

# HR4EU – a web-portal for e-learning of Croatian

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**Abstract.** In this paper, we present the HR4EU – a web portal for e-learning of Croatian. HR4EU is the first portal that offers Croatian language courses which are free-of-charge and developed by language professionals. Moreover, HR4EU also integrates bidirectional interaction with some of the previously developed language resources for Croatian. The HR4EU portal offers three general (beginner, intermediate, advanced) and two specialized (Croatian for business users, Croatian for students) Croatian language courses. Apart from language courses, the portal also offers information about Croatia presented via interactive maps, as well as other information, which can be useful to foreigners living or studying in Croatia. Moreover, HR4EU introduces users to language resources and shows them how they can efficiently be used when learning a new language on their own.

**Keywords:** e-learning, Croatian language, European project, language resources.

## 1. Introduction

In this paper, we present HR4EU, a web-portal for e-learning of Croatian ([www.hr4eu.eu](http://www.hr4eu.eu), [www.hr4eu.hr](http://www.hr4eu.hr), cf. homepage in [Figure 1](#)), developed at the Faculty of Humanities and Social Sciences in Zagreb and funded by the European Social Fund.

Since Croatian is a language with a relatively small number of speakers, its presence on the web is limited, especially when it comes to e-learning courses of Croatian. A few e-learning sites offering users the possibility to learn Croatian are either expensive or present learning material in a static manner, avoiding the usage of existing language technologies. With the HR4EU portal we aim to bridge this gap and develop a modern e-learning system which integrates bidirectional interaction

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with previously developed Language Resources (LRs)<sup>4</sup>. This e-learning system is developed by linguists, who are native speakers and have experience in building LRs. Moreover, great efforts were made to make this portal visually attractive.

Figure 1. HR4EU homepage



## 2. HR4EU portal

The HR4EU portal is divided into four sections. The section *Courses* consists of three general (beginner, intermediate, advanced) and two specialized (Croatian for business users, Croatian for students) Croatian language courses (cf. Section 3).

The section *About Croatia* provides the cultural context for learning Croatian via nine interactive maps: borders, cities, culture, events, people, nature, wine, food, and recipes. By clicking the pins on the maps, pop-up windows appear and users can read about peculiarities related to the part of Croatia where the pin is located (cf. Figure 2).

Figure 2. Section *About Croatia*



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4. Cf. section 2 and 3.1. LRs are primarily used for natural language processing, but they can also be used as tools in CALL, especially in courseware engineering (cf. Colpaert, 2004, p. 17).

The section *Living in Croatia* offers useful information to foreigners in Croatia, e.g. list of important institutions (e.g. Ministry of Interior), and forms that they may be required to submit during their stay in Croatia (e.g. visa application).

The section dedicated to language resources provides users with the introduction to the Croatian LR: Croatian National Corpus ([hnk.ffzg.hr](http://hnk.ffzg.hr)), Croatian Morphological Lexicon ([hml.ffzg.hr](http://hml.ffzg.hr)), Croatian Wordnet ([crown.ffzg.hr](http://crown.ffzg.hr)), Croatian Dependency Treebank ([hobs.ffzg.hr](http://hobs.ffzg.hr)), and CroDeriV – Croatian Derivational Lexicon ([croderiv.ffzg.hr](http://croderiv.ffzg.hr)). These resources can be useful when learning Croatian and are used as helpful tools (so-called – HINT, cf. [Figure 3](#)) in completing assignments throughout the HR4EU courses. The section also includes a short video-tutorial for each resource and a link to the respective search interface.

Figure 3. Using LR in courses



### 3. Courses at HR4EU

#### 3.1. General courses

Although there is an extensive literature on teaching Croatian as an L2 (e.g. [Barac-Kostrenčić, Kovačiček, & Lovasić, 1982](#); [Čilaš-Mikulić, Gulešić, Machata, & Udier, 2008, 2011](#); [Jelaska et al., 2005](#)), authors exclusively focus on classroom teaching. We have consulted the grammar and topics they cover, but we needed to adapt it to fit a completely different approach to language learning, i.e. learning a foreign language using a language learning software. Courses available at the HR4EU portal are developed in Moodle ([www.moodle.org](http://www.moodle.org)), an open source e-learning platform,

which provides course developers with numerous tools and activities that can be used in an e-learning course (e.g. interactive lessons, quizzes with multiple question types, dictionary, books, assignments). Consequently, the language material also had to be adjusted to the possibilities that this platform offers.

Each general course is divided into ten lessons: four lessons with new content are followed by a revision that covers the material learned thus far. Lessons comprise of several parts: the lesson body, grammar book, quizzes, and *Practice your writing skills* tasks. Each part focuses on the acquisition of different language skills (grammar, writing, reading, listening) and different cognitive strategies of language learning (e.g. repetition, resourcing, translation, etc., cf. Douglas Brown, 2007, p. 135).

The lesson body includes short grammar descriptions, word lists accompanied by audio tracks or illustrations or cultural peculiarities (‘content pages’), and question parts (‘question pages’). Content and question pages interchange in order to keep the user concentrated on the content<sup>5</sup>. Moreover, each lesson includes one or more short conversations or texts about the lesson topic. For the purpose of the HR4EU courses, more than 1600 audio records with vocabulary and conversations were taped<sup>6</sup>, and over 150 digital illustrations were made that help users to learn the vocabulary<sup>7</sup>.

The lesson body is followed by a more elaborate grammar part – *grammar book*. Grammar books follow the grammatical content from their respective lessons, but they can also be read separately, and downloaded or printed as a PDF document. The grammar books are also very useful for question parts of the lessons and for quizzes, especially due to their clear structure and large amount of examples they offer.

Each lesson consists of two quizzes – one is dedicated to practicing grammar, orthography and vocabulary, while the other is dedicated solely to practicing vocabulary. Quizzes comprise of different kinds of questions (e.g. cloze, multiple choice, matching, ordering, short answer, etc.). Just as in lesson’s question pages, each question has two additional plugins: HINT and NOTE buttons. They provide users with help when they answer a question incorrectly, or with additional information about words or grammar used in the question if they answer it correctly (cf. Figure 3 and 4)<sup>8</sup>.

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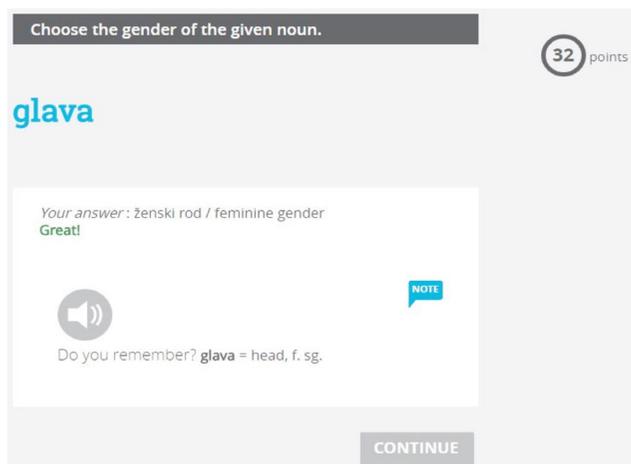
5. Fleming (1987), according to Fahy (2004), stresses that “change and variety can help to create and sustain attention” (p. 145).

6. Newby et al. (2000) state that the combination of audio and print is a powerful alternative to reading alone.

7. According to one of Mayer’s (2001, p. 68) principles that govern the impact of multimedia in teaching, students learn better when the words are combined with pictures.

8. According to Fahy (2004), users require feedback that enables “them to monitor their progress, to discover errors or misconceptions, and to recognize what they should do differently (or continue to do) to gain further proficiency” (pp. 142-147). Feedback differs according to the users’ level. Therefore, we offer two-leveled feedback: (1) the information concerning the correctness of the answer, and (2) more elaborated feedback, which opens only when the user clicks the HINT or NOTE button.

Figure 4. NOTE button



The HR4EU courses integrate bidirectional interaction with previously developed LRs. The lessons and quizzes are designed to encourage users to use LRs, e.g. to find the appropriate word form in Croatian Morphological Lexicon<sup>9</sup> or to learn semantically related words via Croatian Wordnet. However, our language learners often do not have a linguistic background, so some of the resources, e.g. Croatian Dependency Treebank, were modified in order to be used more easily in CALL. We have built a sub-corpus of Croatian Dependency Treebank that consists solely of the sentences from HR4EU courses and provides users with their syntactic and semantic role structure. We have also built the SynSem Visualizer<sup>10</sup>, a tool which enables graphical representation of syntactic and semantic sentence structures.

This system is designed in a way that makes language learners helpful in the improvement of existing LRs. We will use learners' activity to enhance and enlarge existing LRs by tracking their activity yielding empty results, and adding them to the respective resources<sup>11</sup>.

### 3.2. Specialized courses

Since our main target groups of users are foreigners who are going to study or work in Croatia, we have offered two more courses at the HR4EU portal,

9. CML provides users with the information about the lemma of the word form, or about all possible word forms of a lemma. Cf. video-tutorial at <http://www.hr4eu.hr/croatia/resources/>.

10. <http://hobs.ffzg.hr/en/search/>

11. E.g. if the user searches for the word *recipe* in CML and doesn't find it, we will add it to CML based on user's empty result.

namely Croatian for business users and Croatian for students. These courses offer specialized vocabulary related to business or education. Each course consists of four lessons that cover everyday business or student life. The final lesson of specialized courses is followed by writing assignments. Here, users can learn how to write a CV, job application or letter of motivation/recommendation in Croatian.

## 4. Conclusion

In this paper, we have presented the HR4EU portal, a free-of-charge web portal for the e-learning of Croatian. It is one of few free e-learning sites that offer Croatian language courses and is developed by linguists, who are also native speakers of Croatian. The portal introduces language learners to Croatian language resources and their usefulness in learning a new language. As learners become aware of possibilities these resources offer, they can also use similar LRs in learning other languages as well, because similar resources are built and freely available for dozens of different languages.

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