

# SELF-STUDY OF THE MOOC ENGLISH PRONUNCIATION IN A GLOBAL WORLD: METAPHONETIC AWARENESS AND ENGLISH ACCENT VARIATION

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## **Abstract**

This paper reports on a study in which Polish first-year university students of English, self-studied the massive open and online course (henceforth MOOC) entitled “Pronunciation in a Global World” to gain some knowledge on the fundamentals of phonetics (the notion of comprehensibility, nativeness and identity; vowels, consonants and selected suprasegmentals) and English accent variation. Its two main goals are: firstly, to examine the MOOC’s impact on the participants’ understanding of basic phonetic concepts and, secondly, to obtain the users’ assessment of this MOOC’s attractiveness and usefulness.

In general, the results do not give evidence for the positive influence of the MOOC course on the students’ meta-awareness of English phonetics, since there are statistically significant differences in only three of sixty-eight questions between the experimental and control group. Nevertheless, many informants regard the course as useful (72%) and attractive (49%).

Although the results do not support the hypothesis of the MOOC’s beneficial role in facilitating the understanding of English phonetics our stand is that this online training could complement classroom teaching as a form of blended learning.

**Key words:** MOOC, English Pronunciation in a Global World, self-study, metaphonetic awareness, English accent variation

## **1. Introduction**

The concept of massive open and online courses (henceforth MOOC) in a diverse range of subjects is not a new one as this type of learning has been available for more than a decade. Pappano (2012) called 2012 the year of the MOOC. MOOC providers, for example, online learning platforms such as Coursera, edX, FutureLearn, Udemy and others allow for self-paced learning, interactivity, and learning tailored to a particular skill, including pronunciation. The courses are usually free, credit-less, with limited or unrestricted access and unlimited participation. Each course is usually divided into weeks, which focus on a specific

area of study. Users learn with the use of videos, audios, articles, quizzes, comments, feedback from educators, exchanges with fellow participants.

Bárcena and Martín-Monje (2014) address the pioneering nature of Language MOOCs (*henceforth* LMOOCs). They outline the most relevant platforms, their strengths and weaknesses, the variety of languages offered and the availability of specialized conferences and symposiums. Vorobyeva (2018) finds LMOOCs inadequate to provide quality language learning but admits it could complement classroom tuition. She supports the idea of blended learning and emphasizes the fact that this self-paced online course has a positive effect, especially on advance language learners' receptive rather than productive skills.

The research on the effectiveness of MOOC on oral skills and in particular pronunciation is scarce. The foreign languages which have been examined in MOOC-based pronunciation research include Japanese (Marciniak, 2018) and Spanish (e.g., Estebas-Vilaplana and Solans, 2020; Marrero-Aguilar, 2021; Rubio, 2014).

Marciniak et al. (2018) examined the effectiveness and validity of evaluation by peers, non-native teachers, and an independent native teacher in a Japanese pronunciation LMOOC. Peer feedback on its own did not provide reliable results as it included only general comments about progress. The conclusion was that it should be facilitated with explicit guidelines and preparatory training exercises, a grading tutorial and clearly constructed rubrics with aspects for evaluation. The assessment was found to be objective and reliable only after triangulating all the sources of feedback.

Rubio (2014) confirmed that an L-MOOC on Spanish pronunciation had helped students to improve their comprehensibility. A MOOC group showed a far larger effect size than a group with face-to-face (*henceforth* F2F) training. Each cohort of students was provided with different types of feedback. The F2F group was exposed to in-class analysis of examples of learner mispronunciation, while the MOOC group received explicit individualized teacher-generated feedback and had more chances of self- and peer-assessment with the use of a rubric. The study showed that learners' comprehensibility benefits from feedback and that students improve more if provided with individualized and frequent feedback from different sources.

Estebas-Vilaplana and Solans (2020) found that the LMOOC "The Acquisition of English Pronunciation through Songs and Literary Texts" had a positive effect on the production skills of Spanish students of English, especially in the prosodic features such as rhythm and stress as well as phonetic transcription reading. In the final oral exam MOOC participants outperformed the students who used regular course materials. The study also corroborates the idea that using an implicit methodology for phonetics teaching based on poems and songs is a good complement to explicit learning.

Marrero-Aguilar (2021) discussed the challenges relating to the development of oral production skills including pronunciation in MOOCs on the basis of two Spanish L-MOOCs, one for general learners and another for migrants and refugees, absolute beginners. These two courses start with auditory awareness, enhanced by simple explanations and visual stimuli of tonal curves in Praat. They focus first on the suprasegmental level and then on sounds with a high functional load. In the general course the phonetic component starts with perception training of minimal pairs on the intonation of statements and questions, or absolute questions and wh-questions with a visual representation of tonal curves in Praat, which is followed by a discrimination task on the same material and finalized with an oral production task and comparison with a model accompanied by the visual tonal curve. In the course for migrants and refugees, vowels are taught with audio and visual cues of photos of lip-shape and revised in a discrimination task, and there is also a focus on word-stress. The optional oral production involves a presentation for a job interview, peer-to-peer evaluated with a simple assessment form. This task did not count for the final evaluation and had a low participation rate. It is recommended that a desirable score should be assigned to such tasks to engage more participants. The prosodic exercises on intonation and stress proved to be accessible and more involving than the practice of vowels.

The description of the study which follows concerns the impact of a pronunciation MOOC on meta-awareness of fundamentals of phonetics and English accent variation. To the author's best knowledge such a topic has not yet been undertaken.

## **2. Method**

### **2.1. MOOC: English Pronunciation in a Global World**

According to Rupp et al. (2022: 3), the creator of this teaching tool, the three main linguistics and social aims of this course are:

- “to provide for an academic course on English pronunciation that is freely accessible and can be attended by anyone in the world on any device,
- to enhance understanding and appreciation of variation in English accents,
- to raise awareness and help combat social issues associated with English pronunciation, e.g., accent discrimination.”

(<https://www.futurelearn.com/courses/english-pronunciation>)

The topics included in the MOOC are divided into four weeks and the total time needed to cover all the sections is 12 hours. In the first week the users learn about the concepts of intelligibility, credibility, and identity in English pronunciation, and they also make a list of personal goals for their English pronunciation. Then the course follows a bottom-up approach to pronunciation learning, from sounds to larger units. The second week focuses on vowels, the third on consonants and the last one on suprasegmentals. A discussion of

English accents and English pronunciation assessment is included within these 4 weeks.

The course is intended for anyone who needs to speak English for professional or personal purposes and wishes to improve their English. In May 2022 there were approximately 101,000 registered users of this course from 192 countries. It is available on FutureLearn, a platform founded in 2012 by the Open University. As of December 2022, it was reported to be partnering with over 200 universities, brands and companies worldwide and to have offered a great variety of short online courses, microcredentials, undergraduate and postgraduate degrees to 19 million learners worldwide.

The goals which are to be achieved after the completion of the course are multi-fold. The users are supposed to be able to: describe aspects vital for mutual understanding, explain the differences between their own and other L1 speakers' pronunciation, apply the knowledge gained to their English speech as well as reflect on English accents.

There is a wide variety of activities, such as posts on Padlet (audio-clips, experiences about speaking English), discussions (readings and comments), practice material (explanatory videos with real-life examples, listen-and-repeat, quizzes), as well as peer review (an evaluation of one another's recording). The tasks are based upon the principles of Ryan and Deci's (2000) self-determination theory, which emphasises the significance of autonomy, competence, and relatedness. These three universal and innate psychological needs are regarded to be crucial for self-regulation, intrinsic motivation and well-being. (<https://pubmed.ncbi.nlm.nih.gov/11392867/>)

## **2.2. Aims, participants and procedure**

The primary aim of this study is to examine whether this MOOC has influence on students' understanding of basic concepts of English phonetics and English accent variation, and the secondary goal is to check the MOOC's attractiveness and usefulness.

The respondents were eighty-seven first-year students of English, 61% females and 39% males, from the University of Rzeszów, Poland, divided into two cohorts: 53 participants in an experimental group and 34 in a control group. Their self-assigned proficiency in English was C1 (85%), B2 (12%) and C2 (3%).

When it comes to the procedure applied, online forms in Microsoft Teams were used to collect the data. As the material in the MOOC is divided into four weeks and the free registration expires after that time, the same structure was implemented in this study. In the first week of October, during the first meeting with first year students, a pre-test and a recording of words, minimal pairs and sentences was conducted. The experimental group received their first assignment

to cover week 1 activities on what is important in English pronunciation, which involved doing the readings and exercises in the MOOC. In the following week they were tested on what they had learnt, and they were assigned the next section in the MOOC. The same procedure was repeated four times. Both close- and open-ended questions were asked; however, this paper presents the results on the former. There were altogether sixty-eight close-ended questions in all five questionnaires, plus ten questions on the usefulness and attractiveness of the MOOC. The students' results in the MOOC tests did not count in the assessment of their performance in the university English phonetics course as it had not been included in the course syllabus.

Tables 1-5 present all sixty-eight close-ended questions included in five forms. Simplified descriptions of different phonetic aspects were used to facilitate their understanding among novice high-school graduates with no prior knowledge of phonetics.

In eleven pre-test questions the students were asked to reflect on their own pronunciation, e.g. on the variety of English they aim at and would like to achieve (Question 1 – *henceforth* Q.1), whether they use the sound /ɪ/ in the words *poor* or *fair* (Q.6), or if they say the word *pot* with a vowel similar to 'o' or 'a' (Q.7). These questions correspond to what the respondents were to find in section 1 of the MOOC, which presents rhoticity, rhotic and non-rhotic accents and some other differences between Standard Southern British English (*henceforth* SSBE) and General American English (*henceforth* GA) such as the quality of the LOT vowel.

Then in test 1, on the basic concepts in English phonetics, there were eleven statements of which three checked the respondents' understanding of the notion of an accent, comprehensibility and intelligibility, respectively, or rhoticity or its lack in some varieties of English, for example, "Pronunciation of *part* as /pɑ:rt/ is typical of standard: a) British and Australian English, or b) American and Canadian English. (Q.10)"

The respondents' knowledge on vowels was verified in thirteen questions, for instance, "In GA *dance* is pronounced with a sound: a) similar to long 'a' (BATH), b) a different sound not existing in Polish, neither /a/ nor /e/, something in-between /e/ and /a/ (TRAP) (Q.09)," or "In SSBE the words *sort* and *sought* are pronounced: a) the same, b) differently (Q.10)."

Consonants and the future changes in the articulation of dental fricatives were tested in eleven questions, for example: "In standard English, depending on a word, the letters <th> can be pronounced as: a) θ, ð, t; b) θ, ð, t, d; c) θ, ð, t, d, v, f (Q.5)."

In test 4, suprasegmentals were represented by twenty-three questions, which concerned the notion of lexical and sentence stress, stress and syllable timing, stress in compound words, adjectival, noun and verb homographs, intonation in questions, question-tags and linking, for example: "Between words, linking of

a final consonant to an initial vowel, e.g., *in* – *an* – *egg*: a) should be applied; b) should NOT be applied (Q.14).”

### 3. Results

A chi-squared test of independence ( $\chi^2$  test,  $\alpha = 0.05$ ) was done to see whether there was any difference in the correctness of responses in the experimental group compared to the control. The p-value was less than alpha in only 3 out of 68 questions, so in general the differences between the results of the two cohorts were statistically non-significant.

The three questions that showed statistically significant differences between the two cohorts concerned rhoticity (Q.1.7 & 8)<sup>1</sup> and a suprasegmental feature of rhythm (Q.4.2)<sup>2</sup>. In the question about rhoticity in GA ( $p = .00249$ , EG: 83% vs. CG: 53%) as well as SSBE ( $p = .01787$ , EG: 81% vs. CG: 58%) the percentage of correct responses was significantly higher for the experimental group. In other words, we can attribute the high rate of correct responses in the experimental group to their self-study of the MOOC. The question on the rhythm of English reveals that the majority in the two cohorts point to syllable-timing, which is the wrong answer (Q.4.2,  $p = .01292$ , EG: 57% vs. CG: 82%) 43% of the experimental respondents point to stress-timing and only 18% of the control group are of the same opinion.

For reasons of clarity, the remaining results showing non-significant difference between the two cohorts, are discussed with reference to individual tests.

### Pre-test

Table 1 shows the results for pre-test questions. The differences between all the results of the two cohorts were statistically non-significant.

Table 1. Pre-test results.

Q.0.1. When you speak English which variety of English do you aim at? ( $p = .55008$ )					
	American	British	my own	other (explain) <sup>1</sup>	Total
CG	35%	29%	26%	9%	39%
EG	49%	28%	17%	6%	61%
Total	44%	29%	21%	7%	100%
Q.0.2. I'd like my English pronunciation to be: (1-2 options) ( $p = .28243$ )					
	native-like	understandable	understandable, native-like	understandable, with my mother tongue accent	Total

<sup>1</sup> See detailed data in Table 2.

<sup>2</sup> See detailed data in Table 5.

<sup>3</sup> The option *others* included such responses as: a combination of British and American English (3), a combination of various accents, a variety of English accents and being understood.

				with my mother tongue accent		
CG	50%	32%	12%	6%	0%	39%
EG	43%	36%	17%	0%	4%	61%
Total	46%	35%	15%	2%	2%	100%
Q.0.3. Is there anything you are particularly proud of when it comes to your English pronunciation? (p = .29180)						
	no	maybe	yes	Total		
CG	56%	18%	26%	39%		
EG	64%	23%	13%	61%		
Total	61%	21%	18%	100%		
Q.0.4. Is there anything you would like to improve when it comes to your English pronunciation? (p = .36619)						
	yes	maybe	no	Total		
CG	85%	12%	3%	39%		
EG	79%	9%	11%	61%		
Total	82%	10%	8%	100%		
Q.0.5. Is English, which you are aiming at: (p = .18840)						
	I don't know	non-rhotic	rhotic	Total		
CG	100%	0%	0%	39%		
EG	90%	4%	6%	61%		
Total	94%	2%	4%	100%		
Q.0.6. Do you pronounce <r> in <i>poor, fair</i> ? (p = .54648)						
	yes	no	Total			
CG	50%	50%	39%			
EG	57%	43%	61%			
Total	54%	46%	100%			
Q.0.7. Do you pronounce <i>pot</i> or <i>hot</i> with a sound similar to 'o' or 'a'? (p = .96045)						
	O	A	Total			
CG	85%	15%	39%			
EG	85%	15%	61%			
Total	85%	15%	100%			
Q.0.8. Do you pronounce <i>Paul</i> with a sound similar to 'o' or 'a'? (p = .66109)						
	O	A	Total			
CG	94%	6%	39.5%			
EG	96%	4%	60.5%			
Total	95%	5%	100%			
Q.0.9. Do you pronounce <i>dance</i> with a sound: (p = .53545)						
	not existing in Polish, neither /a/ nor /e/, something in-between /e/ and /a/	similar to long 'a'	Total			
CG	79%	21%	39%			
EG	74%	26%	61%			
Total	76%	24%	100%			
Q.0.10. Do you pronounce <i>sort</i> and <i>sought</i> (p = .77810):						
	the same	differently	Total			
CG	15%	85%	39%			
EG	17%	83%	61%			
Total	16%	84%	100%			

In more detail, the answers to the question about the variety of English the students aim at are similar in both groups and the differences are statistically nonsignificant (Q.0.1.,  $p = .55008$ ). The respondents opt for American (44%) followed by British (29%) and their own English (21%). They would like their English pronunciation to be native-like (46%), understandable (35%), understandable and native-like (15%), understandable and with their mother tongue accent (2%) or with their mother tongue accent (2%) (Q.0.2.,  $p = .28243$ ). 61% do not admit to being proud of any aspect of their English pronunciation, 21% are undecided, while 18% confirm positively (Q.0.3.,  $p = .29180$ ). 82% express the wish to improve some aspects of their own English pronunciation (Q.0.4.,  $p = .36619$ ). 94% are not familiar with the terms ‘rhotic’ or ‘non-rhotic’ and are not able to answer this question with regards to their own accent, while 4% indicate aiming at rhotic and 2% at non-rhotic English (Q.0.5.,  $p = .18840$ ). When the question regarding ‘rhoticity’ is phrased differently, i.e. “Do you pronounce <r> in *poor, fair?*”, in general 54% opt for rhoticity and 46% for non-rhoticity in their English (Q.0.6.,  $p = .54648$ ). The control group is split equally into those who use and do not use /r/ in the pronunciation of these words, whereas the experimental group reveals a slight preference for rhotic (57%) over non-rhotic (43%) articulation. 85% indicate that they pronounce *pot* or *hot* with a sound similar to ‘o’ and 15% with a sound similar to ‘a’ (Q.0.7.,  $p = .96045$ ). 95% report that they pronounce *Paul* with a sound similar to ‘o’. and 5% with a sound similar to ‘a’ (Q.0.8.,  $p = .66109$ ). 76% feel that they pronounce *dance* with a sound not existing in Polish, neither /a/ nor /e/, something in-between /e/ and /a/ whereas 24% point to a sound similar to long ‘a’ (Q.0.9.,  $p = .53545$ ). 84% believe that they pronounce the words *sort* and *sought* differently while 16% are of the opinion that these words sound the same (Q.0.10.,  $p = .77810$ ).

### Test 1: basic phonetic concepts

The results on an introductory section of MOOC which focuses on basic concepts in phonetics, are included in Table 2. Overall, they indicate that statistically non-significant differences between the two groups prevail in 9 of 11 questions. Therefore, the findings do not provide support for the influence of the MOOC on the students’ expertise in that realm except for rhoticity.

Table 2. Test 1 results on basic phonetic concepts.

Q.1.1. Accent can be defined as:				
a) how different speaker’s productions are from a local variety (L2)/ a native norm (FL),				
b) how easy L2/FL speech is for a listener to understand,				
c) how understandable L2/FL speech is. ( $p = .66653$ )				
	a)	b)	c)	Total
CG	91%	3%	6%	39%
EG	87%	8%	6%	61%
Total	89%	6%	6%	100%



Q.1.2. Comprehensibility can be defined as:				
a) how different speaker's productions are from a local variety (L2)/ a native norm (FL),				
b) how easy L2/FL speech is for a listener to understand,				
c) how understandable L2/FL speech is. (p = .24265)				
	b)	c)	a)	Total
CG	41%	47%	12%	39%
EG	55%	42%	4%	61%
Total	49%	44%	7%	100%
Q.1.3. Intelligibility can be defined as:				
a) how different speaker's productions are from a local variety (L2)/ a native norm (FL),				
b) how easy L2/FL speech is for a listener to understand,				
c) how understandable L2/FL speech is. (p = .38318)				
	c)	b)	a)	Total
CG	42%	52%	6%	38%
EG	55%	43%	2%	62%
Total	50%	47%	3%	100%
Q.1.4. What kind of English are you aiming at? (p = .19100)				
	native-like	understandable, comprehensible, intelligible		Total
CG	50%	50%		39%
EG	36%	64%		61%
Total	41%	59%		100%
Q.1.5. If you are aiming at native-like English, which variety is it? (p = .36028)				
	British	American	other	Total
CG	52%	42%	6%	39%
EG	38%	58%	4%	61%
Total	43%	52%	5%	100%
Q.1.6. In a rhotic accent, the letter <r> which you can see in the word: (p = .83885)				
	is pronounced	is NOT pronounced		Total
CG	74%	26%		39%
EG	75%	25%		61%
Total	75%	25%		100%
Q.1.7. General American is: (p = .00249)				
	rhotic	non-rhotic		Total
CG	53%	47%		39%
EG	83%	17%		61%
Total	71%	29%		100%
Q.1.8. Standard British English is: (p = .01787)				
	non-rhotic	rhotic		Total
CG	58%	42%		38%
EG	81%	19%		62%
Total	72%	28%		100%
Q.1.9. Pronunciation of <i>part</i> as /pa:rt/ is: (p = .83140)				
	non-rhotic	rhotic		Total
CG	32%	68%		39%
EG	30%	70%		61%
Total	31%	69%		100%

Q.1.10. Pronunciation of <i>part</i> as /pɑ:rt/ is typical of standard _____ English: (p = .29652)			
	British and Australian	American and Canadian	Total
CG	53%	47%	39%
EG	42%	58%	61%
Total	46%	54%	100%
Q.1.11. The pronunciation of <i>pot, hot, doll</i> in standard GA and SSBE is: (p = .62235)			
	different	the same	Total
CG	76%	24%	39%
EG	72%	28%	61%
Total	74%	26%	100%

We can learn from the data in Table 2 that 89% of the respondents choose the correct definition of accent, which is “how different speaker’s productions are from a local variety (L2)/ a native norm (FL) (Q.1.1, p = .66653). However, they are unsure when it comes to the notions of comprehensibility (49%, Q.1.2, p = .24265) and intelligibility (50%, Q.1.3, p = .38318) because they confuse these two terms. For comprehensibility, 49% of the informants correctly opt for how easy L2/FL speech is for a listener to understand while 44% think it stands for how understandable L2/FL speech is and 7% confuse it with accent. When it comes to intelligibility, the answers are distributed similarly, that is, 50% point to how understandable L2/FL speech is, 47% erroneously match it with how easy L2/FL speech is for a listener to understand (47%) and 3% take it as accent. 59% of the informants admit to aiming at understandable, comprehensible, intelligible pronunciation and 41% to native-like (Q.1.4, p = .19100). Those who prefer to achieve native-like pronunciation claim their goal is American (52%), British (43%) or other kinds (5%) of English (Q.1.5, p = .36028). Three-quarters believe that in a rhotic accent, the letter <r> which they can see in the word is pronounced (Q.1.6, p = .83885). In addition, 69% correctly indicate that the pronunciation of *part* as /pɑ:rt/ is rhotic (Q.1.9, p = .83140) but are undecided in which variety this feature is present, in particular, if such an articulation is typical of English which is standard American and Canadian (54%) or British and Australian (46%) (Q.1.10, p = .29652). 74% are aware of different renditions of LOT in *pot, hot, doll* in standard American and British (Q.1.11, p = .62235).

### Test 2: vowels

Table 3 presents the detailed results on thirteen questions regarding vowels. No statistically significant differences were observed between the experimental and control group, therefore, in the discussion of the results reference is made to the whole group.

Table 3. Test 2 results on vowels.

Q.2.1. Which sound stands for a letter <o> in <i>pot</i> in standard American and British English? (p = .15781)					
	SSBE: /pɒt/, GA: /pɑ:t/	SSBE: /pɑ:t/, GA: /pɒt/	SSBE & GA: /pɒt/	SSBE & GA: /pɑ:t/	Total
CG	50%	28%	16%	3%	38%
EG	31%	29%	37%	0%	62%
Total	38%	29%	29%	1%	100%
Q.2.2. The word <i>butcher</i> is pronounced with: (p = .68474)					
	/ʊ / (u-like)		/ʌ/ (a-like)		Total
CG	35%		65%		39%
EG	40%		60%		61%
Total	38%		62%		100%
Q.2.3. The word <i>fought</i> is pronounced with: (p = .12122)					
	/ɒ/	/əʊ/	/ɔ:/	Total	
CG	42%	15%	42%	39%	
EG	23%	29%	48%	61%	
Total	31%	24%	46%	100%	
Q.2.4. In BrE the word <i>swan</i> is pronounced with: (p = .16049)					
	/ʌ/ (a-like)		/ɔ:/	/ɒ/	Total
CG	61%		12%	27%	38%
EG	42%		26%	32%	62%
Total	49%		21%	30%	100%
Q.2.5. Does Polish have short and long vowels? (p = .36573)					
	no	yes	I don't know	Total	
CG	58%	15%	27%	38%	
EG	64%	21%	15%	62%	
Total	62%	19%	20%	100%	
Q.2.6. Does lip-rounding (if you have spread, neutral or round lips) matter in the production of English vowels? (p = .31117)					
	yes	no	I don't know	Total	
CG	94%	3%	3%	40%	
EG	92%	0%	8%	60%	
Total	93%	1%	6%	100%	
Q.2.7. Is the letter <t> pronounced in <i>poor</i> , <i>fair</i> in British English? (p = .62431)					
	no		yes	Total	
CG	94%		6%	38%	
EG	96%		4%	62%	
Total	95%		5%	100%	

Q.2.8. A letter <o> in <i>poř</i> in SSBE is pronounced with a sound similar to: (p = .06896)				
	O	A	Total	
CG	85%	15%	39%	
EG	68%	32%	61%	
Total	75%	25%	100%	
Q.2.09. In GA <i>dance</i> is pronounced with a sound: (p = .91539)				
a) similar to long 'a' (BATH),				
b) a different sound, not existing in Polish, neither /a/ nor /e/, something in-between /e/ and /a/ (TRAP)				
	a)	b)	Total	
CG	24%	76%	39%	
EG	25%	75%	61%	
Total	24%	76%	100%	
Q.2.10. In SSBE the words <i>sort</i> and <i>sought</i> are pronounced: (p = .06785)				
	differently	the same	Total	
CG	64%	36%	38%	
EG	43%	57%	62%	
Total	51%	49%	100%	
Q.2.11. In the production of vowels, the following features matter: (p = .50416)				
a) manner of articulation, place of articulation and voicing,				
b) quality (the position of the tongue), quantity (length) and lip-rounding,				
c) lip-rounding and voicing				
	a)	b)	c)	Total
CG	12%	85%	3%	38%
EG	9%	81%	9%	62%
Total	10%	83%	7%	100%
Q.2.12. Vowels are: (p = .59695)				
	voiceless and voiced	voiced	voiceless	Total
CG	56%	29%	15%	39%
EG	66%	25%	9%	61%
Total	62%	26%	11%	100%
Q.2.13. Vowels can be divided into: (p = .38132)				
	monophthongs, diphthongs, triphthongs	monophthongs, diphthongs	monophthongs, diphthongs, triphthongs, quatrophthongs <sup>2</sup>	Total
CG	38%	56%	6%	39%
EG	25%	70%	6%	61%
Total	30%	64%	6%	100%

The majority of all the respondents show good understanding of the six vocalic characteristics such as:

- in British English vowels are unaccompanied by the sound /r/ in *poor*, *fair* (95%, Q.2.7, p = .62431),
- lip-rounding has an influence on the quality of English vowels (93%, Q.2.6, p = .31117),
- three features: quality, quantity, and lip-rounding, matter in vowel articulation (83%, Q.2.11, p = .50416),

<sup>2</sup> This non-existing category was included as a distractor.

- in GA *dance* is pronounced with TRAP which is different from SSBE BATH (76%, Q.2.09,  $p = .91539$ ),
- the letter <o> in *pot* in SSBE is pronounced with a sound similar to the Polish vowel 'o', but not the vowel 'a' (75%, Q.2.8,  $p = .06896$ ),
- short and long vowels are not found in Polish (62%, Q.2.5,  $p = .36573$ ),

However, the informants are uncertain about the remaining seven statements which obtain under 50% results. 49% believe that in SSBE the words *sort* and *sought* are pronounced the same (Q.2.10,  $p = .06785$ ). 46% point to a correct vowel /ɔ:/ in the word *fought* (Q.2.3,  $p = .12122$ ), which shows they are not familiar with the letter-to-sound correspondence of the sequence <ough> which is usually rendered as THOUGHT. A mere 38% think that the word *butcher* is pronounced with /ʊ/ (u-like) (Q.2.2,  $p = .68474$ ) and chose the correct vowel for the letter <o> in *pot* in standard American (/pɑ:t/) and British English (/pɒt/) (Q.2.1,  $p = .15781$ ). Eventually, 30% recognize that in BrE the word *swan* is pronounced with /ɒ/ (Q.2.4,  $p = .16049$ ) and that vowels can be divided into monophthongs, diphthongs, and triphthongs (Q.2.13,  $p = .38132$ ). Only 26% agree that vowels are voiced (Q.2.12,  $p = .59695$ ).

### Test 3: consonants

As regards the results on consonants presented in Table 4, the same trend of no statistically significant differences in the two groups can be seen here.

Table 4. Test 3 results on consonants.

Q.3.1. Dark /l/ is pronounced before: ( $p = .90365$ )				
	a consonant, e.g. <i>ball</i>	a vowel, e.g. in <i>light</i>		Total
CG	67%	33%		38%
EG	68%	32%		62%
Total	67%	33%		100%
Q.3.2. In English letters <ch> are pronounced as: ( $p = .22554$ )				
	/k/	/k/, /f/, /tʃ/, silent	/k/, /f/, /tʃ/	Total
CG	0%	24%	76%	39%
EG	0%	36%	64%	61%
Total	0%	31%	69%	100%
Q.3.3. In English one letter corresponds to one sound: ( $p = .96538$ )				
	FALSE	TRUE		Total
CG	94%	6%		39%
EG	94%	6%		61%
Total	94%	6%		100%
Q.3.4. In Polish the words <i>Bóg</i> [God] and <i>buk</i> [beech] sound the same as /buk/. Does the same rule apply in English? Are words such as: <i>league</i> and <i>leek</i> pronounced the same in English ( $p = .84324$ )?				
	No	Yes		Total
CG	85%	15%		39%
EG	87%	13%		61%
Total	86%	14%		100%

Q.3.5. In standard English, depending on a word, the letters <th> can be pronounced as: (p = .05057):					
	/θ/, /ð/, /t/	/θ/, /ð/, /t/, /d/	/θ/, /ð/, /t/, /d/, /v/, /f/	Total	
CG	56%	29%	15%	39%	
EG	75%	9%	15%	61%	
Total	68%	17%	15%	100%	
Q.3.6. In standard English <th> in the word <i>think</i> is pronounced as: (p = .92341)					
	/θ/	/ð/	Total		
CG	91%	9%	39%		
EG	91%	9%	61%		
Total	91%	9%	100%		
Q.3.7. The word <i>think</i> is also pronounced by some Londoners with: (p = .23664)					
	/f/	/t/	/ð/	/θ/	Total
CG	64%	18%	15%	3%	38%
EG	43%	28%	17%	11%	62%
Total	51%	24%	16%	8%	100%
Q.3.8. According to the article about the future changes in English pronunciation, in the year 2066 <th> in the word <i>think</i> may be pronounced as: (p = .93329)					
	/f/	/t/	/θ/	/ð/	Total
CG	67%	21%	9%	3%	39%
EG	64%	23%	8%	6%	61%
Total	65%	22%	8%	5%	100%
Q.3.9. In standard English <th> in the word <i>mother</i> is pronounced as: (p = .28636)					
	/ð/	/θ/	Total		
CG	74%	27%	39%		
EG	83%	17%	61%		
Total	79%	21%	100%		
Q.3.10. According to the article about the future changes in English pronunciation, in the year 2066 <th> in the word <i>mother</i> may be pronounced as: (p = .55732)					
	/v/	/f/	/θ/	/ð/	Total
CG	56%	3%	24%	18%	40%
EG	56%	10%	15%	19%	61%
Total	56%	7%	19%	19%	100%
Q.3.11. According to the article about the future changes in English pronunciation, in the year 2066 the word <i>beauty</i> may be pronounced as: (p = .12155)					
	/ˈbu:ti/ with no /j/	the same as now, i.e. /ˈbjʊ:ti/	Total		
CG	30%	70%	38%		
EG	47%	53%	62%		
Total	41%	59%	100%		

All in all, when it comes to questions on consonants, the majority of all the respondents are aware that: in English one letter does not correspond to one sound (94%) (Q.3.3, p = .96538), in standard speech <th> in *think* is pronounced as /θ/ (91%) (Q.3.6, p = .92341) and in *mother* as /ð/ (79%) (Q.3.9, p = .28636). 86% of the informants understand that voicing of the word final voiced obstruents works differently in English and Polish and correctly admit that the words such as: *league* and *leek* are not pronounced the same (Q.3.4, p = .84324). 67% recognize the distinction between the allophones of /l/ and confirm that dark /l/ is

pronounced before a consonant or at the end of the word, e.g., in *ball* (Q.3.1,  $p = .90365$ ). 68% realize that, in standard English depending on a word the pronunciation of the letters <th> varies and gives rise to three sounds such as: /θ/, /ð/, /t/ (Q.3.5,  $p = .05057$ ) but 17% think it can also be rendered as /d/ and 15% enlarge the list of its articulation by /d/, /v/, /f/.

The surveyed participants are hesitant about the current use of th-fronting in *think* with /f/ (51%) (Q.3.7,  $p = .23664$ ) as some also point to other renditions of *think* with /t/ (24%), /ð/ (16%) and even standard /θ/ (8%). The students' familiarity with the predictions on changes in English pronunciation in the future such as prevailing th-fronting is also under scrutiny. More respondents agree on a substitution of a voiceless dental fricative into /f/ in *think* (65%, Q.3.8,  $p = .93329$ ) than of a voiced one into /v/ in *mother* (51%, Q.3.10,  $p = .55732$ ).

Clearly, the respondents did not fully grasp the letter-to-sound correspondence concerning the digraph <ch> as only 31% believe that these letters are pronounced in four ways, as /k/, /j/, /tʃ/, or silent (31%), while the majority (69%) opts for /k/, /ʃ/, /tʃ/ only (69%) (Q.3.2,  $p = .22554$ ). Only 41% know the answer concerning the predictions on the pronunciation of the word *beauty* in the future as /'bu:ti/ with no /j/ (Q.3.11,  $p = .12155$ ) but 59% think it will be pronounced the same as today, i.e. /'bju:ti/.

#### Test 4: Suprasegmental features

In test 4 on suprasegmentals there is only one statistically significant difference between the experimental and control group in the question on the rhythm of English (Q.4.2), which was discussed at the beginning of results.

Table 5. Test 4 results on suprasegmentals.

Q.4.1. Stressed syllables are pronounced with: ( $p = .20920$ )			
	more effort and are perceived as louder	less effort and are perceived as quieter	Total
CG	97%	3%	39%
EG	100%	0%	61%
Total	99%	1%	100%
Q.4.2. English is: ( $p = .01292$ )			
	a syllable-stressed language	a stress-timed language	Total
CG	82%	18%	39%
EG	57%	43%	61%
Total	67%	33%	100%
Q.4.3. In a stressed-timed language: ( $p = .24491$ )			
a) stress occurs at regular intervals, i.e., some syllables are stressed, whereas other syllables receive no stress and are pronounced with schwa,			
b) all syllables receive more or less equal stress and vowels are not reduced			
	a)	b)	Total
CG	62%	38%	39%
EG	74%	26%	61%
Total	69%	31%	100%

Q.4.4. In English, the stress position in words is: (p = .65132)					
a) not fully regular, any syllable can be stressed;					
b) regular, falls on the same syllable, e.g., the penultimate syllable, which is the second from the end of the word					
	a)	b)	Total		
CG	71%	29%	40%		
EG	75%	25%	60%		
Total	73%	27%	100%		
Q.4.5. Lexical stress (a stress in a word): (p = .32203)					
a) can always be easily placed in a word, e.g., based on its grammatical category, e.g., if it is a noun or a verb					
b) should be learnt by heart					
	a)	b)	Total		
CG	62%	38%	39%		
EG	51%	49%	61%		
Total	55%	45%	100%		
Q.4.6. In some homographs, pairs of words with the same spelling, e.g., <i>contest</i> as a noun and a verb or <i>perfect</i> as an adjective and a verb, lexical stress depends on a grammatical category: (p = .03102)					
	TRUE	FALSE	Total		
CG	70%	30%	39%		
EG	88%	12%	61%		
Total	81%	19%	100%		
Q.4.7. A noun <i>contest</i> , as in <i>the Eurovision Song Contest</i> and a verb <i>contest</i> , as in <i>to contest a decision</i> are: (p = .75987)					
	stressed differently	stressed the same	Total		
CG	76%	24%	39%		
EG	79%	21%	61%		
Total	78%	22%	100%		
Q.4.8. A noun and a verb <i>contest</i> are: (p = .28902)					
a) a noun is stressed on the first syllable (/ˈkɒntəst/) but a verb is stressed on the second syllable (/kənˈtest/)					
b) both stressed on the first syllable					
c) a noun is stressed on the second syllable (/kənˈtest/) but a verb is stressed on the first syllable (/ˈkɒntəst/)					
d) both stressed on the second syllable					
	a)	b)	c)	d)	Total
CG	53%	9%	32%	6%	39%
EG	66%	13%	15%	6%	61%
Total	61%	11%	22%	6%	100%
Q.4.9. In English, within the sentence, the stress normally falls on the last word at the right periphery of the clause, as in, "My neighbour is building a desk.": (p = .06314)					
	FALSE	TRUE	Total		
CG	50%	50%	39%		
EG	30%	70%	61%		
Total	38%	62%	100%		
Q.4.10. Which word should be stressed in an utterance "B" to show contrast to what is being said by Speaker A: Speaker A: A: "Is your <b>brother</b> building a desk?" B: "No. my neighbour is <b>building</b> a desk." (p = .17614)					
	neighbour	building	desk	Total	
CG	91%	9%	0%	39%	
EG	94%	2%	4%	61%	
Total	93%	5%	2%	100%	



Q.4.11. Mark a true statement for English: (p = .12956)				
a) Wh-questions have a falling intonation, as in “Who is the thief?” while <i>yes-no</i> question have a rising intonation, as in “God, is that what you were doing?”				
b) all questions have a rising intonation				
c) Wh-questions have a rising intonation, as in “Who is the thief?” while <i>yes-no</i> question have a falling intonation as in “God, is that what you were doing?”				
	a)	b)	c)	Total
CG	56%	15%	29%	39%
EG	34%	21%	45%	61%
Total	43%	18%	39%	100%
Q.4.12. In a ‘question-tag’, e.g., <i>It is yours. Isn't it?</i> : (p = .68345)				
a) a rising tone is used to show a real question <i>It is yours, ↗ isn't it?</i> And a falling tone is used to confirm, what the speaker assumes is true <i>It is yours, ↘ isn't it?</i>				
b) a falling tone is used to show a real question <i>It is yours, ↘ isn't it?</i> And a rising tone is used to confirm, what the speaker assumes is true <i>It is yours, ↗ isn't it?</i>				
c) a falling and rising tone can be used with no change in meaning				
	a)	b)	c)	Total
CG	47%	44%	9%	39%
EG	57%	36%	8%	61%
Total	53%	39%	8%	100%
Q.4.13. English native speakers link words to a high degree and their speech frequently sounds more connected than the speech of speakers of other languages. (p = .40374)				
	FALSE	TRUE	Total	
CG	18%	82%	39%	
EG	11%	89%	61%	
Total	14%	86%	100%	
Q.4.14. Between words, linking of a final consonant to an initial vowel. e.g., <i>in_an_egg</i> : (p = .98317)				
	should be applied	should NOT be applied	Total	
CG	62%	38%	40%	
EG	62%	38%	60%	
Total	62%	38%	100%	
Q.4.15. In American English /t/ in “Forget about it.” sounds: (p = .74827)				
	like /d/, different from SSBE	like /t/, the same as in SSBE	Total	
CG	59%	41%	39%	
EG	62%	38%	61%	
Total	61%	39%	100%	
Q.4.16. English is: (p = .78978)				
	a tone-language	an intonational language	Total	
CG	44%	56%	40%	
EG	47%	53%	60%	
Total	46%	54%	100%	
Q.4.17. In English: (p = .68712)				
a) a change of tone in a word, e.g., rising versus falling shows a different emotion, e.g., surprise or disbelief,				
b) a change of tone in a word, e.g., rising versus falling, changes its meaning				
	a)	b)	Total	
CG	68%	32%	39%	
EG	72%	28%	61%	
Total	70%	30%	100%	

Q.4.18. English speakers: (p = .21774)					
a) use a narrower pitch range than speakers of other languages,					
b) use a greater pitch range than speakers of other languages					
	a)	b)	Total		
CG	59%	41%	39%		
EG	45%	55%	61%		
Total	51%	49%	100%		
Q.4.19. Greenhouse has a stress on: (p = .26979)					
	the first syllable	the second syllable	Total		
CG	85%	15%	39%		
EG	75%	25%	61%		
Total	79%	21%	100%		
Q.4.20. A word <i>take-off</i> is stressed: p = 0.0657					
a) on the first or the second syllable depending on a grammatical function					
	a)	on the 2nd syllable	on the 1st syllable	Total	
CG	53%	24%	24%	39%	
EG	53%	8%	39%	61%	
Total	53%	14%	33%	100%	
Q.4.21. The word <i>negligible</i> is stressed on: (p = .50203)					
	negLigible (2nd)	negliGIble (3rd)	NEGligible (1st)	negligible (4th)	Total
CG	50%	12%	38%	0%	39%
EG	38%	21%	40%	2%	61%
Total	43%	17%	39%	1%	100%
Q. 4.22. When you speak English which variety of English do you aim at: (p = .12993)					
	British	American	my own	other	Total
CG	47%	15%	35%	3%	39%
EG	49%	32%	17%	2%	61%
Total	49%	25%	24%	2%	100%
Q. 4.23. Is English, which you are aiming at: (p = .28451)					
	non-rhotic	I don't know	rhotic	Total	
CG	35%	35%	29%	39%	
EG	21%	38%	42%	61%	
Total	26%	37%	37%	100%	

The meta-knowledge of suprasegmentals of the majority of the respondents' is satisfying, especially when it comes to the following aspects:

- the prominence of strongly stressed syllables (99%, Q.4.1, p = .20920),
- contrastive stress (93%, Q.4.10, p = .17614),
- a great amount of linking in English (86%, Q.4.13, p = .40374), especially, a final consonant to an initial vowel ligature, e.g., *in\_an\_egg* (62%, Q.4.14, p = .98317) and the use of an intervocalic /t/-tapping in "Forget about it in American English (61%, Q.4.15, p = .74827),
- stress in noun/adjective versus verb homographs, and particularly, its dependence on a grammatical category (81%, Q.4.6, p = .03102), a different stress pattern in a noun and verb relating to the word *contest* (78%, Q.4.7,

p = .75987), the stress in the word *contest*, which is on the first syllable of a noun (/ˈkɒntɛst/) and the second of a verb (/kənˈtɛst/) (61%, Q.4.8, p = .28902),

- early stress in the compound word *greenhouse* (79%, Q.4.19, p = .26979),
- lack of a general rule for lexical stress in English (73%, Q.4.4, p = .65132),
- the meaning of stress-timing (69%, Q.4.3, p = .24491),
- the placement of a tonic syllable on a last content word of an utterance (62%, Q.4.9, p = .06314),
- the fact that a change of tone in English shows a different emotion but does not change the meaning of a word (70%, Q.4.17, p = .68712) and the classification of English as an intonational language (54%, Q.4.16, p = .78978),
- intonation of questions-tags (53%, Q.4.12, p = .68345),
- the fact that stress in phrasal words depends on their grammatical function, for example, a noun *take-off* is stressed on the first syllable while a verb *to take-off* receives a late stress on a particle (53%, Q.4.20, p = 0.0657).

The results in Table 5 also reveal that most of the students lack knowledge in five suprasegmental aspects, which constitute a good starting point for a discussion in a classroom. They wrongly believe that English is a syllable-timed language (67%, Q.4.2, p = .01292) thus the notion of syllable- and stress- timing should be re-explained. They are of the opinion that lexical stress in English can always be easily placed in a word, e.g., based on its grammatical category (55%, Q.4.5, p = .32203) and that the word *negligible* is stressed on a syllable other than the first (61%, Q.4.21, p = .50203). 57% are confused about intonation in questions, e.g., 18% are unaware that English questions are not limited to a rising intonation and 39% point to contrary tones in *wh-* and *yes-no* questions (Q.4.11, p = .12956). 51% erroneously think that English has a narrower pitch range in comparison with other languages (Q.4.18, p = .21774).

The last two questions in test 4 were reiterations of questions asked in earlier tests on the students' preferred model of English (Qs: 0.1, 1.5) and, whether it is rhotic or not (Qs: 0.5, 0.6, 1.6, 2.7).

Having completed the MOOC the informants confirmed that they aim at British (49%), American (25%), their own (24%) and understandable (2%) type of English (Q. 4.22, p = .12993). However, at pre-test American English had been reported by the majority (Q.0.1) as the ranking was: American (44%), British (29%) and then their own English (21%). Yet in test 1 (Q.1.5), after the discussion of the major differences between British and American pronunciation, the numbers rose for both varieties: American (52%), British (43%) and fell for other varieties of English (5%). One of the unexpected results of the test was, thus, the increase of interest in British English from 29%, through 43% to 49%, and another trend for American English, the rise from 44% to 52%, followed by a sharp drop to 25% and a relatively stable number of responses for *my own English* a change from 21% to 24%.

In addition, 26% realize that the English which they are aiming at is non-rhotic, 37% opt for rhotic or admit not to be aware of what rhoticity denotes (37%) (Q. 4.23,  $p = .28451$ ), which, however, does not correspond to the previously chosen types of English, e.g., if, as stated, 49% wish to speak with SSBE, non-rhoticity should be represented with a corresponding number. It might mean that after the completion of the MOOC, they might not remember what rhoticity means and which varieties it is typical of. Before starting the MOOC 94% didn't know if their English was rhotic or non-rhotic (Q.0.5) but 54% stated that they pronounced <r> in *poor*, *fair* and 46% admitted to non-rhoticity in their English (Q.0.6). Then after the introduction of rhoticity in the MOOC 75% confirmed that in a rhotic accent, the letter <r> is pronounced (Q.1.6), 69% correctly indicated that the pronunciation of *part* as /pa:rt/ is rhotic (Q.1.9), 54% assigned it to standard American and Canadian English (Q.1.10) and 95% knew that in BrE vowels are unaccompanied by the sound /r/ in *poor*, *fair* (Q.2.7).

#### 4. Statistically significant differences between the cohorts, in the number of points in separate tests

A different look at the same data from the perspective of the number of correct points gathered for each test, the whole section on introductory phonetic notions, vowels, consonants, and suprasegmentals, revealed a more optimistic result.

Table 6. The descriptive statistics on the number of correct points gathered for all the questions in each test by the two cohorts.

Quiz feedback		control	experimental	p-value
After week 1: introduction	Mean	5.5	6.4	0.0200*
	Median	5.5	7	
	SD	1.7	1.8	
	Minimum	3	2	
	Maximum	9	9	
After week 2: vowels	Mean	10	10	0.6506
	Median	10	10	
	SD	2.4	2.5	
	Minimum	4	5	
	Maximum	13	17	
After week 3: consonants	Mean	6.4	6.7	0.2354
	Median	6	7	
	SD	1.3	1.5	
	Minimum	4	3	
	Maximum	9	10	

After week 4: suprasegmentals	Mean	13	14	0.0365*
	Median	13	14	
	SD	2.3	2.3	
	Minimum	6	8	
	Maximum	17	19	

Table 6 shows that the  $p$ -value marked in red is less than the significance-level ( $\alpha = 0.05$ ) which means that there is a statistically significant difference between the control and experimental group in two sections of the MOOC in tests 1 ( $p = 0.02$ ) and 4 ( $p = 0.03$ ) on basic phonetic concepts and suprasegmentals.



Figure 1. The differences in mean in two cohorts in tests 1 and 4.

Figure 1 depicts the same trend as the means are each time higher for the experimental group in the test after week 1 on basic concepts, which is represented by a white box (CG: 5.5 vs. EXG: 6.4), and in the test after week 4 on suprasegmentals (CG: 12.7 vs. EXG: 13.8), which is illustrated by a green box.

## 5. Attractiveness and usefulness

After the completion of the MOOC, the experimental group once more reflected on their own accent preferences. When asked if the MOOC had changed their attitude to their own English accent, 68% responded positively unlike the remaining 32%. The answer to the question on what kind of English pronunciation they aim at after the completion of the MOOC shows that 60% want to be comprehensible but nativelike, 28% nativelike and 12% comprehensible. Justifications ( $n = 42$ ) on why they want to aim at a particular kind of English pronunciation reveal that 60% of respondents still wish to sound native-like for various reasons, 24% want to be comprehensible, easy to understand,

12% mention their own personal preferences and only 2% wished to be fluent and to speak with a Polish accent “to keep that bit of cultural identity”

The respondents also evaluated the MOOC’s usefulness and attractiveness. The findings on its usefulness are optimistic. 72% find it useful (66%) and extremely useful (6%) while 28% are neutral. As for attractiveness, they are more critical as 49% praise it for being either attractive (47%) or extremely attractive (2%) while 45% express a neutral opinion and 6% a negative one.

The responses, presented in Table 7, on what they have learnt from the MOOC are promising, as, firstly, 21% of the respondents point to accents, and in particular, types of accents, accent differences, differences between GA and SSBE, British accent, and credibility, for example: “How accents change perception of you (S.68).” Secondly, rhoticity and non-rhoticity as well as pronunciation of words is selected by 14% each. Then, there is a list of such phonetic aspects as: stress (13%), vowels (10%), pronunciation in general (10%), linking (6%), and to the least degree phonetic symbols, sound articulation, intonation, and interference, each chosen by 3%.

Table 7. What have you learnt from the MOOC?

No.	Phonetic aspects	%
1.	accents	21%
2.	rhoticity and non-rhoticity	14%
3.	pronunciation of words	14%
4.	stress	13%
5.	vowels	10%
6.	pronunciation	10%
7.	linking	6%
8.	phonetic symbols	3%
9.	sound production	3%
10.	intonation	3%
11.	interference	3%

Figure 2 sums up what the respondents in the experimental group ( $n = 53$ ) enjoyed most. These were: video clips with real life examples (26%), the variety of exercises (19%), simplicity of explanation (17%), recordings of pronunciation and seeing progress (8%), ease of use and easy access links (6%), tips on the articulation of sounds (4%), structure of the course (4%), variety of information (4%) and self-study at their own pace (4%). Such aspects as the phonetic alphabet, peer review, sections on differences between British and American English and the look of the MOOC were reported by 2% of the respondents. One negative comment concerned too great a range of issues covered and was expressed as: “I feel like the course is too cluttered”.

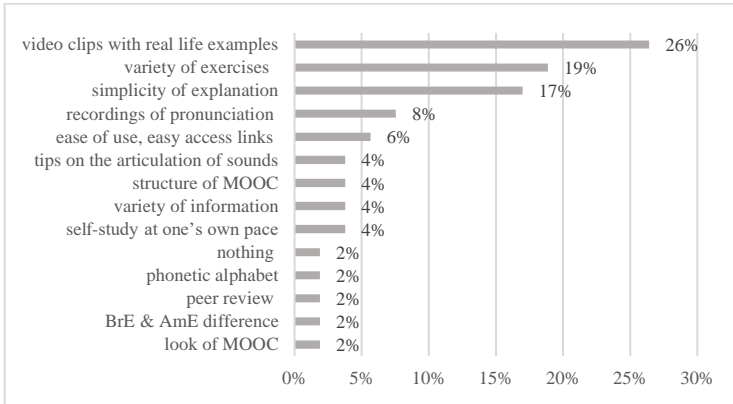


Figure 2. What have you enjoyed most in the MOOC?

## 6. Conclusions

In general, the results do not give evidence for the positive influence of the MOOC course on the students' meta-awareness of English phonetics, since there are statistically significant differences in only three of sixty-eight questions between the experimental and control group. The questions concern rhoticity in GA and its lack in SSBE, and a suprasegmental feature of rhythm. The results are more optimistic if the total number of correct points for each test in two groups is considered, as the sections on introductory concepts and suprasegmentals, but not on vowels and consonants, obtain statistically significant higher means for the experimental students. In the future, to ensure that the MOOC students self-study the course, one adjustment in the testing process could be introduced. The classroom tests should be awarded with a grade to motivate the MOOC users to engage more and be responsible for their learning.

Other observations reveal that the majority of the participants learn the meaning of rhoticity; however, at the end of the course they are not sure if their preferred model is rhotic or non-rhotic. The questions on the articulation of vowels are more challenging than the ones on consonants. Within consonants *th*-fronting and the predictions of future changes in SSBE *beauty* obtain the lowest scores as the answers are not included in the introductory video but in the articles, which might not have been covered by the participants as this task is more demanding cognitively. Among suprasegmentals such issues as: the meaning of syllable and stress-timing, intonation of questions, a wider pitch range in English and the lexical stress receive the lowest scores.

When it comes to the assessment of the attractiveness and usefulness of the MOOC training, 72% of the informants evaluate it as useful and nearly half find it attractive. They admit to having learnt from it about accents, rhoticity and pronunciation of words. The features such as: video clips with real life examples, the variety of exercises, simplicity of explanation and recordings of pronunciation are listed as the most enjoyable aspects.

Although the results do not support the hypothesis of the MOOC's beneficial role in facilitating the understanding of English phonetics our stand is that this online training could complement classroom teaching as a form of blended learning.

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