

Digital Support for Teaching Punctuation in Academic Writing in English

Marina Ivanova¹, Nadezhda Arupova², Natalya Mekeko¹

¹ RUDN University, Moscow, Russia

² MGIMO University, Moscow, Russia

ABSTRACT

Background. Academic writing skills are crucial to the enterprise of higher education, because much of the academic communication is in writing. As a rule, foreign language learners face different problems with vocabulary misuse, grammatical errors, spelling, capitalization, punctuation and some others when write academic texts in English. There are various technologies for solving these problems. One of them is digital support, because traditional types of academic writing instruction in the classroom are not always sufficient.

Purpose. The present study researches the influence of digital support on students' knowledge and punctuation skills in academic writing in English.

Methods. The paper summarizes the results of an empirical study: training punctuation in academic writing lessons for two groups of students. A total of 24 students aged 20 to 24 participated in the experiment. The control group was applied a face-to-face and a text-book based traditional methodology. The experimental group was trained not only with a basic text-book but also with digital support. The level of knowledge and abilities in punctuation were measured with three final tests.

Results. The results obtained indicate that academic writing instructions in traditional text-books are not enough to develop punctuation skills. In its turn, digital support in training punctuation has significant didactic potential: the experimental group has demonstrated higher results in the final tests than the control one. Thus, digital support should be one of the main parts of the academic writing training process and should be included in training programs.

Implications. The materials of the present paper (resources on punctuation, evaluating tables, types of tasks and tests) can be used in a real teaching practice.

KEYWORDS

high education, academic writing, digital support, writing skills, punctuation

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Correspondence:
Marina Ivanova
ivanova_ma@pfur.ru

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INTRODUCTION

The cognitive system of an individual is most fundamentally determined by the level of its literacy (Bagiyan et al., 2021) both at the levels of oral and written speech. Writing skills include all the knowledge and abilities related to expressing ideas through the written words (words, spelling, grammar, punctuation). Correct spelling, grammar and punctuation are key factors in written communication. The readers will form an opinion of the author based on both the content and presentation. Errors in the written text are likely to lead them to form a negative impression. When

researchers examine writing skills, as a rule, they consider and evaluate them as a complex phenomenon (Graham & Harris, 2011; Hardman & Bell, 2019), and few studies are devoted separately to the spelling rules and to the use of punctuation marks (Al-Tamimi, 2018; Ali et al., 2020; Tavşanlı & Kara, 2021).

Being an integral part of any written text punctuation not only reproduces the intonation of colloquial speech, but also serves as a mean of text structuring, making them understandable for the reader. Punctuation lets avoid ambiguity; it organizes both the whole discourse and its individual elements. It is enough



to remember the classical examples: A woman, without her man, is nothing and A woman: without her, man is nothing. Correct punctuation is indisputably very important. If the author of the text uses punctuation effectively it means that the reader will be able to make sense of the writing and will understand author's ideas. Punctuation symbols can also help create a particular effect to give depth to the text. In this regard, punctuation deserves to be examined separately, including academic writing.

Different issues on academic writing are raised in several studies: grammar and lexical bundles (Akbulut, 2020; Birhan, 2021), methodology for teaching academic writing (Kwak, 2017; Hussain, 2019), error analysis (Benjamin, 2017), digital resources support (Åberg et al., 2016; Alresheedi, 2019; Bezus et al, 2021; Strobla et al., 2019), etc. However, the researchers draw little attention to the punctuation as a particular side of academic writing skills (Al-Tamimi, 2018; Ali et al., 2020; Alharthi, 2021). As a rule, they explore the results of poor knowledge of punctuation, i.e. the different types of punctuation errors made by students in their writings. The methodology and digital support in punctuation training have not been investigated meticulously. The present study is an attempt to fill in this gap.

This paper is aimed to find the place of digital resources when teaching punctuation in academic writing course. The experimental comparative study was held to ascertain the possible influence of digital instruments on the students' achievements in punctuation while studying Academic English.

LITERATURE REVIEW

Academic writing skills are one of the key skills in higher education. According to K. Tusting and al., writing works are "at the heart of knowledge production" (Tusting, 2019). But mastering academic writing in English is the utmost complex and challenging task for *English as a Foreign Language* (EFL) students. Nevertheless, writing is the second most sought out skill after speaking in the EFL and academic English context (Alharthi, 2021).

As a rule, foreign learners face more problems with writing in English, which detract their essay content and also damage the harmony and esthetic of their writing (Williams, 2001). According to Williams, second language and foreign language learners encounter such critical language issues as vocabulary misuse, wrong use of suffixes and prefixes, grammatical errors, spelling, capitalization, punctuation and some others. The correct use of punctuation is very important in academic writing because punctuation marks bring clarity to the text. The problem is that the rules of punctuation are not taught to students properly and they keep on making errors in it.

Various studies have focused on how foreign students can improve their academic writing skills in English. Thus, R. Esfandiari & F. Barbary (2017), A. T. Birhan (2021) propose to develop students' academic writing skills with the help of lexical bundles.

The positive effect of online learning on writing skills was demonstrated in the work of P.J. González (2019). The researcher carried out an experimental comparative study in two groups of university students. One of the groups followed a face-to-face method, whereas another followed an online one. The findings of the experiment showed that the on-line group achieved better results in the written skills. The study of Baranovskaya et al. (2021) illustrated the fact that peer assessment processes greatly contribute to the development of students' 'academic writing skills'. Peer feedback resides in increasing ability to provide analyses of both, other students' essays and of their own ones. It was found out that collaborative peer assessment can help students to identify strengths and weaknesses in their own works and in the works of other classmates. The Schcolnik's research gives some recommendations on usage digital tools when writing in foreign language (Schcolnik, 2018). The study is focused on the digital tools that can support the professional process of academic writing (search engines, online libraries, phrase banks, dictionaries, grammar checkers, spellcheckers, etc.). The impact of the free-writing journal on foreign learners was examined in Alharthi's study (Alharthi, 2021). Five major areas were investigated to evaluate students' progress: the number of words written, spelling, capitalization, subject-verb agreement, and punctuation. The author has found that it is free-writing that improved students' writing skills.

Thus, the researchers examine different aspects of effective and correct academic writing in English. However, there are practically no works on methods and techniques of improving punctuation skills and abilities. Nevertheless, punctuation errors are the most dominant errors found in different writings of the foreign students (Sajid & Siddiqui, 2015). The analysis of the punctuation errors in Ali et al.'s research showed that the major reasons behind the differences in the frequency of punctuation errors in English were the lack of practice on punctuation marks, lack of teaching punctuation within context, lack of checking punctuation errors and lack of corrective feedback on the punctuation errors (Ali et al., 2020).

The present study seeks to answer the following questions to arrive at the above objectives: (1) What is the main punctuation issues which Russian students encounter in academic writing in English? (2) Can digital resources help reduce punctuation errors in academic writing? (3): What are the students' perceptions of digital support for learning punctuation in academic writing?

METHODS

Due to the modern time challenges and the demand for e-learning, traditional types of academic writing instruction in the classroom are not sufficient and need to be supported by digital resources. The present research summarizes the results of an empirical study: teaching academic writing punctuation in two groups of students who studied the same subject, *Academic English*, with the same teacher at the same time. One group (the control one) was applied a face-to-face and a text-book based methodology (the constant parameter). Another group (the experimental one) was trained not only with a face-to-face and a text-book methodology but also with digital support. The variable parameter of the study is a digital support applying method followed by one of the groups during the academic writing training process. The aim was to determine the presence or absence of significant differences in the results achieved.

Participants

We created the experimental group (EG), in which both the constant and variable parameters were presented, and the control group (CG), in which the variable parameter was absent. The EG consisted of 12 students; the CG consisted of 12 students as well. All the participants of the experiment were the third year students. The age of the students varied

from 20 to 24 years. The third-year students were chosen for the study because their language level corresponds to the level B2 in accordance with the Common European Framework of Reference (CEFR). Thereby, they have sufficient experience in academic writing, in general, and their language experience would help them use digital resources in their independent additional practice. All the participants knew about the aims of the experiment and took part in the study voluntarily.

The training experiment was held on the basis of the Peoples' Friendship University of Russia during the second semester of the 2020-2021 academic year (Figure 1).

The Table 1 compares the main parameters of teaching methodology in the two groups.

Assessments and Measures

To get the most possibly accurate results of this study, different types of instruments have been chosen (Figure 1), namely: three final tests (measuring knowledge and abilities in punctuation; see Appendix C), a teacher's diary (Appendix D) and students' questionnaires (finding out their opinion and perception of the experiment; see Appendix A). The first instrument provides with quantitative information (RQ1), whilst the next two provide qualitative information (RQ2 and RQ3).

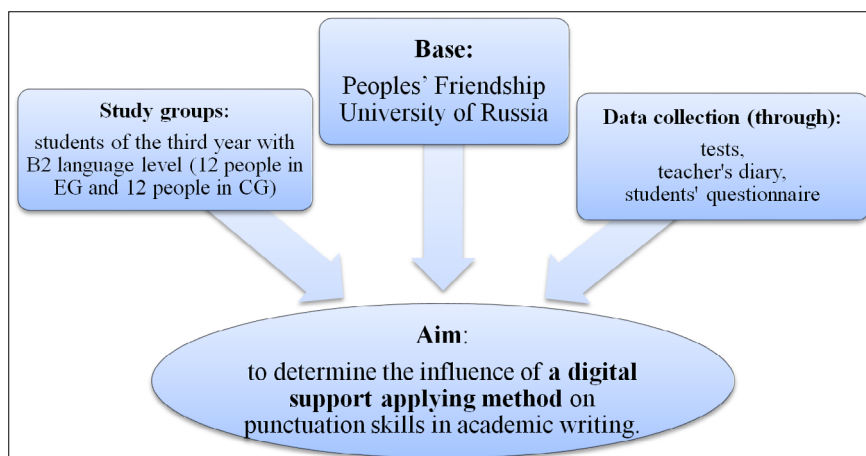
Table 1

Teaching methodology

CG	EG
Punctuation rules: teacher's explanations, examples from the Student's book.	Punctuation rules: teacher's recommendations on training videos, text digital resources, digital constructors, etc.
Making notes from the teacher's words	Making notes from different sources
Exercises from the Student's book and those created by the teacher	Different types of exercises (demonstrative, interactive, tests, quiz, etc.)
Evaluation and checking results during mutual discussion	Self-evaluation, checking here and now

Figure 1

Components of the training experiment



Teaching Instruments

The two groups were being trained academic writing punctuation for 10 weeks (one lesson of 2 academic hours' duration a week) with a face-to-face method using the Oxford textbook of the New Headway series *Academic Skills. Level 3* by Sarah Philpot and Lesley Curnick as required by university academic program. It should be noted that there are very few exercises on punctuation in this Student's book. They are mainly exemplary in nature, e.g. (p. 63):

When you quote directly from a source, you must use quotation marks. For example:

Carter (2006) believes, "The benefits to a city of holding the Olympics will always outweigh the disadvantages" (p. 10).

When you quote indirectly, do not use quotation marks. For example:

Cox (2006) suggested that without adequate sponsorship, the Games could not take place.

and little training. e.g. (p. 63):

Rewrite the following direct quotations with the correct punctuation.

1. *according to Woodbridge 2004 p23 football is bigger business than selling food – According to Woodbridge (2004), "football is bigger business than selling food" (p. 23).*
2. *Khalil 2003 claims hosting large events usually leaves the host city with large bills p54*
3. *as Li Chung wrote 1999 the opportunity for development is considerable p71*

From our point of view such exercises are aimed to control the skills already achieved than to improve and to consolidate the abilities.

The themes to study during the experiment are: (1) The full stop and capitalized letters; (2) The comma; (3) The apostrophe; (4) Colon; (5) Semicolon; (6) Other punctuation symbols; (7) Quotation marks.

Due to the lack of exercises training punctuation skills in the Student's book, the teacher has to create additional exercises and explain punctuation rules (CG students made notes from teacher's words). Here are examples of some complementary exercises to support the explanation and a face-to-face teaching:

- (1) *Look at the following in-text citation, using an in-text citing system, in an essay.*

There are also potential benefits to the use of artificial intelligence in medical context. Researchers report that robotic surgery can be used to assist in areas such as eye surgery,

which requires a high level of detailed work in a small area (PLOS ONE, 2013).

There is an error with the in-text citation. What is the problem?

Check one option.

- a. The writer has not included a page number.
 - b. The in-text citation should appear at the beginning of the sentence.
 - c. The date of publication is not necessary.
 - d. The writer has given the publication name rather than the author's name. (✓ **correct**)
- (2) *Which pieces of information would you need to include with a direct quote from this source?*

Noda, Y., Ida, Y., Tanaka, S., Toyama, T., Roggia, M.F., Tamaki, Y., Sugita, N., Mitsuishi, M., & Ueta, T. (2013). Impact of robotic assistance on precision of vitreoretinal surgical procedures. PLoS ONE 8(1): 1-6. doi:10.1371/journal.pone.0054116.

Check three options.

- a. PLoS ONE (journal name)
- b. Noda, et al. (author surname) (✓ *Including the first author's surname (as well as any other authors if there are any, as demonstrated) is needed.*)
- c. the page where the direct quote appears (✓ *For a direct quote, you always need to include the page number (or paragraph if on a website without pages.)*)
- d. robotic assistance (key words)
- e. 2013 (year of publication) (✓ *For most referencing styles, such as APA 6th, you need to include the year of publication.*)

- (3) *When do we use square brackets in a direct quote?*

Check one option.

- a. To indicate that words or letters have been changed. (✓ **correct**)
- b. To bracket the in-text reference.
- c. To indicate that words have been removed.
- d. To show which parts of the quote are less important.

To do the exercises the CG students were let time to revise the rules (from their notes), to look through the patterns in the Student's book, to find the examples in real academic texts, etc. They had no opportunities to check their answers immediately but only during the mutual discussion.

The EG training was supported by the main digital resource *Using English for Academic Purposes for Students in Higher Education. Academic Writing* by Andy Gillett (URL: <http://www.uefap.com/writing/writfram.htm>) containing different ICTs (Information and Communication Technologies) facilities in punctuation learning: interactive content, exercises, immediate evaluation, references, etc. The students were also

offered some additional training resources: *Academic Punctuation* (URL: <https://academic-englishuk.com/punctuation/>) and *Online Writing Lab* (URL: https://owl.purdue.edu/owl_exercises/punctuation_exercises/index.html) and some others (see the list in Appendix D).

The modern students are more accustomed to use digital devices than printed books therefore they prefer to receive information from digital resources. Taking it into account, the EG students were given the home tasks to revise the punctuation rules and to make notes from the short training videos (e.g., https://www.youtube.com/watch?v=aSVz-zaamN7U&ab_channel=AcademicEnglishHelp) and from different text digital resources (e.g., <https://academic-englishuk.com/punctuation/> and others).

Each digital resource chosen for the training contains variable punctuation exercises. E.g. (<https://academic-englishuk.com/punctuation/>):

- *Punctuate the following sentences:*
- (1) vegware is an innovative company which produces compostable foodservice packaging from plants
- (2) IBM is one of the worlds most ethical companies.
- *Error correct these sentences.*
- *Rewrite the paragraph with the correct punctuation.*

Pop-up responses provide an opportunity to save time and to get immediate results. The digital tests used in the lessons allow the teacher to save time for evaluating (Figure 2).

Self-Test Quiz lets the students not only to train different punctuation cases but also *here and now* to revise the appropriate punctuation rules by pressing the special button if the answer is incorrect (Figure 3).

The interactive window explains why the chosen answer is incorrect (providing with a ✓ *Rule to Remember*), gives the correct answer and offers the ways to correct the sentence.

Figure 2

Example of Advanced Punctuation Quiz

1. Select the sentence in which the colon is used correctly.

<input type="radio"/> The secret to making a good apple pie: always mix melted butter into the dough.	<input type="radio"/> I've seen the best movies, including: Casablanca, Forrest Gump, and Schindler's List.
<input type="radio"/> The job calls for: skills in the following areas writing, editing, and website development.	<input type="radio"/> You requested: a higher salary; the request was honored.

Resource: *Advanced Punctuation Quiz*. URL: <https://www.proofreadnow.com/blog/advanced-punctuation-quiz>

Such way of learning and revising the material involves various receptors and provides a complex effect on the students.

The *Citation styles* can be trained with the help of a "citation constructor"¹ (Figure 4).

To change the citation style it is enough to press the button "*Citation style*" and to choose other style, e.g. Chicago (Figure 5).

Thus, using this digital "citation constructor" the EG students could immediately see the changes in punctuation, revise the appropriate rules and make the appropriate notes.

Evaluation Tests

The present study comprises two sets of the experiment results: the results of the pre-test (pre-experiment stage) and the results of the final tests (post-experiment stage).

The purpose of the pre-experimental test was to reveal students' level in academic writing punctuation (Appendix B). The participants filled in a questionnaire in which they self-check their knowledge regarding the punctuation achieved before the experiment. This is what we have called the "pre-test".

The purpose of the final tests was to compare the level of improved punctuation skills in academic writing between the two groups. We have designed three tests. Each test consists of 5, 15 or 20 items respectively (Appendix C). The tasks were like these:

- (1) Guess on what punctuation symbol is meant;
- (2) Find errors in punctuation;
- (3) Rewrite the text (or sentences) where the punctuation is removed completely.

Figure 3

Example of Punctuation Self-Test Quiz

9. Is this sentence correct?

Quantum mechanics is a branch of physics, it was initially developed to explain atoms.

A. ? This sentence has a comma splice.

B. ? This is a sentence fragment.

C. ? This is a run-on sentence.

Resource: *Punctuation Self-Test*. URL: <https://www.niu.edu/writingtutorial/punctuation/quizzes/PunctuationSelfTest.htm>

¹ Citation constructor. <https://www.citethisforme.com>

Figure 4

"Citation constructor": APA citation style

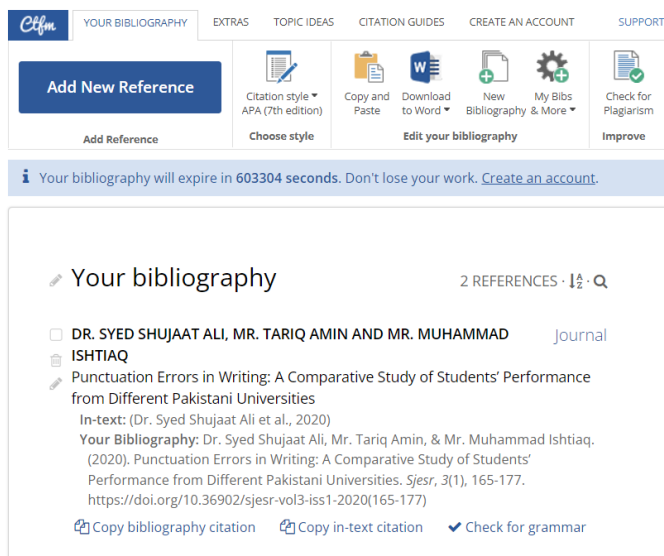
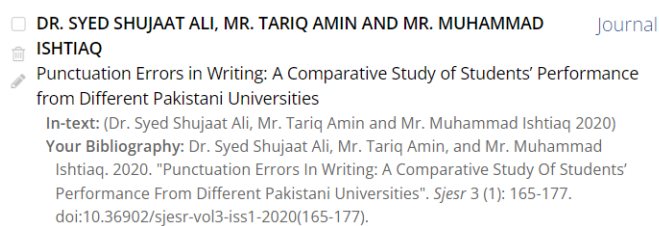


Figure 5

"Citation constructor": Chicago citation style



Teacher's Dairy

Another instrument that was used for this research is a teacher's diary in which we recorded the actions (themes, types of exercises, students' rating, etc.) carried out with each group (Appendix D). This information confirms that the lesson content of both groups was identical. The teacher's diary data would allow to know in details the difference between the two teaching methods, i.e. internal factors of the training process: dates, number of lessons, themes, home tasks, number of exercises done in the lesson, level of answers, etc. External factors are collected from the questionnaire.

Questionnaire

To study additional factors, that may influence the results of the experiment, a questionnaire has been designed in order to obtain students' opinions, perceptions and attitudes towards training process as well as their particular views on this experiment. Each item of the questionnaire is to be answered with a verbal Likert scale. We have also included several open-ended questions that could enrich the results. On the one hand, open-ended questions give students the opportunity to express their opinions more freely; on the

other hand, such questions allow getting some qualitative information to complete the conclusions.

This is the final questionnaire (Appendix A) they are asked to fill in:

Please complete this questionnaire with your personal impressions of the series of lessons you have just assisted. The questionnaire is completely anonymous, so we ask you to be as honest as possible. The numbers correspond to: 1 – Strongly agree; 2 – Agree; 3 – Neither agree nor disagree; 4 – Disagree; 5 – Strongly disagree.

RESULTS

The analysis of the information provided by our students will yield conclusions about the use of ICTs or digital support in teaching academic writing punctuation.

Quantitative Data

The Table 2 provided us with the following data: a) the students know rules of punctuation marks using; b) the students are not sure about punctuation marks using; c) the students do not know punctuation marks using.

We can see that the simplest punctuation symbols for using are *a full stop*, *a comma* and *an apostrophe*: 80-100% of students are sure they know the rules.

The main punctuation issues that Russian EFL students encounter when writing academic English (RQ1) are *a colon*, *a semi-colon*, *a dash*, *a hyphen* and *brackets*: only 33-50% of the students have a clear understanding of the use of these punctuation marks. Thus, these punctuation signs are to be paid close attention in academic writing classes.

The Table 3 shows the final tests results: the figure in the box corresponds to the number of correct answers in the test.

According to the evaluation scale, developed by the Soviet methodologist V. Tsetlin for spelling skills, the level of punctuation skills can be also assessed as 'excellent' if 90–100% of the material is learned; as 'good' if 75–< 90% of the material is learned; as 'satisfactory' if 60–< 75% of the material is learned; as 'unsatisfactory' if less than 60% of the material is learned.

The first test (theoretical one), consisting of five items, did not cause any particular difficulties in both groups. All the students achieved 100% result. The second test (Table 4), consisting of 15 items, showed slight variation in results between CG and EG.

The third test (Table 5), consisting of 20 items, the most difficult one, was done successfully by most students from EG:

Table 2*Pre-Test Results*

	CG (12 people)			EG (12 people)		
	a) I know when use	b) It rings a bell of using	c) Never heard of using	a) I know when use	b) It rings a bell of using	c) Never heard of using
a full stop	12	0	0	12	0	0
a comma	11	1	0	10	2	0
a colon	4	5	3	5	5	2
a semi-colon	4	5	3	5	4	3
an apostrophe	10	2	0	11	1	0
a dash	5	5	2	6	4	3
a hyphen	5	5	2	5	5	2
brackets	4	7	1	5	6	1

Table 3*Post-Test Results*

CG Students	Test 1 (5 items)	Test 2 (15 items)	Test 3 (20 items)	Test 1 (5 items)	Test 2 (15 items)	Test 3 (20 items)	EG Students
1	5	15	18	5	15	20	1
2	5	14	18	5	15	20	2
3	5	13	17	5	14	19	3
4	5	13	16	5	13	18	4
5	5	12	16	5	13	17	5
6	5	12	15	5	12	17	6
7	5	11	15	5	12	17	7
8	5	11	15	5	11	17	8
9	5	10	14	5	10	16	9
10	5	10	13	5	10	15	10
11	5	9	12	5	10	15	11
12	5	9	10	5	9	14	12

Table 4*Second Test Results*

	excellent	good	satisfactory	unsatisfactory
Control group	16,7%	50%	33,3%	0
Experimental group	25%	41,7%	33,3%	0

Table 5*Third Test Results*

	excellent	good	satisfactory	unsatisfactory
Control group	16,7%	50%	25%	8,3%
Experimental group	33,3%	58,4%	8,3%	0

Thus, we can join the opinion of the researchers who believe that digital support can improve academic writing skills, in particular it can help reduce punctuation errors in academic writing (RQ2).

Qualitative Data

The qualitative data of this experiment were drawn from the *Personal Questionnaire* that our students have filled in. The table given in the Appendix A presents the EG students' opinions, perceptions and attitudes towards training process according to a verbal Likert scale (RQ3).

The summary and conclusions of the data from the *Personal Questionnaire*:

Most of the student, by their opinion, had some previous knowledge about academic writing punctuation. Three punctuation marks (*a full stop, a comma and an apostrophe*) are the simplest and are known by 80-100% of students. Five punctuation symbols (*a colon, a semi-colon, a dash, a hyphen and brackets*) require closer attention when teaching academic writing for Russian EFL students because only half of the experiment participants have clear ideas of using these punctuation signs.

Most of the students consider that the text-book is not enough to learn punctuation; the study is to be supported by digital resources.

All of them stated that they have improved their knowledge about academic writing punctuation and they will be able to use punctuation symbols correctly.

The Table 6 presents the most common, given in a free manner answers of the EG students about the training exercises (RQ3).

The qualitative data tell us that the great majority of the students consider the experiment as positive and useful. In spite of the fact that they had their difficulties and their dislikes we can say that the experience should be repeated

with other academic groups (e.g., of different levels) to get more experimental material.

DISCUSSION

The present study has contributed to a better understanding of the development of upperintermediate undergraduates' written competence. Written competence is a subset of learners' language competence with an emphasis on writing-specific abilities including punctuation. The correct punctuation is very important, as for academic writing it is important twice. Nevertheless, there are scarce researches on the problem of using punctuation. Meanwhile punctuation errors occupy the 4th place (after diction, poor expression and prepositions) in Academic Writing in English Language (e.g. among Pakistan students) according to M. Sajid & A. Siddiqui's analysis.

In their turn S. Ali et al. claim that students are not taught punctuation marks in English as a foreign language that leads to numerous errors. Our findings do tally with their opinion that the absence of special lessons or courses is one of the basis reasons behind punctuation errors. Our study shows one of the possible ways of filling this gap by organizing a series of specialized lessons on punctuation in academic writing course with digital resources. The *Questionnaire* has confirmed that such an approach raises interest to the training. While the research of Tavşanlı & Kara demonstrates another method of creating a positive attitude toward writing, increasing motivation, learning desire and communication skills: it is peer and self-assessment that have a positive effect on the correct use of spelling rules and punctuation marks.

Moreover S. Ali et al.'s study reveals different types of punctuation errors. The most frequent ones are capital, comma and apostrophe. "*Comma error is on top*" [Ali et al., 2020, 170]. Having done the content analyses, V. Halitoğlu also notes that the most common punctuation errors among Turkish students are errors in the use of commas; the less frequent ones are the use of apostrophe. S. Ali et al.'s consider that the comma errors are found to be the most frequent be-

Table 6

Open-Ended Questions

What exercises were the most helpful for you?	Find punctuation errors in the sentences and correct them. / Advanced punctuation quiz.
What exercises were the least helpful for you?	None. / Every exercise is aimed to train different aspects.
What exercises were the most difficult for you?	Restore missing punctuation. / Restore capital letters in the text. / Citation. / Quotation.
What exercises were too easy for you?	Select the sentences in which ... is used correctly/incorrectly. / Multiple choice tests.
Other comments	I think that this way of learning punctuation is very useful. / I liked this course because it has put in order my knowledge on academic writing punctuation. / I have known several new rules on punctuation use.

cause of its various functions in texts. It is said that there are fourteen functions of comma. The researchers recommend arranging different seminars on the importance of punctuation marks.

The present research doesn't focus on types but compares the total number of punctuation errors in the Russian students' test works of two groups. Although the Russian students themselves note that they do not quite know the rules of using colons, semicolons, dashes, hyphens and brackets. Our experiment reveals that the digital support can help diminish the number of punctuation errors. Meanwhile Thewissen presents punctuation errors as improvement-resistant features across proficiency levels. A.C. Lahuerta doesn't agree with that and claims that punctuation errors seem to show strong association with certain proficiency levels. Her study reveals that these error categories reduce as proficiency increases.

In further researches, it is necessary to identify not only the relationship between digital support and the total number of punctuation errors in academic written production, but also error types as well as confusion between punctuation markers, missing or redundant markers.

CONCLUSION

Whether we like it or not, digit and digital learning have forever penetrated in our everyday life and in education system, in particular. COVID-19 has made significant changes in the teaching process and there are already few attempts to raise a question of the impregnability of such a form of interaction as *teacher <-> student*. In this, in the recent past, two-link chain, one more link is being integrated – digital educational resources: *teacher <-> digital educational resources <-> student*. The effectiveness of using digital resources in teaching various aspects of academic writing has been proven in the works of many researchers. In the present one, the authors have made an attempt to reveal the features of working with digital resources when teaching punctuation in academic writing as one of the sides of writing skills.

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ICTs are not the panacea for the learning process. But the experiment and our pedagogical experience have demonstrated that digital resources are a good instrument to be used by the language teacher. Many students evaluated the experiment as a positive one. They enjoyed working with digital resources, they need interactivity and they stressed that a usual printed Students' book is not enough to form firm punctuation skills.

Thus, digital support should be one of the main parts of the academic writing training process and should be included in training programs. The materials of the present paper (resources on punctuation, evaluating tables, types of tasks and tests) can be used in a real teaching practice. We suppose that digital support can be successfully applied in university practice with the elementary and advanced level students. In further researches it is necessary to take into account not only the number of punctuation errors but also their types and frequency of use.

DECLARATION OF COMPETING INTEREST

None declared.

AUTHOR CONTRIBUTIONS

Marina Ivanova: conceptualization, data curation, investigation, methodology, project administration, validation, visualization, writing-original draft, formal analysis.

Nadezhda Arupova: conceptualization, formal analysis, methodology, project administration, supervision, validation, visualization, writing-original draft, writing-review & editing.

Natalya Mekeko: conceptualization, methodology, project administration, resources, supervision, validation, writing-review & editing.

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APPENDIX A

	1	2	3	4	5
I have already had prior knowledge of the academic writing punctuation.	9	3	0	0	0
It is possible to learn punctuation only with the help of the student's book in traditional classroom.	0	1	2	9	0
It is better to learn punctuation with digital support.	12	0	0	0	0
The participation of a tutor/teacher is necessary.	12	0	0	0	0
The course has helped me improve my knowledge in academic writing punctuation.	10	2	0	0	0
I would be able to use the punctuation symbols learned in real contexts.	11	1	0	0	0
I have gotten high level in training exercises.	10	1	1	0	0
Using the interactive programs is quite useful.	9	3	0	0	0
The time of training course is sufficient.	7	2	3	0	0
I positively evaluate the training experience.	10	2	0	0	0

APPENDIX B

pre-experimental test

	a) I know when use	b) It rings a bell of using	c) Never heard of using
a full stop			
a comma			
a colon			
a semi-colon			
an apostrophe			
a dash			
a hyphen			
brackets			

APPENDIX C

Final tests

Test 1. Which punctuation symbol is meant? Write the appropriate name in the gaps.

1. Use a ... to create a pause, to separate ideas in the sentence.
2. Use a ... to create a break, but recognize connection of ideas.
3. Use a ... to connect two sentences thematically.
4. Use a ... to create the end of the sentence.
5. Use an ... to indicate ownership or missing letters/numbers.

Answers: 1) *comma*; 2) *semi-colon*; 3) *colon*; 4) *full stop*; 5) *apostrophe*.

Test 2. Find missing or incorrect punctuation.

1. Experience indicates that, these problems do not result wholly from our lifestyle.
2. The second exercise which was more difficult took half an hour.
3. A man of his great abilities, would always be successful.
4. The number of service enterprises in wealthier free-market economies, has grown rapidly.
5. The policy on the single European currency is not well defined, it confuses many people.
6. Terrorism legislation will be discussed alongside the Human Rights Act, this is because they contradict each other, this is a crucial matter.
7. Recently the number of service enterprises in wealthier free-market economies has grown rapidly.
8. Some businesses only seek to earn enough to cover their operating costs however.
9. A first-aid kit should contain the following items; cotton wool, sticking plasters, antiseptic cream, bandages and a pair of scissors.
10. The sciences search for change, the humanities reflect on what it is.
11. An individuals right to security is guaranteed.
12. Security is very important especially for large corporation's.
13. Each application has it's own advantages and disadvantages.
14. Leonardo da Vinci, 1452–1519, was an advocate of vegetarianism.
15. Introduction:

Answers:

1. Experience indicates that these problems do not result wholly from our lifestyle. (NB: Commas cannot be used after *that*.)
2. The second exercise, which was more difficult, took half an hour. (Two commas are needed to set off the extra information.)
3. A man of his great abilities would always be successful. (To separate the subject (who or what) from the verb is a mistake.)
4. The number of service enterprises in wealthier free-market economies has grown rapidly. (See № 3)
5. The policy on the single European currency is not well defined. It confuses many people.
6. Terrorism legislation will be discussed alongside the Human Rights Act. This is because they contradict each other. This is a crucial matter.
7. Recently, the number of service enterprises in wealthier free-market economies has grown rapidly.
8. Some businesses only seek to earn enough to cover their operating costs, however.
9. A first-aid kit should contain the following items: cotton wool, sticking plasters, antiseptic cream, bandages, and a pair of scissors.
10. The sciences search for change; the humanities reflect on what it is.
11. An individual's right to security is guaranteed.
12. Security is very important, especially for large corporations.
13. Each application has its own advantages and disadvantages
14. Leonardo da Vinci (1452–1519) was an advocate of vegetarianism.
15. Introduction

Test 3. Try reading this. Then restore the punctuation and capitalized letters.

while the country saw a certain amount of religious freedom during the first half of the XVIIth century the latter was notable for several attempts to homogenize religious practice through legislation which was a response to the fears of an anglican majority who anticipated subversion of interest to the history of literary studies are the penal laws that made holy communion according to the rites of the church of england a condition precedent for entrance to the sole universities in the country at the time oxford and cambridge embodied in 1661 as laws in the form of the religious tests acts they directly led to the establishment of the first higher education institutions (or *academies*) in the country to teach the concerted study of english literature by the communities who refused to conform to the anglican church and who were therefore precluded from higher education known as the *Dissenters*.

Answer:

(1) While the country saw a certain amount of religious freedom during the first half of the XVIIth century (2), the latter was notable for several attempts to homogenize religious practice through legislation which was a response to the fears of an (3) Anglican majority who anticipated subversion (4). (5) Of interest to the history of literary studies are the penal laws that made holy communion according to the rites of the (6) Church of (7) England (8), a condition precedent for entrance to the sole universities in the country at the time (9): (10) Oxford and (11) Cambridge (12). (13) Embodied in 1661 as laws in the form of the (14) Religious (15) Tests (16) Acts (17), they directly led to the establishment of the first higher education institutions (or *academies*) in the country to teach the concerted study of (18) English literature by the communities who refused to conform to the (19) Anglican (20) Church and who were therefore precluded from higher education known as the *Dissenters*.

APPENDIX D

teacher's diary

Lesson number	1	2	3	4	5	6	7	8	9	10
Student 1										
Student 2										
Student 3										
Student 4										
Student 5										
Student 6										
Student 7										
Student 8										
Student 9										
Student 10										
Student 11										
Student 12										

Lesson №	Theme	Digital support
1	The full stop and capitalized letters	1) http://www.uefap.com/writing/exercise/punc/puncex4.htm 2) https://academic-englishuk.com/punctuation/ 3) http://www.uefap.com/writing/exercise/punc/puncex8.htm
2	The comma	1) https://owl.purdue.edu/owl_exercises/punctuation_exercises/commas/index.html 2) http://www.butte.edu/departments/cas/tipsheets/practice_punctuation.html 3) https://www.youtube.com/watch?v=aSVzzaamN7U&ab_channel=AcademicEnglishHelp
3	The apostrophe	1) https://owl.purdue.edu/owl_exercises/punctuation_exercises/apostrophes/apostrophes_exercise.html 2) http://www.butte.edu/departments/cas/tipsheets/practice_punctuation.html
4	Colon	http://www.butte.edu/departments/cas/tipsheets/practice_punctuation.html
5	Semicolon	http://www.butte.edu/departments/cas/tipsheets/practice_punctuation.html
6	Other punctuation symbols	http://www.butte.edu/departments/cas/tipsheets/practice_punctuation.html
7	Quotation marks	1) https://owl.purdue.edu/owl_exercises/punctuation_exercises/quotation_marks/quotation_marks_exercise.html 2) https://academic-englishuk.com/punctuation/ 3) https://www.citethisforme.com
8	Mixed training 1	1) https://owl.purdue.edu/owl_exercises/punctuation_exercises/basic_punctuation/punctuation_exercise.html 2) https://www.bbc.co.uk/bitesize/guides/zw8vwxs/test
9	Mixed training 2	1) https://www.proofreadnow.com/blog/advanced-punctuation-quiz 2) https://www.niu.edu/writingtutorial/punctuation/quizzes/PunctuationSelfTest.htm
10	Final test	