

# Learning Slovenian through Multimedia

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**Abstract.** *The paper presents an interactive multimedia CD-ROM, which is designed for learning Slovenian as a foreign language. The CD-ROM is intended for beginner learners, whose main goal is to gain the basic verbal skills. The language course is divided into six learning units, each consisting of different elements: Picture, Dialogues, Reading, Authentic material, and Exercises.*

*In the paper, multimedia and computer assisted language learning are presented first. Then we introduce the motivations and main ideas of our work. The description of the course structure and the contents follows. The implementation of the system is also briefly described. Some discussion on future work concludes the paper.*

**Keywords.** Computer assisted language learning, educational system, foreign language learning, multimedia, Slovenian.

## 1. Introduction

Computers have been used in education since their beginning in 1960s, when the first computer assisted learning systems were developed. Although they were limited by the poor hardware of the time and the behaviouristic theory they were based on, the computer technology already revealed its potential to radically change the educational process.

Over the years, especially after the arrival of personal computers and consequently bringing this new technology to a wider audience, teaching and learning with computers became a part of our everyday life. Not only that this area is widely researched and practiced in the academic environments, it prospers also

commercially. We can find more and more products in the market, either in the form of multimedia CD-ROMs, DVDs or Web-based applications. The computer-based courses cover a wide range of subjects, from mathematics to history and biology.

Language (especially foreign language) learning is no exception. On the contrary, the specific of language learning makes computers ideal teaching tool, either as teacher's aid in the classroom or as a self-study resource. The value of computers in this specific area of education is proven by many commercial products that are available today.

## 2. Computer assisted language learning

Computer assisted language learning (CALL) is broadly defined as a search for and study of applications of the computer in language teaching and learning [4]. In this approach to language teaching and learning, the computer is used as an aid to the presentation, reinforcement and assessment of learning material and usually includes a substantial interactive element.

Most CALL programs under development today fall into the following two categories [4]:

- Multimedia CALL, which is most widely used (on CD-ROMs or DVDs), and
- Web-based CALL, which can offer audio and video conferencing, chat, email, etc. in addition to traditional multimedia CALL features.

### 2.1. Multimedia CALL

Different ways of presenting information can be combined to increase the effect of that information to the learner. This non-additive

principle [9] is one of the biggest advantages of multimedia. Each media element has its own particular advantages in conveying particular kinds of messages and evoking particular kinds of learner responses. The computer's ability to combine, link and organize all these communications elements leads into multimedia message which may well be much greater than the sum of its individual parts [2, 3]. The power of multi learning media should be greater than the sum of its individual parts.

In the words of Sharon Begley [1], people retain 10 percent of what they see, 20 percent of what they hear, half of what they see and hear (the multimedia advantage), and 80 percent of what they see, hear and do (the interactive edge).

Effective methods in language teaching and learning traditionally incorporate different media, including text, radio, broadcast TV, audio and video tapes, etc. This richness of different media (in digital form), combined with interactivity (where the user controls the delivery of media) and speed of access (allowing almost instant access to different parts of the disk, where audio and video files reside), is typical for modern interactive multimedia courses [5, 9].

Multimedia provides language learning environments with additional learning potential. Its main qualities are summarized below [2, 3]:

- The ability to combine and to deliver integrated, different source media;
- The interactivity and the links provided between data;
- The ease and instant accessibility of all the data and media; and
- The vast quantity of data that can be provided in the complete variety of media.

Besides, learners using interactive multimedia material are active and involved [3], they have to think about the language, engage with it and respond to it, and this is what makes them better learners.

### 3. First Click on Slovene

Although there are many commercial multimedia CD-ROMs available in the market today, which are prepared for learning various languages of the world, only few exist for Slovenian language. Our product, which is called First Click on Slovene, expands the offer of multimedia CD-ROMs for learning Slovenian as a foreign language.

The language course First Click on Slovene is designed to be used by learners working alone. It is intended for beginners without prior knowledge of Slovenian language. The language of explanations and translations is English. The learning material is presented in different forms: the media ranges from plain text, to hyperlinked text and icons, illustrations, pictures, audio, video, and animation.

The main goal of the course is to learn the minimal vocabulary, useful in everyday situations (from work to leisure), and gain the basic verbal skills in Slovenian language. The initiative came from the US Foreign Affair Office, which sought for a multimedia CD-ROM for their Embassy employees, Americans in Slovenia, so that they could learn some basics of the language, just enough to find their way around in Slovenia.

The development of this interactive multimedia CD-ROM was a joint project of experts from various fields (linguistic, computer science, design, video and audio production), while their work was coordinated by United States Embassy to Slovenia, Ljubljana.

#### 3.1. Course structure

The course is composed of six thematic learning units. The chosen topics correspond to the language needs of a businessman at work as well as in spare time. The first unit (titled *ABC*) is an introduction unit, which deals with Slovenian alphabet (sounds and letters), numbers, and basic communication. The topics of the next five learning units are taken from everyday life and include the following (see the left side menu in Fig. 1):

- Work and occupation (*Hello!*),
- Leisure time (*What are you doing?*),
- In the shop (*How much does it cost?*),
- In the restaurant (*Let's eat!*), and
- Searching for information (*Information*).

As a part of each topic, the user gets familiar with the most basic communication patterns, frequently used words, and short texts, all those taken from a real life in the Slovenian environment.

Each learning unit consists of the following elements, which can be selected directly from the menu (see bottom-page menu in Fig. 1):

- *Picture*,
- *Dialogues*,
- *Reading*,

- *Authentic material*, and
- *Exercises*.

The only exception is the first learning unit, which has sections *Alphabet* and *Numbers* instead of *Picture* and *Reading*. *Grammar* and *Glossary* are common for all six units.

All words, dialogues and texts have written translation and can be heard as well (audio clip for pronunciation).

### 3.2. Picture

The main entry point for each learning unit is *Picture*, which introduces the unit. The learner gets familiar with the basic vocabulary and phrases of a certain topic. By browsing through the picture, the learner discovers the names of different objects from the picture and short dialogues between the protagonists in the picture. The English translation as well as Slovenian pronunciation is always available using right or left mouse button. An example of *Picture* on shopping is illustrated in Fig. 1.

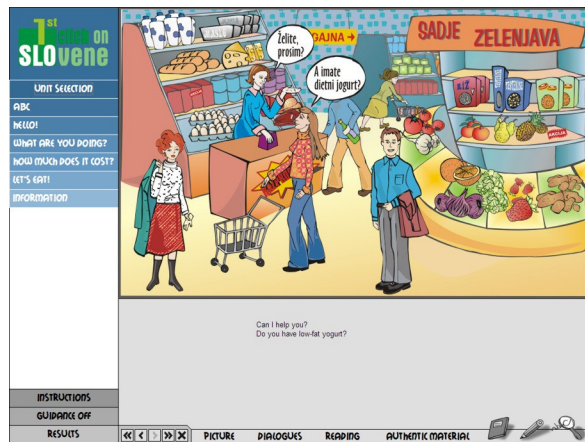


Figure 1. *Picture* from the unit *How much does it cost?*

### 3.3. Dialogues

The section *Dialogues* offers several dialogues on the topic of the unit, which try to imitate authentic Slovenian speech. They are in the form of audio, video, or comic book. An example of a video dialogue is shown in Fig. 2. The Slovenian text of the dialogue, its English translation and Slovenian pronunciation (the whole dialogue or just parts of it) are always available, although they can be turned off. New grammar structures from the dialogue are marked in the text (when the text is displayed; see book

icons in the text in Fig. 2) and links to their detailed explanations are provided.



Figure 2. *Video* from *Dialogues* on ordering dinner in a restaurant

### 3.4. Reading

In *Reading* a short story for reading about the selected topic is presented and can be heard if needed. Its English translation is also available. Fig. 3 displays a short story on spare time and its English translation.



Figure 3. *Short story* in *Reading*

### 3.5. Authentic material

Some real functional texts and phrases are gathered under *Authentic material*. They include important telephone numbers, Slovenian documents, engagement calendar, greeting cards, public signs, menu from a restaurant, money order, weather report, etc. The material was either scanned (e.g. documents) or illustrated (e.g. menu). Fig. 4 shows an example of the authentic material, where a birthday card is

selected among various greeting cards. The translation of the text on the card is also displayed.



Figure 4. Birthday card and various greeting cards from *Authentic material*

### 3.6. Exercises

The learning material is supplemented by many different types of exercises for practicing different language skills, such as listening, reading, writing, and speaking. Basically, all *Exercises* are divided into four groups:

- Comprehension,
- Practice,
- Translation of words and phrases, and
- Games.

In comprehension, the understanding of words, dialogues and stories is tested. The word comprehension exercises are available only in the first unit. For the rest of the units, the exercises are focused on dialogues and story comprehension. An interesting way of checking understanding of dialogues is an exercise where the learner has to put parts of a dialogue together in the correct order. This exercise is included in all units.

Practice deals with rehearsing learned words and phrases, their meanings and use. The exercises include true/false questions (Fig. 5 shows an example), multiple choice questions, listening comprehension, gap filling, and matching.

In translation of words and phrases, the basic Slovenian words and phrases from the unit have to be matched with their English translations.

There are four types of games: odd one out, crossword, hangman, and picture (identifying object in the picture). Their completion is not mandatory (the learner does not get any extra

points for games), even though they are informative and entertaining.

The correct answers to all questions are also available. After solving the exercise, the user gets immediate response. The feedback appears on the screen in the form of red ticks or black crosses, as shown in Fig. 5. Each exercise is completed when the correct answer is given (i.e. red tick displayed). All exercises (apart from the games) are marked; the learner gets one point for each successfully completed exercise.

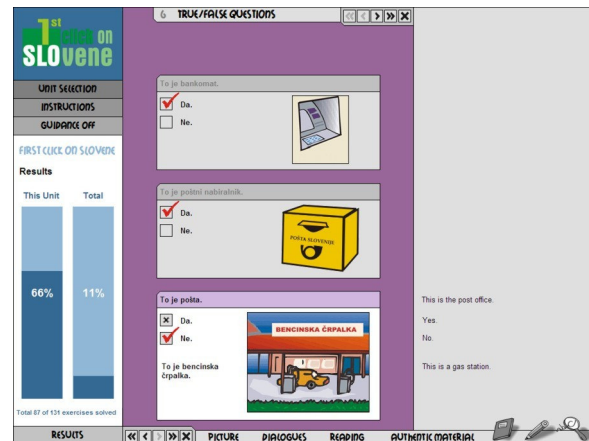


Figure 5. True/false questions from *Practice under Exercises* and displayed *Results*

### 3.7. Grammar and Glossary

All grammar structures, together with words and phrases that can be grouped by the meaning (such as abbreviations, days and months, colours, greetings, public signs, food and beverages, etc.), are available in one place: from the *Grammar* menu (the book icon in the bottom-page menu; Fig. 6 displays one entry).

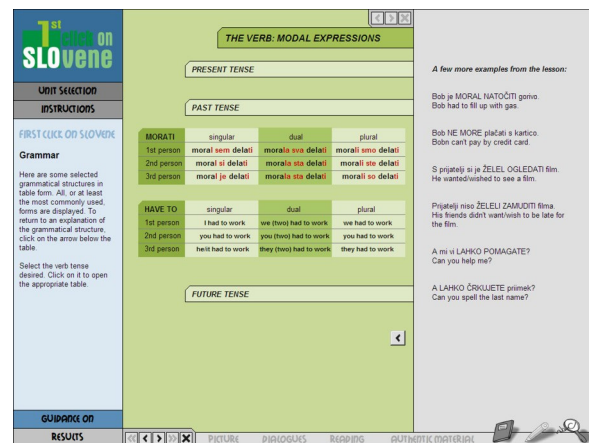


Figure 6. *Grammar* structure explanation with *Guidance* turned on

We confined to the elementary grammar structures and forms that are used in everyday communication and thus have to be recognized and understood. The grammar structures in the course are hidden; the learner can access them only through the grammar icon (small book icon) in the dialogues or by selecting grammar from the menu.

*Glossary* is another option from the menu and consists of two parts: Slovenian-English and English-Slovenian. It is very important part of the course as the previous research [6] has shown that the use of dictionaries (either in electronic or in paper format) assists the learners in acquisition of new words. The glossary is comprised of approximately 300 frequently used words from the course material.

### 3.8. Instructions, Guidance and Results

The *Instructions*, a kind of context sensitive help, are available throughout the course. For each activity, the function and the effects of the activity are described, usually together with the unit number and title. An example can be seen in Fig. 4 (in the left side menu).

Learners can use the course in two ways. One options is to be guided through the material (*Guidance ON*), following the suggested predefined sequence of learning units. The other option allows learners to freely browse and discover the material, making their own choice of unit sequencing and activities (*Guidance OFF*). Either option can be selected from the menu at any time. Fig. 6 depicts the more restricted guided option (bottom-page menu is mostly inaccessible).

Each learner has to log into the application before starting the course. By using user login names we assure the identification of the learner, which allows us to store simple user profiles: recordings of exercise results and some user settings (e.g. current unit, current activity, guidance on/off). Learners can check their progress in the menu *Results* (see left side menu in Fig. 5), where the percentage of the solved exercises in the current unit and in total are displayed.

## 4. Implementation

When creating a multimedia CD-ROM course, we have to consider the following five issues [8]:

- Determining hardware and software platforms;
- Defining procedures for obtaining the source material (e.g. video and audio, images);
- Preparing the material and define all file formats to get appropriate video, audio, graphic, and text files;
- Generating an individual screen and an overall course design; and
- Assembling a development team which implements the application.

Our goal was to create an attractive application with an appealing and easy-to-use user interface, so that also non-technical learners would enjoy using it.

The application First Click on Slovene is developed using ToolBook Instructor [11] multimedia authoring environment. This production tool supports all needed multimedia components and contains an internal scripting language called OpenScript, which allows the creation of more advanced products. Besides, ToolBook supports object hierarchy (e.g. system, book, page, background, and picture, button, polygon, text field, media objects...), and includes a catalogue of pre-prepared objects. Each object has its own properties (which can be customized) and attached scripts. ToolBook uses event-driven programming paradigm: the event handlers (e.g. mouseEnter, mouseLeave, buttonClick, keyDown, etc.) are called in response to external events.

The implemented software is intended to run in a 32-bit Microsoft Windows environment with at least Pentium II processor, 256 MB of memory, and standard multimedia requirements (e.g. CD-ROM drive, video graphics adapter with accelerator, sound card, speakers or headphones). The appropriate files for playing digital video (we use MPEG4 codec) and Macromedia Flash Player [7] also have to be installed on the computer.

The application provides easy installation through a setup program, which installs the required ToolBook run-time files and the core application files. All media (audio and video clips) run directly from the CD-ROM. The course encompasses over 9 minutes of video (480 by 360 pixels, 25 frames per second) in 7 video clips (167 MB in total), over 1200 different audio clips (287 MB in total) and a short Macromedia Flash animation in the opening sequence.

## 5. Conclusion

The presented interactive multimedia CD-ROM for learning Slovenian has been successfully used in several courses and summer schools for foreigners as a complementary teaching tool. Currently, we are working on making the application compliant with Section 508 of US Rehabilitation Act of 1973 [10] (accessible to people with disabilities). Our next step is an application Second Click on Slovene, an advanced course with additional six learning units.

## 6. Acknowledgements

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