

Modern methods used in foreign language learning in the 21. Century

K. Myska and L. Samkova

Abstract— The article deals with individual online instruments determined for foreign language learning via the internet (elearning) in most suitable conditions if possible. First section of the article deals with possibilities of the individual instruments and determines criteria that the suitable online instrument in foreign language learning should carry out. Second section of the article deals with description of selected online instruments and with its individual possibilities for use in foreign language learning.

Keywords— Babel, Duolingo, eLearning, Gamification, LingQ, Livemocha

I. INTRODUCTION

It is very popular and also entertaining to study via the internet nowadays. If offered service is of an adequate quality and free many supporters and keen users appear. One of the requirements to ensure the adequate service being entertaining, but mainly attractive for potential online student, is to involve gamification elements as the application of game thinking techniques in non-game environment, for example websites [1] that orientate on different user categories. Principle of user reward system provided for success on web or platforms is the guaranty of adequate application popularity.

One sphere to use gamification principles is learning via eLearning, thus online distant learning. One of possibilities to use aforementioned is to involve gamification elements into online language learning which at once poses like an entertaining game. The service is created via non-forced method motivating to gradual achievements in learning [2]. This service can be based on the following principles:

- Levels,
- Advancing on higher levels,
- Badge inquiry,
- Virtual currency,
- Indicator of „player's” development on appropriate level,
- Exchange, gifts, rewards,
- Competitiveness between „players”,

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Playfulness spreads at many workplaces being the motivation instrument in the newspapers, marketing but also in school systems where can help to make learning more intensive and to develop covered competencies of contemporary inattentive generation being surrounded with computer entertainment [4]. One of great advantage of online foreign language learning expect of its significant flexibility (user determines himself when and how intensively to learn appropriate language), is the fact that similarly held learning has unquestionable results. At University of New York and University of South Carolina an independent study was performed on Duolingo instrument. It was proved that 34 hours on average spent in online learning Duolingo instrument is identical to one study semester of foreign language at university [5]. Participants studied Spanish and in the end of the study passed the test of Spanish language at one university. From the study arised that a person without knowledge of Spanish would need 26 – 49 hours to explain the subject matter of Spanish language of one university semester. One university semestral course takes usually 34 hours, therefore learning in Duolingo is much effective [6].

Internet offers many additional services or private institutions promising foreign language learning via on line courses. But some solutions of aforementioned type contain a few problems that not all users are willing to accept. Firstly these are significant prices very often reaching thousands for a course or standard learning methods being not entertaining for many users [2]. Even thought top well known instruments of worldwide response exist (for example Rosetta Stone instrument) but it is necessary to pay for web browser courses or smart device applications [7]. Despite the fact it is possible to test the instrument in trial free version.

But applications allowing foreing language learning in entertaing way exist. These applications differes of course in the quality of information provided, in price (some of them are free, the others have to be paid, although charges are not high), in language instruction offer but also in manner of foreign language learning.

The aim of this article is to compare and to describe selected online web instruments intended for foreign language learning and to define the most suitable variant based on determined criteria.

II. METHODOLOGY

The article is based on method of comparative analysis. It examines and compares possibilities of the application of online instruments intended for foreign language learning. Instruments examined were selected in random sampling manner. These are Babbel, Duolingo, LingQ and Livemocha. Aforementioned instruments have many in common but differs in certain possibilities of use as well. For examination purposes basic criteria the ideal online learning instruments should carry out were determined.

Determined criteria:

- Instrument should be free,
- No instrument installation,
- Operating version on web browser,
- Version for smart devices (Android, iOS),
- Instrument uses gamification method,
- Instrument explains grammar,
- Instrument allows writing, reading, listening, speaking,
- Offer of at least 6 foreign languages intended for learning,
- Possibility of email registration.

Description of selected instruments examined

Babbel. It deals with online language learning. Babbel instrument is paid although it is possible to test basic lesson free. Many languages are available, courses are interactive and it is possible to pass it without any installation. Courses for beginners, also grammar courses, word dictionaries, tongue-twister, proverbs or song courses are available. It is possible to use microphone (and practice individual words being corrected), or also without it. It is possible to use Babbel in mobile devices. Applications are available not only for iPhone or iPad but also for devices affixed with Android operation system. Version for Windows Phone is also available. Babbel is based on present technologies and popular learning methods. Its purpose is to make language learning entertaining but mainly easy. Babbel puts significant emphasis on pronunciation [8, 9]. Technology identifies language in a real time and the user is provided fast immediately with feedback concerning education attainment. Nevertheless it is possible to cancel the microphone. Afterwards instrument operates with the applications not operating with the microphone. Babbel also offers possibility to contact students round the world and to communicate in appropriate language. Students can have own profile pages, they can discuss in a real way or send internal messages [9].

Learning process proceeds in such way we are not only tested but also words/sentences appear simultaneously explaining us terms. First test can be passed also without previous registration, afterwards registration is required if the user wants to proceed ahead, download the selected terms into the word dictionary, make the course available, etc. The system also contains many clues directly available in the

lesson (for example partly invisible letters providing a clue concerning writing appropriate letter. The letters are switched therefore the clue is not univocal and the user has to think concerning writing the word. During word writing letter becomes more invisible in order to make evident it was used before (Fig. 1).

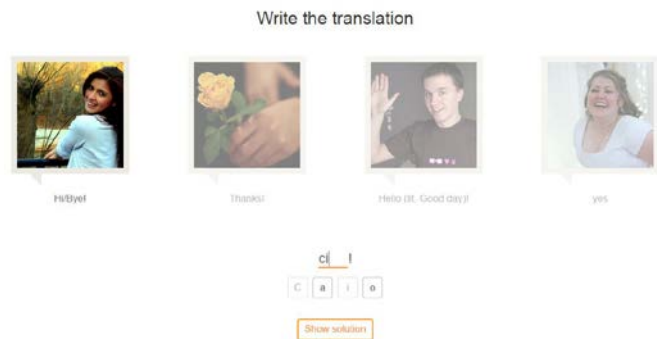


Fig. 1 Example of filling out the word in lessons of Italian (Source: Babbel, 2014).

If the word is written wrong clue is provided to write it properly. It is more comprehensive to fill in the texts. Babbel provides the user with whole paragraphs to fill in individual words or whole sentences. When making a progress on advanced level the possibility to write the text is provided – without any clue. But it is possible to provide the clue – there is the reference to „Help” button making the clue of aforementioned mixed letters available. If filling in the word properly the sentence is read in appropriate language. In the end of the test/lesson result is displayed (amount of points) and possibility to correct mistakes. Each wrongly filled letter represents one mistake. It is better to correct mistakes. It is necessary from one point of view because it is possible to make a progress on advanced level only if writing absolutely correct test. Whole course is paid. If having an ambition to make a progress on advanced level it is necessary to buy 1 - 12 month course. If not only basic tests and lessons are provided being exhausted soon. Babbel sometimes provides discounts and various advantageous campaigns of appropriate language courses.

Duolingo is the combination of language lessons from basics with the elements of traditional games. Via gradual learning student is provided with XP (experience) and also with virtual currency for which bonus lessons can be provided [2].

Duolingo instrument has existed since 2012. After that offer of language learning has expanded extensively. Even first Czech – English course is already available. Otherwise most of language courses are focused on learning of Czech – foreign language. The instrument is absolutely free (there are no microtransactions for virtual currency for example) including virtual platforms being also very popular. It is another project of reCaptcha's author providing rescriptions of books into electronic version via the crowdsourcing method. As mentioned above main language the courses are designed in

is still English. But there already exist courses for foreign speaking students (for example already aforementioned Czech courses). Many courses are in beta version in present; certain ones are not available for public. It is considered to be a great advantage that fast everybody being native speaker or bilingual speaker can contribute and forward its development. In case the student does not observe the discipline concerning language learning, a warning message is sent to e-mail to motivate for learning.

It is possible to be provided with more courses but after supplementing additional one it is necessary to respect the fact concerning unavailability of all courses together but it is essential to switch over to native (or foreign) language and than to switch over to an appropriate course. Duolingo course structure is similar to traditional lessons – in the beginning there are primary basics with a few words and expressions branching to another categories. Each category usually contains 2 – 7 lessons making an advance in learning. It is possible to complete summary test verifying a possibility to advance on advanced learning level or the fact concerning revision of previous lesson. Primary basics can be omitted via writing summary test immediately. Thereafter student advances to another lesson [2].

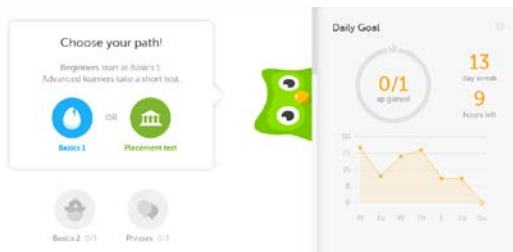


Fig. 2. Example of lesson selection in Italian course in Duolingo (Source: Duolingo, 2014).

User's motivation is in possibility to monitor friends to compete with or to monitor friends' learning advance. Via experience the user receives for passing the test an advance on advanced level is made. Therefore user's level of an advance is evident. Another Duolingo motivation instrument is a graph representing user's learning attitude and if being a diligent student. Moreover the instrument offers testing of up to now explained curriculum and verification of extended and forgotten knowledge. The last one and very helpful Duolingo motivation instrument is the virtual currency called Lingots. It is provided for passing the lessons, for endurance (if at least one lesson a day will be completed week to week) but also for advancing on new level. It is possible for Lingots to buy various bonus lessons corresponding with season during the year or with a season like Christmas and instruments making learning more pleasant. Another of interesting motivation instruments is the mistake tolerance; Duolingo tolerates three wrong answers only, in first lessons only four mistakes are

tolerated. When answering wrong in more questions it is necessary to repeat whole lesson [2].

After choosing the language each user passes first lesson containing primary basics. Learning principles are also determined. It concerns usually one sentence or word expression the student works with. Course contains possibilities of word transcription according to figures, word or sentence writing according to listening, word or sentence transcription from one language to another. It is possible to use the microphone when testing and to record words in appropriate language directly into the course (possibly being corrected). But the users do not have to apply aforementioned possibility it is possible to switch off not only the microphone but also sound and to complete tests by writing only (without listening or speaking). Sometimes student has to fill the words in the sentences choosing from 3 possibilities usually. Two answers can be correct. It is necessary to point out that in some languages certain small mistakes are still present. It is registered immediately and discussed about it in wide community participating on the development of individual Duolingo courses. One of many advantage is that this project is based on many volunteers round the world speaking not only with native language and via this knowledge participate on course development and its revision, sometimes also on explanation of certain sentence constructions intended for keen students.

Of course that Duolingo can not substitute teachers properly. It is not possible to communicate in such an intensive and flexible manner via this instrument. But everything written in foreign language can be read randomly – times in usual conversational speed or slowly word to word where the emphasis is put on individual word differentiation or definite and indefinite articles or sentence elements. New words are highlighted and after clicking on it the translation is provided, its meaning and characteristics are explained (for example declension).

Duolingo instrument is the social website which is not based on observing learning advance in friends only. The greatest advantage is the community Duolingo is created by and the possibility to discuss learning troubles and to explain subject matter being not clear. These discussions are selected automatically according to language learnt; discussions are arranged according to its attendance. If advancing appropriate advanced knowledge of language learned it is possible to deepen the knowledge directly in practice. Some users' record documents for translation, these are very often various brochures or internet articles, Wikipedia page possibly. It is not necessary to translate whole texts directly to choose paragraph or sentence and to translate it is sufficient. The rest of the translation is translated by other users. Translations are evaluated afterward. Appropriate student - translator is honored for correct translation [2].

The last advantage to be mentioned is the fact that learning via websites is not the only possibility of learning but also learning via mobile application for example via Android

platform [10] and also via iOS platform [11] is possible. Everything is optimised for smartphones and tablets, applications provide learning in the same manner as in browser and it is possible to connect it on the way to work. Moreover mobile version contains more levels of competition so called duels in which users compete having the same tasks offered by an ordinary lesson (for example sentence translation, filling in the word). It is also necessary to be faster than the competitor [2].

LingQ. This instrument is based on TheLiguist method destroying obstacles preventing people from foreign language learning. Learning principles are based on methods teaching children to speak. Each student is exposed to perceptions and drifts providing the user with knowledge. Users can participate on the conversation, find friends; provide texts for translation and revision download and listen to the texts or learn new vocables and being provided with tutor advice. This instrument is available for with the possibility to extend an account and to buy more lessons [12]. During learning the user can choose from wide range of various texts according to the topic being interested in. Each text is read and subsequently dictionary is provided translating individual languages into user native one (Google translator is used, Fig. 3).

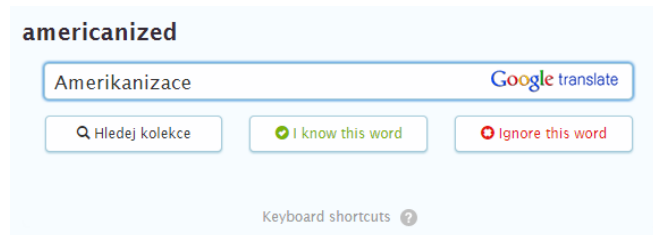


Fig. 3. Example of translation via Google translator in LingQ (Source: LingQ, 2014).

Sound texts can be downloaded to disk and being listened to offline. The system offers possibility to speak to native speaker that can be chosen according to user's knowledge of appropriate language. Similarly it is also possible in return to teach somebody language the user commands. The instrument's idea of learning foreign language is based on the principle of user's language learning interest (it is possible to listen to or read real stories, interviews, radio programs, novels) moreover vocabulary is advanced a lot. Student reads and listens to foreign language in many different situations. LingQ system je designed to learn the user for example writing in native speaker way. It learns phrases used by native speakers therefore writings are more native. Similarly during speaking to teachers student learns to use the most common phrases and expressions. Pronunciation is also trained. LingQ also measures everything the user performs so an advance is relatively evident. It is clear there is a possibility to determine aims. Instrument is also available in application not only in version for Android operation system but also for iOS operation system [13].

Change of language is also in LingQ performed fast via the switch on the left upper page corner. Learning via lessons is solved in LingQ in very interesting way. In fact there is no Lesson 1. The user has to select a course corresponding with level of knowledge extended via setting the modification and when selecting the sphere of interest. After that goes through the list of courses to select something corresponding with user's interest. Afterwards course is tested and if considered being an interesting one proceeds with the course. In opposite it is possible to return back on the list of courses and select a new one. It is possible to select more courses. New lesson is selected on user's request. Generally it is possible to declare that if 70-80% of lesson concerning listening is clear the user should proceed with learning ahead not losing time. User learns that keeping up his motivation for learning. If boring in some lesson and having an ambition to advance it is possible to do so. To understand words in context or to return back in case not understanding the subject matter properly is also possible. It is possible to highlight familiar words as familiar ones. But sometimes user doesn't understand the words in different context. It is possible to click on it and the translation is provided again. It is also possible to return back the words from familiar form to unfamiliar one. Statistics are modified [12].

Variety of possibilities to user provided are considered as being great instrument advantage. Student can save the courses, delete, select or print it. It is possible to create dictionary of familiar words and being motivated via the amount of new words extended. Whole course is supplemented by the the animal which emerges from an egg and gradually grows alongwith the advance of user's knowledge. For passing the lesson or for learning new words the student credits coins (Avatar Coins) and this Avatar (aforementioned animal) grows gradually which excessively represents gamification again. It is also possible to buy dress for Avatar Coins and to dress the animal according to level of extended knowledge achieved in the course. It is also possible to buy accessories for the animal. The results of aforementioned process can be published in social networks or put directly on blog website reference with current condition of „badge“ providing student advance in learning. When sharing advances another Avatar Coins can be earned as well as for inviting friends. The amount of words written or texts listened to is provided in the course. Course provides with the possibility of either online conversation with native speaker or with a person having an advanced knowledge of appropriate language. Just examine schedule of tutor and enrol for time. Each user can become a teacher, a tutor in fact if having sufficient advanced knowledge and being capable to spare time for it. Although it is possible to pass a few lessons free in the course the course is paid mainly. Not all instruments are available in basic free version. Course is well - designed. Although appears to be complicated to orientate in it it is considered positively its language and instrument accessibility. Although for example in Czech language are not the translations always absolutely accurate the user with the

interest to learn English for example without having fast any knowledge of language orientates in the course properly and understands assignment easily.

Livemocha. It deals with language community providing education materials in many languages. Registration and access to selected service characteristics is free nevertheless certain components are paid [14]. Websites are presented in many languages, primary language is English of course but it is also possible to present websites in Turkish or Chinese. Primary courses are free and one course contains approximately 30 – 50 hours. Users can participate on individual course development in case of having advanced language knowledge. Paid courses are active. It deals with the courses intended to reach the conversational fluency. An advantage of the course is that texts and written compositions can be revised by graduated teacher. It is also possible to learn language via social network, meet new friends and native speakers, communicate online and also provide own work for revision, possibly revise work of other community members [14].

After registration containing also question concerning user native language and language preferred the websites of required language are made available. The system inquires user about language knowledge. Lessons are bought for virtual currency. Choice of lesson depends fully on user. Courses consist of a few steps. In introduction course contains video in alphabet learning sound video with alphabet speaking is used for example. After watching the video to use dictionary is possible. It is possible to skip between individual course sections as well. Course contains instruments for writing, speaking, reading and listening. In first lessons an excessive emphasis is put on the alphabet management and also on correct listening to individual words and letters. Nevertheless certain parts of course seem to be too complicated for self study. For correct answers Points are credited. An advantage of English learning is for example that all sentences (instructions for use to complete the exercise) are in English affixed with Czech (different) translation equivalent. This translation is provided for short occasion only but long enough to read it. Whole learning is constructed in more difficult way to understand individual lessons seemingly but with excellent results. Additional lessons are bought for credit points or for real money.

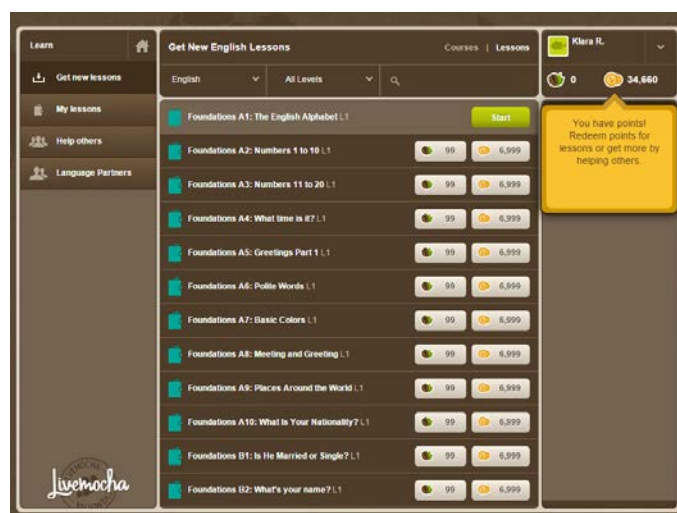


Fig. 4. Example of Livemocha instrument (Source: Livemocha, 2014).

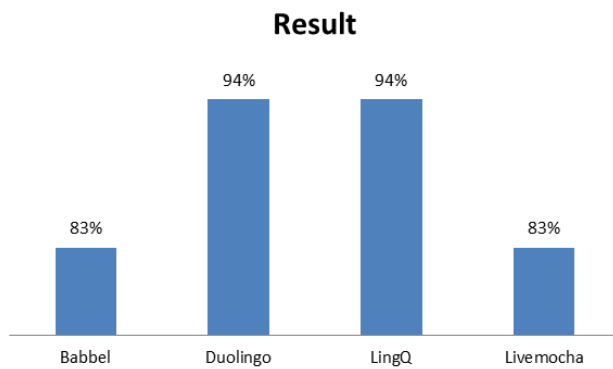
III. CONCLUSION

It is impossible to determine unequivocally that some of the instrument examined is the best one because each has its advantage and disadvantage (Fig. 5).

| | Babbel | Duolingo | LingQ | Livemocha |
|--|--------|----------|--------|-----------|
| Tool should be free | Yes/No | Yes | Yes/No | Yes/No |
| Tool that doesn't require installation | Yes | Yes | Yes | Yes |
| Working in web browser | Yes | Yes | Yes | Yes |
| Smart devices compatible | Yes | Yes | Yes | No |
| Tool that uses gamification | Yes/No | Yes | Yes | Yes |
| Tool explaining grammar | Yes/No | Yes/No | Yes | Yes |
| Tool that enables writing, reading, listening and speaking | Yes | Yes | Yes | Yes |
| Tool that offers at least 6 languages for learning | Yes | Yes | Yes | Yes |
| Option to log-in via e-mail | Yes | Yes | Yes | Yes |

Fig. 5. Schedule of examination results (Source: Authors).

For example Babbel instrument puts emphasis on basic conversational abilities construction and grammar explanation [15]. It is not free completely. Basic version is free but it is necessary thereafter to buy supplemental courses. Vice versa Duolingo has significant potential in entertaining form of gamification, simple and friendly look and not demanding user surrounding. Moreover enables relatively fast advance in knowledge inquiry and the users participate actively on its development. Duolingo also explains grammar but does not put emphasis on it so much. Lesson is based on correct translations mainly. LingQ is the instrument in its basic form free. It is possible to learn foreign language via the lowest (free) program version. But after that it is considered that many additional instruments are missing making foreign language learning more effective and more interesting. Livemocha is also free in basic version. It offers also a possibility to buy game menu (for real money) for which individual courses can be bought much faster than to save for it via own activities.



Graph 1. Examination results (Source: Authors).

As evident from the graph above Duolingo and LingQ came out as being the best ones concerning fulfilling the requirements. To mix these two instruments together (simple and user smart design and easy Duolingo operation with many possibilities that LingQ brings) and provide this instrument free would bring into the world of modern technologies and foreign language e-learning new competitor. Online foreign language instruments enable effective language learning. It fascinates the user and also makes staying in the learning process mainly if having much to offer. The instruments motivate via gamification, offer attractive learning courses supplemented with interesting topics or combine standard principles of foreign language learning with practical word expressions in a way the student was able to learn language fast. But as evident it still does not substitute language stay abroad or private lessons with native speaker. However it enables students learning foreign language or advances the knowledge really effectively and in many cases fast equally or faster than in ordinary language courses. The user manages and regulates learning according to abilities. Many of these elearning courses offer possibility of native speaker communication. Each of the testing instruments offers possibility of communication, corresponding, listening and speaking. Moreover it is absolutely free in many cases when student decides to learn the language. It is considered that similar elearning language instruments bring a huge effort for future not for students of primary and secondary schools and universities only but also for public, possibly seniors who would like to learn some language.

IV. CONCLUSION

Although algorithm development and programming are not mandatory part of the education at elementary school of the Czech Republic, it would not be problem within hours of information and communication technologies more effective support algorithmic thinking of pupils. It is true that pupils can control basic application such as text, tabular and graphical editors, but the algorithm development is often neglected. It also pointed to recent studies [1], [10].

„Instead of children bored out of their minds being taught how to use Word or Excel by bored teachers, we could have 11-year-olds able to write simple 2D computer animations.” [10]

Algorithmic thinking is very important not only for understanding the operation of the computer. Is needed in many other fields, especially science, e.g. mathematics includes a lot of of different algorithms, within lessons of chemistry and physics is a need to respect precise algorithms for experiments. For some pupils it is difficult to orient in the algorithms. The algorithmic thinking should be supported in different lessons, not only in teaching of programming. The paper presents one examples of development of algorithmic thinking.

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