

# TEMPLATE SYSTEM FOR SECOND LANGUAGE AURAL COMPREHENSION

Donna Mydlarski and Dana Paramskas

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## ABSTRACT

*With the introduction of the PROMPT template materials into the French, Italian, and Spanish classes at the Universities of Calgary and Guelph, Canada, it became evident that a system to help language students improve their listening skills was much needed. In response to this need, a template called DICTATE was developed to allow teachers to use the dictation format to practice auditory discrimination, aural comprehension, and orthography in the most efficient and effective way possible.*

**KEYWORDS:** templates, authoring systems, CALL, reading comprehension, listening comprehension, error correction.

Once upon a time, there were mainframes and man was supposed to conform to their needs, their requirements, and their exotic rites. Teachers took one look at the pedagogical implications and, for the most part, fled as fast and as far away as they could. It took them almost twenty years to return. Meanwhile, some interesting things had happened. The big machines shrank in size, perhaps under the inspiration of that Alice who, by shrinking, discovered Wonderland. First they shrank down to mini size, and finally down to micro. In this guise, they were much less frightening. A room full of machinery is the stuff of science fiction, or even horror films; a small TV-like screen, full of things called bits and bytes and, occasionally, bugs, is rather benign and easy to control.

The first CAI programs took the form of programmed learning, partly because of the limitations of the mainframes, but also because most programs were designed for the sciences, where logic reigns, answers are true or false, and every learner proceeds according to a set sequence. Needless to say, this format horrified people in the humanities. When the machines became tamer, they also acquired software which was more and more user-friendly in contrast to mainframe operations. An ordinary person could learn to program using simplified languages like BASIC. And for those not interested in programming, there were even simpler systems, called authoring systems, which allowed beginners to create CAI lessons—a bit like the old Assimil language learning method, English Without Tears.

However, all was not for the best in the best of possible worlds. Simple for computers does not mean exactly the same thing as in normal language. To use authoring systems efficiently, one still had to put in a good bit of time, work within the limits resulting from the simplicity of the programming and, just like learning a second language, keep practicing so as not to lose the skills. Some teachers, fired by futuristic dreams, plunged right in and created CAI materials which were often creative and useful. But it was evident that the majority of teachers, and not only in languages, remained aloof—and for very valid reasons: timetables already overcrowded, professional responsibilities which demanded whatever energy that was left after classes.

Among those resisting the impulse to transform themselves into programmers, or authoring-systems experts, some were content to go in search of ready-made programs and use them as one uses any commercial materials: sorting out the offerings, trying to find something which would correspond to their particular learners' needs. It wasn't ideal, but it worked—more or less, IF you put in the time necessary to shop around, and IF you did not become discouraged by the numerous pedagogically unsound, even though colors flashed, pixels bounced, and electronic music resounded.

There was another group of teachers, not happy with commercial programs, not ready to spend much time learning a new skill, but who saw a definite place for the computer in language learning. This is the target group for whom we began to design a specialized authoring system which we call a

series of templates. Authoring systems are generally all-purpose programs, permitting CAI in topics ranging from arithmetic to zoology. The width of the possibilities limits the depth or the complexity with which a specific area can be dealt. The template, much humbler, usually targets one subject only, and within that subject, only one format at a time. But being so specialized, it can dedicate itself to producing something excellent—very simple for the teacher to use, but very sophisticated in terms of programming.

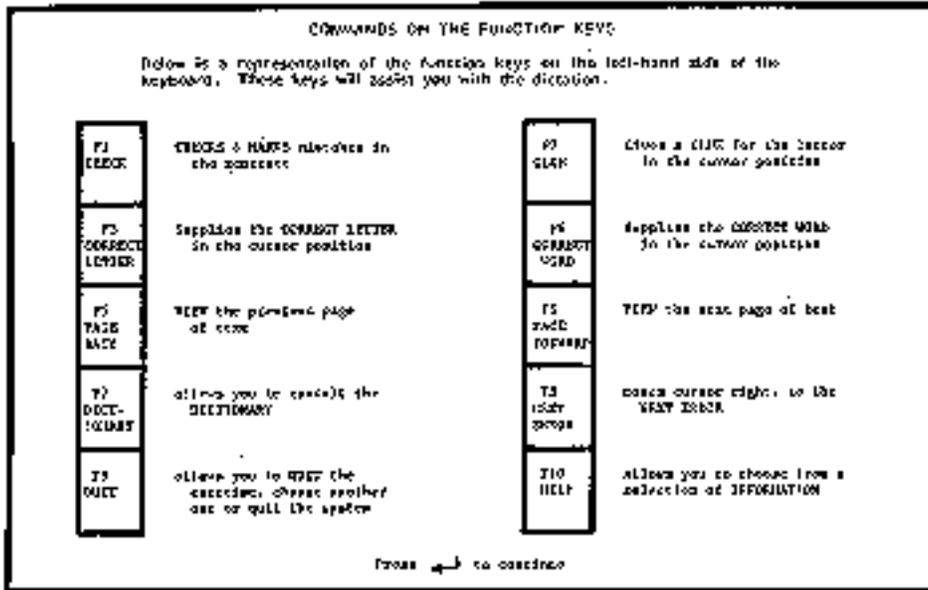


Figure 1

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Our first template, PROMPT, is designed for exercises in reading comprehension in two formats: multiple choice or fill in the blanks (Mydlarski and Paramskas, 1984). The program picks up spelling errors, morphological errors, and can give the exact comment to students that the teachers/authors would give if they had corrected the student's work in the traditional manner. But where it would have been necessary to write the same comment on the same error endless number of times, the teacher need do it only once, and the program will do the repetitive work, adding the name of the student doing the exercise, if desired.

We must insist on the fact that the aim of a template is to give the teacher a good tool. The template in no way guarantees the quality of the pedagogical content. If the users are poor teachers, they will produce poor courseware, with or without a template. PROMPT and similar templates offer model lessons which users can imitate, but in the end, responsibility for quality lies precisely where it should: with the teacher, not the machinery.

Template-type programs are now appearing on the market which combine ready-made lessons and templates permitting the user to modify the lessons or to write supplementary lessons (Jones, STORYBOOK and CLOZE). In the future, teachers searching for good courseware will be able to consult a whole bank or library of templates, find the format which corresponds exactly to their needs, and be able to write a lesson in a few minutes. Obviously, these few minutes do not include preparation time: the quality of any CAI materials is totally dependent on the time and effort applied to preparation, and this is true of any learning material, be it in print, on film, or on a computer. The advantage of the computer, is that it allows the teacher to greatly shorten correction time without taking away from individual attention for each student.

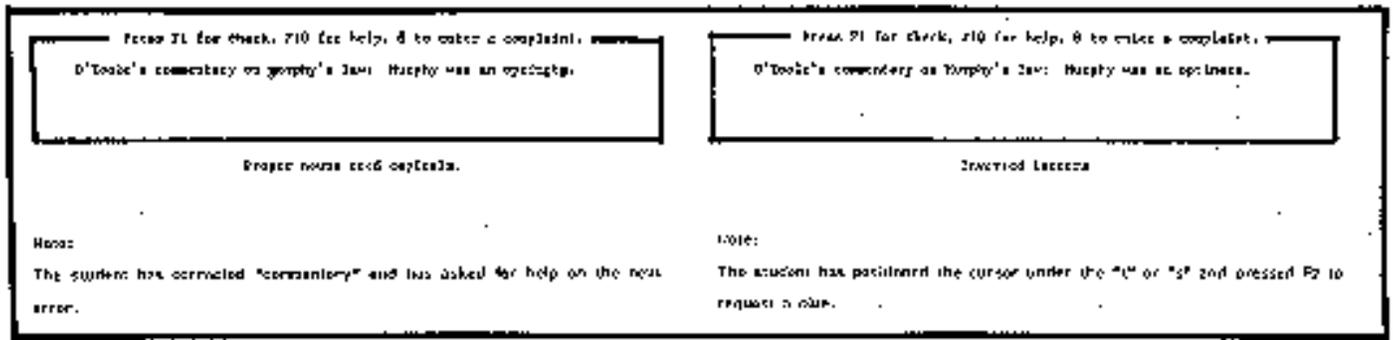


Figure 2

## DICTATE<sup>1</sup>

When the PROMPT materials were implemented in our French, Italian and Spanish classes, it became evident that a system to help language students improve their listening skills was needed. Although literature in second language acquisition has recognized for a number of years the importance of providing comprehensible input (Postovsky, Krashen, Terrell), the fact remains that students are generally expected to acquire listening skills on their own through a kind of osmosis. The need exists for individual, supervised practice so as to build up solid skills. However, most course syllabuses do not allow time for this tutorial approach. Computer assisted instruction, used as an out-of-class activity, may well provide a solution.

Listening skills may be developed through a variety of approaches: aural/oral, aural/action, aural/written. Since CAI is at present generally limited to written input, only the third approach can make effective use of the computer at this time. Again, for this approach, numerous formats are available to check/test comprehension of aural stimuli: multiple choice, cloze or fill-in-the-blanks, sentence completion, paraphrasing, to mention only a few. One of the most venerable formats, and still highly thought of in spite of the numerous revolutions in language teaching, is that of dictation, which combines several skills: auditory discrimination, aural comprehension, and orthography.

The template called DICTATE was developed to allow teachers to use this format in the most efficient and effective way possible. It is a thoroughly user-friendly system which has several advantages over the pencil and paper dictation exercise. It was intended that DICTATE should offer more learning opportunities than available in the traditional dictation, if it were to exploit CAI to the fullest.

Traditionally, dictation takes place in the classroom where the teacher reads a paragraph aloud and the student writes it down. The teacher may read the text more than once but this may not be enough for students who have difficulty understanding. Moreover, language teachers tend to overarticulate and unconsciously deform the aural patterns of the language. Furthermore, these dictations are usually quizzes and are written under stress. With regard to feedback, teachers vary in the amount of correction they give. Students must wait at best for twenty-four hours (sometimes several days) before the dictation is returned.

DICTATE has none of these drawbacks. There is minimal stress, since the purpose is learning rather than testing, and the privacy provided by the computer assures a non-judgmental learning environment. The student is presented with a variety of speech, ranging from the instructor's familiar voice, through pre-packaged tapes and authentic speech obtained from media such as radio or television. Feedback is immediate and the marking of the dictation is very detailed. In addition, several strategies are used to heighten motivation by giving the student a sense of control. These will be discussed elsewhere in the paper.

By using an intuitive approach based on our experience in second language teaching, we developed a basic design which was circulated to colleagues for their reaction. We then surveyed the research literature to ascertain whether current findings confirmed our views on what constituted good pedagogy. A number of articles proved helpful in refining our design. James Pusack's classic article, Answer-Processing and Error Correction in Foreign Language CAI (1983), reinforced our decision to combine error anticipation and pattern mark-up: that is, to provide both verbal and graphic analysis of the student's answer. James Hendrickson's The Treatment of Error in Written Work (1980) clarified the distinction between direct and indirect correction treatment and encouraged us to use a discovery approach to correction as often as possible. One adaptation inspired by Hendrickson was to give the control of the program to the student. Instead of the teacher (or the system) deciding which error would be treated directly (i.e. with a specific help message) or indirectly (by indicating either the presence or the location of an error), DICTATE highlights all errors—using reverse video—and lets students decide whether they need further help. Finally, David Wyatt's paper, Computer-Assisted Teaching and Testing of Reading and Listening (1984) gave a good description of the state of the art. DICTATE would fall under Wyatt's heading of collaborative computer programs, where the initiative is turned over to the student (or a group of students).

Like PROMPT, DICTATE consists of two dimensions: 1) a program of prompts directed to teachers who merely need to type in their material in natural language and 2) an interpreter program which uses the material entered and displays it for student use. All templates are designed for the IBM PC and incorporate a routine for producing accents, developed by our universities (in collaboration with Concordia University in Montreal).

### **DICTATE AUTHORING SYSTEM**

The authoring system operates much like PROMPT with regard to text and dictionary entry. Authors choose from among the six target languages available: English, French, German, Italian, Latin and Spanish. They may choose an existing passage or create their own. As source material, instructors may select any audio tape or any written text which they will then record on tape. Once the material is ready, it is entered as on a typewriter. Instructors have only to provide a glossary and the anticipated errors, with a comment attached to each error.

The anticipated error program is unique to DICTATE. It enables teachers to provide help messages, if desired, for any predictable wrong answers that they might identify. However, since the same word could conceivably occur several times in the dictation passage, a routine had to be developed to determine whether the comment refers to:

- all instances in which the word occurs
- to some instances (and if so, to which ones)
- to no other occurrences.

By positioning the cursor, authors can indicate for which occurrences of the same word their special comment applies. It was felt that common semantic and syntactical errors could be handled this way, based on the expertise accumulated over the years by experienced language teachers. This would complement the more mechanical check performed by the computer. If teachers/authors choose not to supply any anticipated errors with appropriate comments, the program will automatically proceed to check the spelling. More details on answer processing will be given in the discussion of the student system.

Other features of the authoring system include the capability to try out a lesson just created, to rename an exercise and to delete an exercise. Any or all parts of an exercise may be added to, deleted or changed in seconds, either at the time of creation or at some future time.

### **THE STUDENT SYSTEM**

In these exercises, the dictation will be supplied by an audio device, probably a cassette recorder. The student may have listened to the tape prior to coming to the computer. In the student system, a list of exercises is first presented to the students. The students have the option of viewing a series of information (help) pages. These include information on editing keys, foreign accents and the scoring system. The students are told to listen to the first sentence on the tape and to type it in a box on the screen, called the work area. They can edit the sentence and, when satisfied, press the F1 key to have the sentence checked. The computer highlights (using reverse video) all errors which the student may then correct. Otherwise, help in the form of a clue, a letter or a word may be requested. Once the sentence is correct, it is moved to the top of the screen and the work area is cleared to enable the student to begin the next sentence.

To increase motivation, a score is kept. Points are lost for requesting a clue, a letter, a word or a check (the first check, however, is free). It was intended to encourage students to get the sentence right on their own, or with as little help as possible.

There are many useful commands available to students while doing the exercise. It should be noted that F7 (dictionary) recognizes approximate spellings, provided the first four letters are correct. This was deemed important given the aural nature of the exercise. Figure 1 explains the functions of the various commands.

It was felt that the correction of one sentence at a time, although different from the procedure commonly used in pencil and paper dictation, offered several advantages. A lengthy dictation would involve a lot of typing and could become boring or discouraging, particularly if the whole screen is lit up with errors (the electronic equivalent of the bleeding page). Moreover, it was hoped that a student might learn from a mistake in one sentence and avoid making the same error later on, if the word were to recur. It was also felt that, because a student cannot advance in the exercise until the current sentence is correct, a series of small successes would—unlike the red ink effect—maintain the user's self-image and provide motivation to continue. Finally, this approach requires less coding and speeds up the execution of the computer program.

As mentioned above, DICTATE uses a combination of pattern mark-up and error anticipation. The mark-up pin-points the location of the problem by highlighting incorrect characters. Dashes are inserted for each missing letter. The system adjusts for non-significant punctuation and capitalization. Unwanted spaces are ignored. If further analysis is desired, students request a clue by pressing F2. Clues are verbal explanations provided by either the author or the system. In the case of the former, the clue is the comment that the instructor supplied for the anticipated error. The majority of the clues, however, are provided by the machine; some examples are:

- Sentences begin with capitals.
- Proper nouns need capitals.
- Extra letter[s].
- Inverted letters.
- Extra word.
- Accent is missing.
- Final punctuation is missing.
- Right letter, wrong accent.
- Double consonant.

The student system has other features which give the users a sense of control and help to maintain their motivation. For example, students are able to correct their errors in any order (within the sentence). The complaint or gripe key enables the student to log a complaint, report any problems or make suggestions. DICTATE also provides reasonableness checks. If sixty percent of the sentence is incorrect, the computer will not mark the sentence. This would indicate that the student may have chosen an exercise far beyond his/her ability or that s/he may be listening to the wrong tape.

Figure 2 shows one screen of an exercise as it is displayed to the student along with some notes of the interaction that might occur.

## CONCLUSION

DICTATE was a more ambitious project than we have originally realized. As the plan was refined, it became more and more complex. In particular, the mark-up of the incorrect sentence and the error handling are much more explicit than in the original design. Similarly, the anticipated error program in the authoring system is highly sophisticated. To date, evaluation has been of a formative nature. Care was taken to involve faculty members at an early stage of the development. Peer review of the materials provided the developers with constructive criticism while building on the stakeholder approach: that is, that teachers/authors must be an active participant in the enterprise from the beginning, if CAI is to be successful, as numerous studies have shown (Brebner, Johnson and Mydlarski, 1984; Kearsley and Hillelsohn, 1982).

The next step will involve pilot testing of the teacher-created exercises with students. In the final analysis, it is the teacher who determines the success or failure of a particular CALL (computer assisted language learning) application. Teachers will have the responsibility of integrating DICTATE (and other materials such as those created with PROMPT) into the total learning experience. They must address the basic questions: who will use the DICTATE exercise? how will they be used? how will their use affect the existing language program? Availing themselves of the computer as an out-of-class ally, the teacher must decide how classroom time might be made more productive.

Finally, future enhancements of the aural comprehension template system will include:

- provision of written documentation in the form of a user's guide
- consideration of improvements to the student/machine interface; for example, the provision of rest periods. At present, if students quit the exercise before the end for any reason, they have to start all over again. One possibility is to have the system remember where the student left off.
- completion of the LISTEN template, a format using an audio text accompanied by a series of multiple choice questions (written) augmented by a computer assisted tutorial approach.

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## ENDNOTE

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## REFERENCES

- Brebner, A., Johnson, K. and Mydlarski, D. "CAI and second language learning—an evaluation of programs for drill and practice in written French." *Computers and Education* 1984, No. 8, 471-474.
- Hendrickson, James M. "The treatment of error in written work." *The Modern Language Journal*. Summer 1980, 216-221.
- Kearsley, Greg P. and Hillelsohn, Michael J. "Human factors considerations for computer-based training." *Journal of Computer-Based Instruction*, May 1982, 74-84.
- Mydlarski, Donna and Paramskas, Dana. "PROMPT; a template system for second language reading comprehension." *CALICO Journal*, June 1984, 3-7.
- Pusack, James P. "Answer-processing and error correction in foreign language CAI." *System*, 1983, No. 11, 53-407.

## Authors' Addresses

Donna Mydlarski

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Associate Professor  
Dept. of French, Italian, and Spanish  
The University of Calgary  
2500 University Drive  
Calgary, Alberta  
Canada T2N 1N4

Dana Paramskas  
Associate Professor of French Studies  
Department of Languages  
University of Guelph  
Guelph, Ontario, Canada N1G 2W1