process involved in constructing the web-site. The implementation and design of the web-site have their theoretical roots in cognitive strategies and higher order learning. The theoretical component of this project is crucial to understanding the design and the analysis of the environment that I have created. The second portion of this project is a prototype of the web based teaching tool. The prototype may be viewed at the following Internet address:
<http://www.intergate.ca/personal/esl> . (The password is “jennifer”)The objective of this M.Ed. project was to design an on-line independent study course that will help ESL students develop English language proficiency in preparation for taking the TOEFL course.

Chapter Two: Background to the Project

The effects of hypermedia tend to be two-sided. In a study conducted by Liao (1998), he performed a meta-analysis on existing research comparing the effects of hypermedia and traditional instruction on students' achievement. His study showed that hypertext instruction showed positive and promising results compared to traditional instruction. Moore (1990) also believes that hypermedia has greatly enhanced learning by providing interactive opportunities for learners to structure their own learning approach and increase their control over the subject matter. However, there are those such as Clark (1983), who remarks that there is "consistent evidence found ... that there are no learning benefits to be gained from employing any specific medium to deliver instruction" (Clark, p. 445). Havice (1995) purports that students receiving traditional instruction actually made more gains than those who received media instruction. Despite these claims, there are many proponents who believe that there are benefits to web learning when presented in an environment, which allows the learner to control his/her own learning. Owston (1997) proposes to explore the question of whether the web promotes improved learning. He comes to the conclusion that if the web is used for a tool it will not help the students to develop any unique skills. The key to learning is how the web is utilized in a teaching learning situation. In support of Owston's findings Clark (1994) remarks that "any improvement in learning that may accrue will come from the instructional *design*, not the medium that delivers the instruction (Owston 1997, p. 5).

Computer Instruction in the Past

The concept of computer-mediated instruction is not a novel idea. In fact, computer mediated instruction has been used widely in America for about two decades(Liao 1998 p. 341). In the early days, computer instruction was severely limited by the technology that was available to both the public and the programmers. The majority of these programs relied on the standard “skill and drill” format of: presenting information, having the student respond, providing an evaluative response, and then directing the student to proceed to the next step.

In recent years this standard procedure has diverged somewhat with learners now being able to choose which topic they would like to explore. There has also been some development in artificial languages such as Prolog, which deals in relationships and can respond to queries, (Bruce,1989, p. 245). Despite these advances, the boundaries of the program are still set up by the design set by the programmer.

Today, there are many programs on the market that use computer training for the TOEFL via CD-ROM or the Internet. Although these programs incorporate vicarious interaction by welcoming the person by name or giving the illusion that there is someone who is corresponding with the individual, many of these programs still fail to involve the learner in their own learning process. The inability for the program to help the student understand the principles behind why or how a question was marked right limits the utility of many computerized learning tools. In order to increase the utility of computerized programs it is essential that a designer understands how the construction of knowledge and roots of higher order learning affect the learning process

(Young,1997).

Cognitive Strategies

There are three components involved in higher order learning that interact with each other. The first component called cognitive strategies, can “guide learners’ subsequent thinking behavior”(Gagne,1985, p. 17). Cognitive Strategies can be described as intellectual skills that are used by the learner when processing information. Strategies such as highlighting, underlining, posing adjunct questions, and outlining support the information-processing stage of attention and selective perception. Cognitive strategies such as paraphrasing, chunking, and imagery support the information-processing stage of rehearsal. Encoding can be supported by such cognitive strategies as concept mapping, and analogies. Retrieval can be supported by such things as mnemonics and imagery.

Metacognitive strategies are the second component in higher order learning. These involve activities such as: planning a problem-solving approach, using a solution strategy, monitoring understanding, monitoring comprehension, and evaluating progress towards one’s goals. The effectiveness and efficiency of solution strategies and modifying one’s approach to problem solving are directly related to metacognitive strategies (Young,1997, p. 38). A learner who utilizes metacognitive strategies may control their learning by self-evaluating themselves through their learning process.

Another component of higher order learning is called non-strategic or domain-specific knowledge. This type of knowledge is also referred to as prerequisite knowledge. When a learner

is presented with a problem, their domain-specific knowledge helps them to determine the most efficient use of metacognitive and cognitive strategies. This forms a collection of previously acquired ideas and relationships organized in categories that are understood by the individual and are known as schemas (Young 1997). It is paramount for a designer to understand cognitive and higher order learning in order to create multifaceted exercises and situations that work on cognitive, metacognitive and domain specific knowledge.

Principles of the Design of the TOEFL XL

Effective strategy interventions for designing a learning environment to facilitate higher order thinking skills are elucidated in the following guidelines constructed by Hattie, Biggs, and Purdies (1996). The first guideline recommends that a designer should utilize a multitude of cognitive and metacognitive strategies. In the TOEFL XL this is achieved through outlining, questioning, paraphrasing, and imagery. Braten et al. suggest that designers “use embedded strategy training interventions which are specific to the context, linked to the curriculum content, and require learners to draw upon their own knowledge” (Young,1997, p. 40). This is achieved in the TOEFL XL through prompting, step-by-step directions on thought processes, and encouraging the individual to build on their domain-specific and to develop knowledge and to develop additional schemas. Their third guideline advises the designer to provide opportunities for the student to practice and thus retain their new knowledge. This is achieved in the TOEFL XL through practice exercises and quizzes presented throughout the TOEFL XL. The fourth guideline proposes that the intervention that the designer creates must evoke, support, reinforce, and

maintain the specific target. The TOEFL XL evokes situations, which require the learner to draw upon their skills by presenting the learner with challenging exercises. The TOEFL XL supports higher order learning by aiding in the learning process through temporary instructional support. After the learner is presented with new material he/she is led through step-by-step instructions on how to resolve a particular problem. This gives the student an opportunity to build on their existing knowledge to create new schemas. The absence of temporary instructional support could prevent a student from knowing how to solve a particular problem. There are two ways in which the TOEFL XL maintains and reinforces strategy use. The program gives consistent feedback to the end user and encourages the student to take ideas and concepts outside of the classroom.

Incorporating the above skills as a target of instruction is viewed by some to be preferable and more efficient than traditional learning environments (Hattie et al. 1996, Honebein, Duffy and Fisherman 1993) because it emphasizes problem learning tasks and it provides for a more learner controlled environment. The outcome is that the learning process is not as stringently dominated by an instructor or a program.

Incorporating Objectives into the Learning Environment

The content of the program must provide opportunities for cognitive knowledge and acquisition of knowledge to take place. Tennyson (1990) suggests that 70% of instruction be devoted to learning and thinking situations rather than the 70% being directed to content instructional purposes. Designers, therefore, should focus on the planning of a learning environment that facilitates students' acquisition of knowledge and improves their cognitive

abilities to employ and extend their knowledge. Without the necessary contextual knowledge it is difficult for the student to elaborate and utilize their content knowledge. As part of the knowledge acquisition goal, learning time must focus on contextual knowledge, and away from the usual practice of heavily emphasizing on the quantity of information. Therefore, in the TOEFL XL, the focus is not on the information per se, but rather on presenting the material in a meaningful context that provides opportunities to promote higher order thinking skills.

The design of the TOEFL XL emphasizes learning and thinking processes in several ways. First, it presents what Tennyson (1990) calls the Best Example. The Best Example helps the student to establish a clear concept and understanding of the point in question.

Second, it provides the learner an opportunity to extend their existing knowledge and utilize that to establish new knowledge. This is accomplished in the TOEFL XL through presenting the learner with information, helping the learner to link the new information with existing knowledge, then giving the learner an opportunity to practice this new knowledge and finally helping the learner to use the new knowledge in various ways. The alternative instructional situations that are provided in the TOEFL XL allow for a variety of ways for the student to learn the new information. Tennyson (1990) states that "personalizing the context to student background knowledge improves understanding of the information by connecting, within working memory, knowledge that easily retrieved. Thus, the new knowledge becomes directly linked or associated with existing schemas"(p. 13). By providing multiple paths through the material, and by encouraging students to incorporate examples from their daily lives, the TOEFL XL will deepen

and elaborate students' knowledge of English grammar and usage.

Evaluations

It is necessary for us to move beyond the behaviouristic paradigm whereby evaluation focuses only on the students' performance. Rather, evaluation should serve the purpose of helping to diagnose what the learner is doing and why. The student needs to be diagnosed during instruction and the achievement of that student must be measured in meaningful and complex situations. When a student receives feedback such as "That is correct" or "That is incorrect," it circumscribes their abilities to utilize their cognitive, metacognitive and domain-specific strategies. In the TOEFL XL, the feedback is constant and pertains to the student's direct performance and not just his/her ability. For example when a student's answer is correct, the TOEFL XL feedback tells the student why it is correct. If the student does not answer correctly, the feedback helps him/her draw on their domain-specific knowledge to solve the problem for himself/herself by providing a prompt or explanation that reminds the student of the key concepts in the lesson. If the student continues to respond incorrectly to the practice questions, an option appears on the screen allowing the student to refer back to the BEST EXAMPLE and practice the point more thoroughly. Therefore evaluation becomes more than just checking to see whether objectives have been met. Instead it is used formatively and thus becomes part of the learning process at the same time. Similarly, the approach of taking the instruction out of the lab and into the real world gives students an opportunity to analyze and control their own learning process through self-evaluation. This is accomplished through a section called "Take it out of the classroom." These sections give

the learner exercises to practice outside of the classroom. These metacognitive strategies helps students to evaluate the processes involved in achieving their goals.

Chapter Three: The Development Process

The Development of the TOEFL XL was an arduous task. Since only one component of this prototype is interactive it was hard to envision the progression of the end user because I would not be able to determine how he/she would work through the program. Therefore, mapping out the navigational structure of the site was difficult to do. However, there are tools that can be used to help with website planning. To create the web site, I used a program called Macromedia Dreamweaver. One of the advantages of using this program is that it has a site map that allowed me to see where my pages were in relation to one another. The site map was instrumental in helping me to create a skeleton frame. The frame consisted of the pretest, evaluation, weak areas, practice, post-test and the TWE sections.

Figure 1. Skeleton Frame

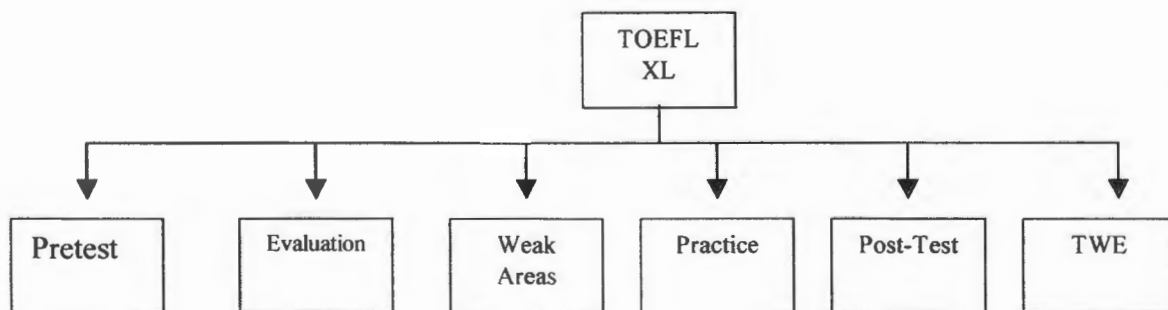


Figure 1. Replica of the site map in the Dreamweaver program.

Initially, I had designed the listening, structure and writing, and reading sections to be on one page. I soon realized that this would be very overwhelming for the end user because it resulted in a cognitive overhead. Conklin (1987) defines cognitive overhead as “the additional mental overhead required to create, name and keep track of links”(Ebersole,1997, p. 5). Turing (1995) has argued that there are relationships between cognition and hypermedia. One of these relationships is the experience of being guided through electronic documents. He states that by:

facilitating the construction of semantic relations between information units, and freeing processing capacities that otherwise would have been bound by orientation, navigation, and user-interface adjustment, interactive multimedia authors can increase the effectiveness of their product. (p.61)

In this prototype the evaluation section is not interactive due to the similarity to the pretest. The weak areas page was particularly difficult because I needed to imagine that the student had already completed the pretest and evaluation in order to demonstrate the weak areas of this hypothetical student. The weak areas section involved a lot of javascripting which is one of my weak areas in terms of programming. Javascripting involves an understanding of an object-oriented language. Many of the scripts that I borrowed from other designers were slightly flawed and created problems that I could not fix. For the corrections in the scripting I enlisted the help of several programmers. The bugs in the script caused a delay in the development of the web site. At this point, I have left the post-test page incomplete. It is similar to the pre-test and will be developed in the future. The TWE page is similar to what the finished product will look like. The student sends his/her essay directly to me via e-mail. The next page I created was the instruction

page. The creation of this page required the presentation of icons that would create the appropriate imagery for the students to familiarize themselves with. For this I chose an icon of a boy at a computer, animated paws, and an icon of a mouse. Whenever the student sees the boy at the computer it means that he/she must type out an answer, the animated paws represent taking a point out of the classroom, and the icon of the mouse tells the user that they can press on a link to get a definition. The use of visual imagery was used to reduce the load on the cognitive process and minimize the user ability for comprehension and learning. Every effort was made in the design to limit distractions and thereby increasing comprehension.

Another aspect that I had to consider while designing the TOEFL XL was the use of sounds, pictures and animation. Salomon (1979) argued that there are two ways in which the differences in media are apparent. First, they differ “with respect to the amount of mental translation from external symbol system to internal mode that they require.” Secondly, they differ “with respect to the kinds of mental skills that they invoked in the process of knowledge extraction” (Ebersole, 1997, p. 6). Saloman believed that the mental resources available for recoding would minimize the user’s ability to comprehend areas of the web page. In order to increase coherence and comprehension, I used a number of metaphors that are consistent throughout the web page. For example, the animated GIF of the paws moving symbolizes moving away or taking the point outside of the classroom. This icon was selected to make reference to authentic tasks. Another strategy I used to reduce cognitive overhead and to increase coherence was the provision of cues to help the student navigate through cyberspace. For example, I used the

ubiquitous arrow keys that are seen throughout many web sites.

The last page, the cover page, was created using Adobe Photoshop and embedded sounds.

The final page that was created was the congratulation page, which was intended to keep the student asking himself/herself questions even though he/she had finished the exam. Although this document and the accompanying website constitute the full M.Ed. project the project as a whole is only partially completed. I plan to complete it in the near future with the help of computer programmers. Presently, the TOEFL XL will remain as a prototype due to the lack of funding to fully produce it. Before I release the finished product for public use, I plan to field test it thoroughly with the existing TOEFL classes at my place of employment.

Environmental Analysis

While designing my web site I realized that there are many designers who follow procedures and models for instructional design and yet fail in the implementation of their product. According to Tessmer and Harris (1990) materials can fail because there was little or no focus on doing thing right in the development process. In order to do things right, it was necessary for me to see the development and implementation of the product as the end goal rather than just focussing on the creation of the content material. Tessmer and Harris (1990) have called this environmental analysis. Environmental analysis "is the analysis of the context of instructional systems, of the physical and instructional characteristics of product use" (p. 16). The purpose of this analysis is two-fold. The first is to describe where instruction occurs, who uses it, and how it is used. The second purpose of environmental analysis is to identify the way in which data effects

the product to be designed.

There are two aspects to consider in environmental analysis. The first, is the instructional environment, which encompasses both the learner's and the instructor's roles. In order for me to design my product I needed to consider the role of the learners as they used the product.

According Harris and Bell (1986) there are a several categories that describe a learner. These are: receiver (receives, sorts, and organizes stimuli), detective (the student discovers knowledge by searching, analyzing, and communicating) and generator (the student generates new ideas, communications, and ways of viewing events) (Tessmer and Harris, 1990, p. 18). I needed to keep these categories in mind as I selected my use of imagery and presentation of the web site. In addition to this I needed to consider the role of the instructor. Although the TOEFL XL was originally designed to be used for individualized self-study, I realized that many teachers may also use it as part of their TOEFL course. For these reasons, I needed to consider how the instructor would implement my product in their course. Harris and Bell (1996) state that there are four categories to describe the instructor's role. The instructor could be any one of the following: composer (the instructor develops a range of learning experiences), conductor (enabling a group of student to learn how to learn, organizing and supporting students during learning), performer (providing information and examples with little explicit student activity, or critic (reviewing and commenting on students' performances, assignment written work). These roles are very important because the teacher's role might not match the individualized design of this program.

The second component of environmental analysis of paramount importance is support. As a

designer, I needed to consider the production and the delivery of the program. (Currently, due to funds required to commercialize this product, I was only able to make a prototype.) I have already established a business plan for the production of the materials and the distribution of the product. “One of the project planning failure is that the dissemination capability of the support system cannot satisfy the production and delivery needs of the design project” (Tessmer and Harris,1990, p. 19). Failure of the support system or the instructional system can cause a failure of the program as a whole. As my site progressed I realized how detrimental it would be to my end product if I did not consider these issues in my development of the TOEFL XL.

Chapter Four: Description of the Prototype

I was responsible for the instructional design and the development of the on-line prototype.

The content (test questions) and instructional activities were written by a TOEFL teacher and myself. The program was designed to give the instructor the flexibility ability to change the database. One of the limitations of CD programs and on-line programs is that the same questions can reappear. If the questions are changed frequently on a regular basis then the students will not have an opportunity to merely memorize the answers.

The Structure and Content of the TOEFL Exam

The TOEFL exam is divided into four sections that assess potential students' English Language proficiency in the domains of listening, structural knowledge, reading, and writing (See Appendix A). The first section is the listening component presented as sound files in wav, format. The listening component is reflective of conversations and academic lectures that are similar to those that the student may hear in institutions of higher learning. There are two parts in the listening section. Section A comprises of short conversations between two people. In the conversations, the student hears one or two different speakers talking. Following each conversation, the student is asked to answer questions that are specific to the dialogue. In Section B of the listening component, the student hears several longer conversations or talks. The talks may include several people or just one. Each conversation or talk is followed by several questions.

The structure component measures the ability to recognize grammar and appropriate vocabulary of standard written English. There are two sections. The first section comprises of

incomplete sentences. The student selects one word or phrase that best completes the sentence.

The second section comprises four underlined words or phrases. The student must fill in the oval of the word or phrase that would make the sentence correct.

The reading component of the TOEFL exam measures the student's ability to read and comprehend passages that may be similar to those found in academic subjects at the University or College level. The student reads the passage and answers the questions that follow. There are several types of questions that the student is asked on the exam. The most common questions that are asked are about the main idea or an inference question. The exam also asks questions about vocabulary, implied or unimplied structural clauses and questions that ask for specific details about the paragraph.

The final section is the writing section. This section tests the students' ability to generate and organize ideas in response to a given topic. The student has approximately 30 minutes to write his/her essay on that topic. The student can either write the exam on paper or he/she can type it on the computer. The total score of the TOEFL exam is based on all four components: listening, structure, writing and reading. On the TOEFL exam administered by Educational Testing Services (ETS) the student is given a combined score for the structure and writing sections. The score on the TOEFL exam ranges from 217-677 on the paper-based exam and 0-300 on the computer based exam (Refer to the current TOEFL bulletin for score conversions). Universities and colleges typically set the cut-off level (the score above which an applicant is deemed admissible) in the 540-590 range.

The Structure and Content of the TOEFL XL

The student begins by taking a TOEFL exam (See Appendix B) and is given a pre-test score (the TWE is omitted in the pre-test). The purpose of the pre-test score is to establish a baseline for the student to compare his/her progress after he/she completes the TOEFL XL post-test. After the pre-test is completed, the student proceeds to an evaluation section. The evaluation section is comprised of a shorter version of the pre-test and is used to examine the student's weak areas based on the number of incorrect answers the student provides. The student has a choice as to where he/she plans to begin his/her study program. After the student chooses a topic to work on he/she is presented with a quick review and explanation. Next, the program asks the student about the specific grammar question that he/she learned about. Then, the student proceeds to questions similar to those on the TOEFL test. If the student fails to achieve 80% or more he/she is taken back to the review section and must practice the point again. If the student fails for the third time the area of weakness is logged and the student must come back to it before she writes the posttest for this section. (If the student continues to exhibit weak areas these areas will be noted for the student to work on before he/she takes the actual TOEFL exam.) If the student passes, he/she may proceed to the next area of weakness. Both the reading section and the listening section will follow the same procedure.

Conclusion

The central tenet of the TOEFL XL is to help students acknowledge and use their higher order learning and cognitive skills. Presently, there are a dearth of programs that allow learners to take control and responsibility for their own learning. In my design of the TOEFL XL, students are able to take control and responsibility by not only understanding problems but also having the opportunity to learn outside of the classroom. The TOEFL XL helps students to seek intrinsic rewards by helping students to understand the problems presented to them and in the process strengthening their skills. Although it is my goal to commercialize a product such as the TOEFL XL, the limitations of bringing this project to completion is that it requires a budget of approximately \$100,000 dollars that will be needed for marketing and technical support costs. It is my hope that one day, in this mired web of technology, we will see programs such as the "TOEFL XL " that will supplant the standard question, answer, and evaluation approach.

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Appendix A

The Structure of the TOEFL EXAM

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graph TD; A[The Structure of the TOEFL EXAM] --> B[Listening Component]; A --> C[Structure Component]; A --> D[Reading Component]; A --> E[Test of Written English];
```

Listening Component

(30-50 questions)

Section A-Short Talks
(Short Dialogue)
Section B-Longer
conversations/lectures

Structure Component

(20-25 questions)

Section A-Incomplete
Sentences
Section B-Four phrases
are underlined-one is
incorrect

Reading Component

(44-60 questions)

Student reads academic
passages-answers several
questions following the
passage

Test of Written English

(1 question)

The student is given a
topic. Must demonstrate
ability to write in English

Appendix B-One Possible Path a Student May Take

The Structure of the TOEFL XL

Pre-test

Listening Component (30-50 questions)

Section A-Short Talks (Short Dialogue)

Section B-Longer conversations/lectures

Structure Component (20-25 questions)

Section A-Incomplete Sentences,

Section B-Four phrases are underlined-one is correct

Reading Component (44-60 questions)

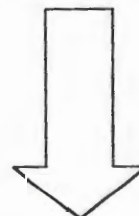
Student reads academic passages

Answers several questions following the passage

Evaluation

- Listening Component (15 questions)
- Structure Component (15 questions)
- Reading Component (20 questions)

WEAK AREAS ARE INDICATED



Areas of Weakness

Listening Comprehension

- Long Talks/Lectures

Structure

- Objects of Prepositions
- Articles
- Appositives

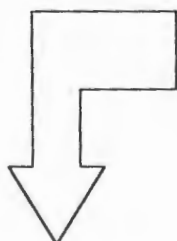
Reading Comprehension

- Pronoun referents



What area would you like to work on first ?

- ☐ Listening Comprehension
- ☒ Structure
- ☐ Reading Comprehension



Structure Section

Structure

- ✓ Objects of Prepositions
- ☐ Articles
- ☐ Appositives

Review of Objects Of Prepositions

- Definition
- Best Example

Practice Preposition Recognition

Exercise-Find the prepositins

TOEFL Questions-Using Objects of Prepositions

10 Questions

Fail

Less than 80%

Fail-2nd time

**Return to this section
Before taking the post
test for this section**

Pass

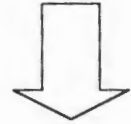
80% or more

**Which section would you
like to work on ?**

- ☐ Articles
- ✓ Appositives

Which section would you like to work on ?

- ☐ Articles
- ☒ Appositives



After the student has completed the Structure Component he/she will then take the post-test for this section.

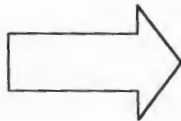


POST-TEST for the Structure Section



Which section would you like ?

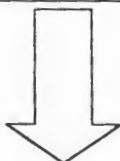
- ☐ Listening Comprehension
- ☒ Reading Comprehension



All sections will follow the same format as the Structure Section of the study guide. There will be a post-test for each section. All second attempts at weaker skills must be practiced before taking the post test for each section



POST TEST FOR THE TOEFL XL

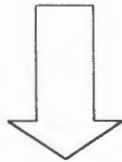


POST TEST SCORE

Listening-22
Structure/Writing-3-23
Reading 22

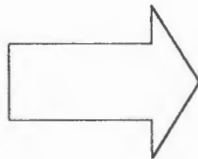
Total Score
Computer Based Score
157-223

Paper Based Score
480-563



What do you want to do next?

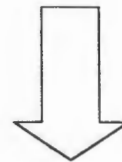
- ☐ Take the TOEFL XL one more time
- ☒ Take the Test of Written English



Test of Written English

You have 30 minutes to write on the following topic:

Some students prefer to study alone. Other prefer to study with a group of students. Which do you prefer? Use specific reasons and examples to support your answer.



Congratulations!

Make sure you contact ETS and schedule an appropriate testing time!