

# Integrating crowdsourcing in language learning

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## Abstract

This article aims to illustrate the use of *crowdsourcing* in an educational context. The practical part illustrates and provides the results of an online test conducted among 12<sup>th</sup> grade high school students from Bulgaria in order to gain new knowledge, find out common characteristics among the tenses and revise for their upcoming exams. They along with some interesting and inspiring teaching ideas could be used in an educational environment to provide easier, quicker and more interactive acquisition of a language. The experiment has been conducted by means of *Google forms* and sets the beginning of the establishment of an annotated corpus of right and wrong uses of the Bulgarian and English tenses too.

## 1. Objectives of the current research

The current survey conducted by means of *Google forms* aims to research 12<sup>th</sup> graders' awareness of English and Bulgarian tenses using *crowdsourcing*. They study Bulgarian as their mother tongue and English as a foreign language in *English Language School Plovdiv*. The main purpose is to inspire them to revise for their upcoming state exams and gain some more new knowledge while practising the tenses online by means of their smartphones.

The research also strives to illustrate the forms of all the tenses in a clear and logical way and find out the common characteristics between their uses and their suitability for various situations. Thus it would be easier for a speaker of one of the two languages in question to acquire the next one with fewer efforts. Moreover, students would be able to practise tense uses and names and also provide examples in order to revise for their exams in Bulgaria. Thus, through *crowdsourcing* with mobile devices we strive to compile an annotated corpus with tasks and examples illustrated in the corresponding theoretical part of that article.

## 2. Tenses – theoretical background

The following theoretical part endeavours to compare the tense systems of English and Bulgarian. It is constructed to make the reader aware of all the indicative tense forms of the languages in question and to pinpoint some of the similarities between their common uses and characteristics.

## 3. Bulgarian tenses <sup>1</sup>

The Bulgarian verb expresses an action as a process in time. Therefore, the verb form shows when the action is done. When the time of the verbal actions is grammatically stated, we discuss them from their position with respect to the moment of speaking.

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<sup>1</sup> For more detailed description of the 9-member category of tense in Bulgarian, see Kutsarov (2007) and Nitsolova (2008).

In modern linguistics, it is assumed that Bulgarian possesses a category of tense with the following 9 members:

**1. Present // Сегашно (пише)**

Its forms show an action taking place at the moment of speaking, things that are always true or that happen on a regular basis.

**2. Aorist // Минало свършено (писа)**

Its forms show an action preceding the moment of speaking. It expresses an action that happened at a specific time in the past.

**3. Imperfect // Минало несвършено (пишеше)**

Its forms show an action taking place at the same time of a past orientation moment. It is mainly used to express a temporary situation that existed at or around a particular time in the past; frequently repeated or permanent past actions; and when we describe a setting while telling a story.

**4. Perfect // Минало неопределено (писал е)**

The forms express a result simultaneous with the moment of speaking. It expresses a past action but the precise moment when it happened is not clear. It is not known or important because what matters is the result of the action

**5. Pluperfect // Минало предварително (беше писал)**

Its forms show a result concurrent with a past orientation moment. It expresses an action which happened before another past action.

**6. Future // Бъдеще (ще пише)**

Its forms express an action taking place after the moment of speaking. It is used to show future actions.

**7. Future in the Past // Бъдеще в миналото (щеше да пише)**

The forms express an action taking place after a past orientation moment. It shows an action which was to be completed in the past and was future regarding another past action.

**8. Future Perfect // Бъдеще предварително (ще е писал)**

The forms show a result of an action after the moment of speaking. It expresses an action which is to take place in the future before another future action.

**9. Future Perfect in the Past // Бъдеще предварително в миналото (щеше да е писал)**

Its forms express a result after a past orientation moment. It shows a past action which is future regarding another past action which itself is prior to another action.

**4. English tenses <sup>2</sup>**

English verbs show the time of the action or state that is being described. English tenses can be quite tricky for anyone who is on the point of commencing to learn the language – firstly because of their number and secondly because of their complexity in the terms of positioning and expressing actions and their relationships.

In 2015, in his works based on the tenses in English and Bulgarian in terms of machine translation, Todor Lazarov uses the following table to illustrate the English tenses using four main signs – anteriority, posteriority, perfection and duration.

	anteriority	posteriority	perfection	duration
<b>Present simple</b>	-	-	-	-
<b>Present continuous</b>	-	-	-	+
<b>Present perfect</b>	-	-	+	-
<b>Present perfect continuous</b>	-	-	+	+
<b>Future simple</b>	-	+	-	-
<b>Future continuous</b>	-	+	-	+
<b>Future perfect</b>	-	+	+	-
<b>Future perfect continuous</b>	-	+	+	+
<b>Past simple</b>	+	-	-	-

<sup>2</sup> For reference on English tenses, see <http://spot.colorado.edu/~michaeli/MichaelistenseHEL.pdf>

<b>Past continuous</b>	+	-	-	+
<b>Past perfect</b>	+	-	+	-
<b>Past perfect continuous</b>	+	-	+	+
<b>Future simple in the past</b>	+	+	-	-
<b>Future continuous in the past</b>	+	+	-	+
<b>Future perfect in the past</b>	+	+	+	-
<b>Future Perfect continuous in the past</b>	+	+	+	+

Table 1: Division of English tenses

**1. Present Simple // Сегашно просто (work/s)**

is used for permanent states, repeated actions, daily routines; for laws of nature, general truths, sports commentaries, reviews, timetables and directions.

**2. Present Continuous // Сегашно продължително (am/is/are working)**

is used for actions taking place at the moment of speaking; for actions going on around now; changing or developing situations.

**3. Present Perfect // Сегашно перфектно (have/has worked)**

is used for actions which started in the past and continue up to the present; for actions which have recently finished and whose result is obvious in the present; for actions which happened at an unstated time in the past.

**4. Present Perfect Continuous // Сегашно перфектно продължително (have/has been working)**

emphasizes on the duration of an action which started in the past and continues up to the present.

**5. Past Simple // Минало просто (worked)**

expresses an action which happened at a definite time in the past which is either stated or implied; for actions which happened immediately one after the other; for finished states or habits.

**6. Past Continuous // Минало продължително (was/were working)**

is used to express an action which was in progress at a stated past moment; two or more simultaneous past actions; describe the setting and the atmosphere when we tell a story.

**7. Past Perfect // Минало перфектно (had worked)**

expresses an action which happened before another past action or before a stated past time; an action which finished in the past and whose result was obvious in the past.

**8. Past Perfect Continuous // Минало перфектно продължително (had been working)**

puts emphasis on the duration of an action which started and finished in the past before another past action or stated moment.

**9. Future Simple // Бъдеще просто (will work)**

is used in predictions, on-the-spot decisions, promises, requests and threats.

**10. Future Continuous // Бъдеще продължително (will be working)**

expresses an action which will be in progress at a stated future time; an action which will definitely happen as a result of a routine or arrangement; for polite questions.

**11. Future Perfect // Бъдеще перфектно (will have worked)**

is used for an action which will be finished before a stated future time.

**12. Future Perfect Continuous // Бъдеще перфектно продължително (will have been working)**

emphasizes the duration of an action up to a certain time in the future.

**13. Future Simple in the Past // Бъдеще просто в миналото (would work)**

expresses an idea that in the past you thought something would happen in the future and in the construction of a II conditional sentence.

**14. Future Continuous in the Past // Бъдеще продължително в миналото (would be working)**

is used to show an idea that in the past an action was predicted or planned in a certain period in the future, regardless the fact that idea was not proved true.

**15. Future Perfect in the Past // Бъдеще перфектно в миналото (would have worked)**

expresses an action that would have been completed at a past time and in a III conditional sentence.

**16. Future Perfect Continuous in the Past // Бъдеще перфектно продължително в миналото (would have been working)**

expresses an action or an imaginary situation that would have been happening in the past but it is rarely used nowadays.

Considering the theoretical and the practical part of the current article, we can conclude that there are some useful similarities between the tense systems of the two languages in question—Bulgarian and English.

1. The Bulgarian Present // Сегашно has common features with the English Present Simple and Continuous.
2. The Bulgarian Aorist // Минало свършено is similar to the English Past Simple.
3. The Bulgarian Imperfect // Минало несвършено shares common features with the English Past Simple and Continuous.
4. The Bulgarian Perfect // Минало неопределено coincides with the uses of the English Present Perfect.
5. The Bulgarian Pluperfect // Минало предварително coincides with the uses of the English Past Perfect.
6. The Bulgarian Future // Бъдеще has common characteristics with the English Future Simple.
7. The Bulgarian Future in the Past // Бъдеще в миналото shares the characteristics of the English Future Simple in the Past.
8. The Bulgarian Future Perfect // Бъдеще предварително shares common features with the English Future Perfect.
9. The Bulgarian Future Perfect in the Past // Бъдеще предварително в миналото coincides with the uses of the English Future Perfect in the Past.

## 5. Definition of crowdsourcing

Various authors define *crowdsourcing* in a different way. Here we will provide some definitions of the term:

- According to the *Oxford Learner's Dictionary* the term *crowdsourcing* can be defined as “the activity of getting information or help for a project or a task from a large number of people, typically using the Internet”.
- Howe (2006) interprets *crowdsourcing* takes place any time a company makes a choice to employ the crowd to perform labour that could alternatively be performed by an assigned group of employees or contractors, even if the company is just now putting up a shingle. In other words, *crowdsourcing* need not require an active shift from current employees (or again, contractors) to the crowd; it can start with the crowd.
- *Crowdsourcing* may draw on the wisdom of the crowd, which can be smarter, more effective, and more reliable than the best individuals in that crowd (Surowiecki, 2005).

The main idea for the use of *crowdsourcing* is to make a group of people work on a task while sharing knowledge, skills and experience in order to resolve an issue or conduct an experience. In addition, a lot of people are eager to contribute to the invention of something new or to the solution of a pressing problem due to personal beliefs, social and intellectual motives. Hence, *crowdsourcing* would be the most convenient and easily accessible way of working together as this would lead to many people being satisfied from their mutual interaction and communication.

## 6. Crowdsourcing in education

By itself, *crowdsourcing* is unlikely to deliver the best educational experience, but it is a natural framework for learning (Weld et al, 2012). In fact, *crowdsourcing* gives educators a unique advantage while working in a new environment to develop skills which their students will definitely need in the future and will make them put what they have learned in theory into practice.

Although it is generally assumed that teachers and educators are keen to develop and use new techniques and approaches, the status-quo is not easily altered. Concerning the current educational system, *crowdsourcing* may come in handy and be applied to provide contemporary and accessible education in an online environment both for teachers and students. In addition, *crowdsourcing* techniques help us reach a significant number of people at very low costs.

Boshnakova (2015) claims that *crowdsourcing* can be used for:

1. gathering texts appropriate for a definite age group or based on a given topic;
2. discussion and preparation of a programme with the participation of practitioners and other specialists;
3. seeking out ideas for the development of educational policies;
4. sharing experience by people working in the field of pedagogy;
5. creating a multicultural learning environment;
6. evaluating students' work by other students or by qualified specialists.

## 7. Description of the experiment

For the purpose of that article high school students (all of them 12th graders) from Plovdiv studying at *English Language School Plovdiv* have been asked to answer several questions based on the tense systems of the English and Bulgarian languages. Here we have to mention that the students' mother tongue is Bulgarian and English is their first foreign language. There are no students lagging behind in their development or students having problems with processing the required school material. The total number of respondents having taken part in the survey up to the publication of the current article is thirty-three. The questions have been piled up in order to establish the beginning of an annotated corpus. It has been constructed by means of *Google Forms* where all the students had to distinguish five Bulgarian and five English verbs and the corresponding tenses they are used in. In addition to this, the students were supposed to type sentences in order to give examples of the correct use of various English tenses. The answers generated by the students in the last mentioned section can be used for the future development of a corpus consisting of correct and inappropriate usage of the tenses in Bulgarian and English.

Apart from having fun and experimenting with new for the target group educational tools and resources, all the students managed to revise some basic knowledge for the state exams that they had to sit in May 2018.<sup>3</sup>

Feel free to fill in our questionnaire and take part in our survey. Thus we will be able to use crowdsourcing to the fullest and enrich the aforementioned corpus with more examples.

## 8. Analysis of the results

It is obvious from the answers given by the students that they are much more aware of the names of the English tenses. However, they have problems with differentiating some Bulgarian tenses. In the first five questions students have to find out which English tense is used in the example provided. The first sentence is 1) *By the end of next month, she will have been teaching for 20 years.* Here 93.5% of all respondents give the correct answer – Future perfect continuous. In the second example 2) *He bought that house in 1996.* the highest percentage is reached – 100% claim that Past simple is used in the sentence. In the third place we have 3) *When Monica came home, John had already prepared the dinner.* This question has been answered correctly by 87.1% of all respondents. Here the percentage is slightly lower probably because the sentence is complex and comprises two verbal forms. Question number four in the current study is 4) *They had been looking for a car for 6 months before they found*

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<sup>3</sup> The following link gives direct access to the questions answered by the respondents. (<https://docs.google.com/forms/d/1RGqh5oA4ILmnaI5VvlCJ2Mk24WUmixcZXpQgUtPHbe0/edit>).

one. In this example two tenses are used – Past perfect continuous and Past simple but 90.3% of the respondents give correct answers. Fifth comes 5) *George has had the dog for 5 years*. This is the tense which causes most problems among the students according to the current study – only 83.9% claim that Present perfect has been used in the example provided. Probably, the reason for the mistakes here is that Present perfect is used to illustrate a past action whose result is visible in the present or which action is still in progress in the present. Almost 13% of all respondents say that Past perfect is the tense used in the fifth example.

The second part of the questionnaire also consists of five tasks each of which begins with *Write down a sentence using* and a different tense. It proves to be the most difficult among the three. Here the teacher can check various areas – whether the students know the names of the tenses, whether they can use them in an appropriate context. Spelling can be checked too. Firstly, the respondents had to type an example using the present continuous. Some of the correct examples typed by the students are shown below: 1) *I'm writing a book, called 'Marcia'*. 2) *I can't talk, I am driving right now*. 3) *I am waiting for the doctor at the moment*. 4) *Tom is reading a book while his mother is cleaning the room*. 5) *I am doing my homework now*. 6) *I'm seeing my friend this afternoon*. 7) *I am playing tennis now, phone me later*. Every example listed above shows correct use of tense and awareness of its name. However, there are some students that have provided wrong answers, probably thinking Present continuous is the same as Present perfect continuous – 8) *I have been working for them for 7 years now*. 9) *I have been studying english for many years*.

Secondly, the students had to type an example using the Present perfect, the tense whose results were lowest in the first part of the questionnaire. Some of the correct examples are: 1) *I have had this notebook for seven years*. 2) *I have never been to Paris*. 3) *Peter isn't coming tomorrow because he hasn't finished his project yet*. 4) *I have had many obstacles this school year and so far I have overcome all of them*. In this section we have only one inappropriate answer 5) *I have been living in Plovdiv for 4 years*, which contradicts the task requiring the use of present perfect in the exemplary sentences.

Thirdly, the respondents had to type an example using the Past perfect. Some of the correct examples typed by the students are shown below: 1) *I had picked out my suit a long time before the ball, however it arrived only 2 days before the event*. 2) *When we arrived at the meeting, the boss had already begun the presentation*. 3) *By the time we arrived, the film had already finished*. Many students forget that the Past perfect is used to express an action which happened before another past action or before a stated past time or an action which finished in the past and whose result was obvious in the past and provide an inappropriate answer, e.g. 4) *I had been in Naples four times*.

Fourthly, the students had to type an example using the Future perfect. Some of the correct examples are: 1) *I will have finished my university education by 2030*. 2) *I will have finished the science fiction novel by the end of the year*. 3) *By the end of the day, I will have met that boy*. 4) *I will have left Bulgaria by the time he comes back*. In this section we can encounter some interesting mistakes, too. For instance in this answer 5) *I will have my diploma legalized and translated into German*, the respondent uses the Future simple with the construction *have something done*, which is used to show that somebody else does something for the speaker.

Fifthly, the respondents had to type an example using the Past continuous. Some of the correct examples given by the students are: 1) *I was playing basketball when I fell and broke my leg*. 2) *My mother wasn't sleeping when I was talking with my friend about my birthday party*. 3) *I was washing the dishes while she was cooking the turkey*. 4) *I was going to attend the ball but I changed my mind the very last minute*. 5) *I was looking at the train as it passed under my balcony in the foggy afternoon*. These sentences show that the students can recognize the name of the tense and can use it in an adequate context. One interesting mistake that we encountered while analyzing the results of the survey is 6) *I was speaking loudly when he get angry*. In this example the respondent does not use the correct tense in the second part of the sentence which means he/she is neither aware of the tense agreement rules nor the Subject-Verb agreement. Moreover, we have one student who has used the Past perfect continuous instead of the Past continuous – 7) *I had been doing the housework all day long*.

The third and last part of the online test is based on the Bulgarian tense system. Just like the task illustrated in the first English part, here again the respondents dispose of five sentences and they have to guess the name of each Bulgarian tense. The first sentence is 1) *Той е ял супа. (He has eaten soup.)*

Almost 97% of the answers are correct which means that the students are very well aware of the Bulgarian Perfect // Минало неопределено. Only 3% of all the students say that the Imperfect // Минало несвършено has been used in the exemplary sentence. The second sentence is 2) *До юли той щеше да е писал на посланика. (By July he would have written to the ambassador.)* In this example the Future Perfect in the Past // Бъдеще предварително в миналото is used and almost 84% of the respondents give a correct answer. 6.5% claim that the Future Perfect // Бъдеще предварително is used and almost 10% give their answer to the Pluperfect // Минало предварително. Sentence number three is the one that causes most problems to the students. 3) *Вчера по това време учех. (I was studying at that time yesterday.)* They hesitate between two answers the Aorist // Минало свършено and the Imperfect // Минало несвършено but luckily 48.4% vote for the correct tense. One respondent votes for the Present // Сегашно and one for Perfect // Минало неопределено. Fourth comes 4) *Ще звънна по някое време. (I will call sometime.)* Here the situation is clear and the majority of the respondents give correct answers voting for the Future // Бъдеще. Sentence number five 5) *Някой беше драскал по вратата. (Somebody had been scratching the door.)* proves tricky as well. Almost 39% of the student claim that the Imperfect // Минало несвършено is used and unfortunately, they are wrong. 58% of the answers provided go for the correct choice – the Pluperfect // Минало предварително.<sup>4</sup>

## 9. Conclusions

The practical part of the current study uses one contemporary and extremely useful method of the computational linguistics in the sphere of the Bulgarian educational system – *crowdsourcing*. The results of an online test have been analysed. The questionnaire was conducted among 12<sup>th</sup> graders from a high school in Plovdiv, Bulgaria and was based on the tense system of the English and Bulgarian languages. By means of *Google forms* we have set the beginning of a corpus which could be used by linguists, translators and foreign language experts to construct new methodologies for teaching the two languages in question.

The current research was also useful for the respondents. While taking part in the investigation, they managed to revise the tenses in their mother language– Bulgarian, as well as the tenses in English– their first foreign language which would come in handy for their state exams at the end of the school year.

Concerning our future work, we strive to combine more questionnaires consisting of tasks assessing students' linguistic knowledge. In addition, we would try to enrich our corpus with a bigger collection of right and wrong students' examples which illustrate the use of tenses.

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<sup>4</sup> For tabular view of the results and the corresponding answers of the conducted research visit the following link. [https://docs.google.com/spreadsheets/d/1F1KGSza9VumT\\_pv4e6oRkPF01MgfyDcqqfnJTWOBq2c/edit#gid=1970174785](https://docs.google.com/spreadsheets/d/1F1KGSza9VumT_pv4e6oRkPF01MgfyDcqqfnJTWOBq2c/edit#gid=1970174785)

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