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ІНОЗЕМНА МОВА (ПРОФЕСІЙНІ КОМУНІКАЦІЇ)

**Методичні розробки тем самостійної роботи
для здобувачів другого (магістерського) рівня вищої освіти
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Topic 1

Mykhailo Podoliak

Native English speaking teachers in ELT abroad from the point of view of language learning student

1. *Read and translate. Try to get the main idea of the article*
2. *Answer the questions*
 - What is the topic of the article?
 - What is the purpose of the conducted research?
 - What research was done?
 - Who will benefit from this study?
3. *Having read the article, please write abstract to it*

Formulation of the problem. Today's world is becoming globalized. One of the reasons for this phenomenon is the ability to speak more than one language. The other reason is that employers prefer to hire people who know more than one language. Therefore, a large amount of people around the world know two or more languages. This is achieved owing to teachers of a foreign language.

Teachers in language learning play a crucial role. It is much harder to learn a foreign language without a teacher. The role of a teacher is to facilitate the learning process through explanation of grammar and vocabulary, evaluating student's knowledge, developing four basic language skills (writing, reading, listening and speaking). The main feature of a teacher of a foreign language is that he/she must know perfectly the language he/she is going to teach students. However, the ability of a teacher to teach the foreign language is not only limited to the very knowledge of this foreign language, but to many other factors as well. They include pedagogical abilities of the teacher, abilities of a student to learn language etc.

Currently there is a debate around the globe about the question who is the best teacher, natives or non-natives. Many scholars have researched the problem of native speakers in teaching. G. Andreou and I. Galantomos [1], J. Lee [2], I.G. Merino [3], H. Bastug, M. Karakuzu and M. Akdogan [4], Z. Rao [5], L.P.F. Ma [6] etc. Furthermore, scholars agree that non-native teachers in the modern world are underestimated by employees towards native teachers. In addition, G. Braine [7], V. Cook [8] grounds that non-native English teachers are better than native ones. Therefore, the question of whether native English speaking teachers are better than non-native ones is of great topicality today, taking into account that around 80% of English teachers around the globe are non-native speakers, according to G. Braine [9].

The purpose of the paper is to investigate the problem of language teaching by native speakers and non-native ones. Moreover, we tried to determine what skill in students can be better developed separately by native speakers teachers and non-native ones.

Procedure of the experiment. In order to answer this question it was decided to conduct a questionnaire of students. 32 second year students of the Faculty of Veterinary Medicine at Stepan Gzhytskyi National University of Veterinary Medicine and Biotechnologies Lviv participated in the survey. Students were divided into two groups, according to their level of the English language knowledge. Students of the first Group (Group 1 – 16 students) had the beginner level of the English, while students from the second group (Group 2 – 16 students) had intermediate and advanced.

They were having English lessons 3 times a fortnight for 4 weeks. Students were taught by non-native teacher and by native. Teachers were changing after having taught students of each group for 4 weeks. At the end of the experiment, students were given a questionnaire with three questions:

Q1: What teacher is most suitable for you?

Q2: Please describe the reason you have chosen this answer.

Q3: What of your skill has benefited more from each teacher?

Having seen the results of the questionnaire, it was decided to supplement research. We decided to take 4 more weeks of teaching English, but now native teacher was assistant in non-native. In the end of this stage, we asked students two questions:

Q4: What was the best teaching/learning process?

Possible answers: *native/ non-native/ combined.*

Q5: Can you specify your answer?

There were two teachers of the English language, who participated in the experiment. The first was non-native speaker of the English language, who finished University of the "English philology" specialization and who had experience of teaching equal to 12 years. The second teacher was native speaker of the English language, coming from Nigeria. He studied in English speaking comprehensive school and came to Ukraine to learn the Ukrainian language. He does not have teaching experience.

Results. The results of the questionnaire showed that major part of students (14 students out of 16) from Group 1 answered that non-native teacher was better than native. The reason for this was mostly due to simple and clear explanation of grammar, vocabulary and communication. However, they mentioned that native teacher helped them to develop speaking, listening and writing skills more than non-native.

Results from Group 2 showed that native teacher was better for them, however, non-native was good as well. The results were 10 students for native and 6 for non-native. The reason for such results was mentioned that native teacher makes them talk more in English than non-native. The other reason was that they were forced to communicate with native only in English, since he does not know Ukrainian. Therefore, almost all of them (15 students out of 16) agreed that they develop speaking, listening and writing skills with native more than with non-native teacher.

Concerning the supplementary part of our research, the results showed that students of both groups prefer having both teachers in the classroom (28 students out of 32). The main reason was that non-native are good at explanation of vocabulary and more clear at grammar while native are good at listening, speaking and writing.

Discussion. The research was aimed at answering simple question: "Who can be the best teacher of a foreign language: native or non-native?" However, the clear answer to this question cannot be done due to several factors. The first is that each student has his/her own language learning qualities i.e. some learn words better than grammar, other not; some can speak and listen better other write etc. Therefore, we cannot obtain clear results of teacher's effectiveness, basing on student's language progress. The other important factor is the personality of teacher and his/her abilities to teach and interact with students. Some teachers are good at grammar while others are good in vocabulary explanation etc. I.G. Merino states [3] that the difference between non-native and native teachers lies in the fact that they have different teaching behavior, which largely depends on the language proficiency. A. Holiday [10, p. 385] mentions that native ELT is believed to be the representative of the western culture and many believe that they are better teachers than non-native ELT.

In addition, some students can speak other foreign languages. Hence, we would like to mention the phenomenon of multicompetence. Multicompetence, as it comes out from the works by G. Andreou and I. Galantomos [1] and V. Cook [11] refer to the knowledge of a person of more than one language. In addition, authors state that multicompetent speakers demonstrate better cognitive processes than monolingual. Therefore we can determine only one teacher effectiveness, not all of them as a group i.e. natives or non-natives.

Native teacher in our research can be called "Pseudo-native speaker". According to G. Andreou and I. Galantomos [1] pseudo-native speaker can be recognized by strange pronunciation, lower degree of idiomaticity, rely on repetitions and usage of routine language.

However, there were several reasons why we have chosen him. Firstly, he grew in a country where English is official language. Secondly, he was learning English from childhood and went to school where native speakers were teaching. Thirdly, he is foreigner with no knowledge of the Ukrainian, therefore, students were able to communicate with him using only English. In addition, I.G. Merino [3] emphasizes that while teaching English in non-English speaking country, the teacher should learn native language of that country in order to facilitate teaching process for teacher and learning process for students. The same idea is mentioned in the study by H. Bastug, M. Karakuzu and M. Akdogan [4] and in the paper by Barratt, L. and Kontra, E. H. [12, p. 22]. Furthermore, E. Lurda [13, p. 317] mentions that English language teacher need to take into consideration the previous knowledge of students as well as on the knowledge of their own language and culture.

In addition, it should be mentioned that in our research, non-native teacher had more benefits before experiment than native i.e. teaching experience, appropriate specialization etc. Therefore, H. Bastug, M. Karakuzu and M. Akdogan [4] mentions that English teachers must have teaching qualifications regardless they are native or non-native. In addition, E. Lurda [13, p. 319] states that most ELT have adequate knowledge of the English language to perform their task. However, we aimed at determination of the certain skill development in students and their feedbacks. In addition, we, as each teacher of a foreign language in the world, want our students to know the language they are learning as natives do. In this regard, we should mention that there are many explanations of the notion of who can be considered native or non-native. Moreover, the research of Reves, T. & Medgyes, P. [14] has demonstrated that the higher proficiency of the English language is in a teacher, the less self-conscious and insecure he feels in the classroom while teaching. The questionnaire done by P. Medgyes [15, p. 343] showed that the majority of people would hire non-native ELT with qualification rather than native without one.

The first usage of the term "native speaker", according to J. Lee [2] was firstly used by Bloomfield in 1933. Since that time, the notion was researched by many scholars. However, G. Andreou and I. Galantomos stated [1] that the term Native Speaker dates back from the Medieval era. They define native speaker as the one who was born in in English speaking country, has learned English from childhood, speaks English as the first language, is fluent in language etc. J. Lee [2] mentions that native speaker has six defining features: learned language in early childhood, has intuitive knowledge of the language, able to produce fluent discourse, is communicatively competent, is identified by a language community and does not have foreign accent. Moreover, he mentions that native speaker should know all linguistic, stylistic, phraseological aspect of the language.

G. Andreou and I. Galantomos in the paper [1] emphasize that very few non-native students can pass to native speakers. On the contrary, J. Lee [2] states that non-native speaker cannot become native otherwise is born in an English speaking country. Despite that, G. Andreou and I. Galantomos state that non-native speakers are often norm-dependent. This means that their usage of the target language is an imitation of some form of native use. In addition, I.G. Merino states [3] that often non-native English speaking teachers often feel unsafe while using English language, therefore adopting two types of attitude: pessimistic and aggressive. Latter is demonstrated by intolerant attitude towards students. Pessimistic is more common among teachers and is manifested through overuse of grammar and little of vocabulary and pronunciation. Thus, we can assume that non-native teachers of the foreign language as well, could explain grammar rules better than native. This statement is supported by our questionnaire, where students mentioned that non-native teacher was better in grammar explanation.

The interesting feature that can be viewed from the results of our experiment is that writing skill was better developed with native teacher. The interesting point lies in the fact

that it is obvious that non-native could have explained better using mother tongue. We assume that native teacher was better in writing, because he was learning writing, but in the Ukrainian language. Therefore, he could understand better how to teach students writing using his own recent experience. In addition, I.G. Merino states [3] as well mentions for making teaching process excellent and effective, teachers should understand that they are students themselves, learning new things with their students. According to author, this is the best solution to non-native teachers who adopted pessimistic attitude.

According to the results of our research, native teacher was better in speaking and listening skills development. This is obvious that students who wants to communicate with teacher should use only English and therefore, develop speaking and listening skills better than with non-native teacher. Furthermore, the paper by I.G. Merino [3] mentions that native teachers are better in developing oral skills than non-native.

In addition, in the paper by I.G. Merino [3] is mentioned that when it comes to the choice between native or non-native teacher, there is no much difference. He states that 25% of students would choose native, other 25% would choose non-native and 50% does not see difference. Furthermore, the study by H. Bastug, M. Karakuzu and M. Akdogan [4] showed that students of the Turkish universities would choose native teachers rather than non-native. In addition, the study by Barratt, L. & Kontra, E. H. [12] showed the same results.

However, students of the beginner level would prefer non-native teacher in order to receive better explanation in their native language. Furthermore, the results of our study have demonstrated that students of the beginner group chose non-native teacher rather than native. They explained that the reason was that non-native speaker could give better explanation of grammar, vocabulary etc. using native tongue. Therefore, we can assume that beginner students can benefit more from non-native speaker rather than from native one. However, intermediate and advanced students – from native teacher.

The results of our research showed that the major part of students preferred having both teachers in their lessons. The main reason of such result is that this model combines benefits of both teachers. Therefore, students can have good grammar and vocabulary explanation with non-native teacher consequently having good listening, writing and speaking skills training by communicating with native speaker. Moreover, this model can require additional financial support from the university and not many can afford it. However, the non-native teacher of our research has found a way out.

Non-native teacher invented interesting exercise in order to fulfil both aims: facilitate foreign teacher in his learning of the Ukrainian language and make Ukrainian students communicate in English more. In addition, this exercise is based on voluntarism. The exercise works as follows: non-native teacher give students some topic to research. The person who will be doing presentation is native teacher. Therefore, Ukrainian students should help native teacher to make presentation on the given topic. However, the native teacher should make this presentation in the Ukrainian language. Therefore, Ukrainian students try to communicate in English while teaching English speaking student (native teacher) Ukrainian. Thus, English speaking student (native teacher) learned Ukrainian consequently Ukrainian students communicated and learned more English. In addition, students in our research were very willing to participate in such exercise. Therefore, we can assume that this exercise can motivate students a lot.

Having seen that the exercise worked well and Ukrainian students were willing to participate in the exercise, we have invited more foreign students, studying Ukrainian language at the University. Therefore, we had additional 3 foreign students who were voluntary assisting non-native English teacher. It is worth mentioning that both, beginners and intermediate students from both groups were actively involved in the exercise. Students of the Group 1 were working on simple topics while students from Group 2 – on more advanced.

Foreign English speaking students of the language courses were actively participating as well benefiting a lot from the exercise.

This exercise is of particular importance to universities, which hold national language courses for foreigners. A student from such courses can be taken as an assistant to the English language teacher in order to learn something from students and to teach students English. This model is very practical since it does not require any additional financial support. In addition, both, national and foreign students can benefit a lot in their language learning process while using this model.

It is worth mentioning that according to results non-native teacher was better in grammar and vocabulary explanation than native. Consequently, native teacher was better in developing students' speaking, listening and writing skills. This phenomena can be explained by the fact that non-native teacher was having special training in the University on English grammar and vocabulary explanation. On the other hand, students could hear live English from native speaker. In addition, students lost fear of language incompetence while speaking to native teacher, hence developing their speaking skills.

Conclusion

Having completed the research and questionnaire, we can make several conclusions:

- Non-native English speaker teachers are more effective than native ones for students of the beginner level of the foreign language. However, native speaker teachers are more effective for intermediate and advanced students;
- Concerning students' skills development, we should mention that native speaker teachers are more effective in developing speaking, listening and writing skills. On the contrary, non-native speaker teachers are better in grammar explanation and presentation of new vocabulary;
- Native speakers assisting non-native speaker teachers are the best model, since it combines the benefits of the both models of teaching. However, it is economically insufficient for universities, requiring spending more money;
- The exercise when non-native speaking students teach native speaker language course students is the best option in developing communication skills in both types of students. Furthermore, it rises motivation and interest of students to learn foreign language. In addition, it is economically sufficient for universities.

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Topic 2

Mykhailo Podoliak

The Comparative Analysis of Face-To-Face, Distant, and Blended Learning in English Language Teaching

1. Read and translate. Try to get the main idea of the article
2. Answer the questions
 - What is the topic of the article?
 - What is the purpose of the conducted research?
 - What research was done?
 - Who will benefit from this study?
3. Having read the article, please write abstract to it

Introduction.

The current world is living in an age of rapid changes. This situation is mainly caused by modern technologies developing so quickly that humans often cannot keep up with these changes. However, it is essential to be up to date with new technologies because they can facilitate life. As a critical element of forming a wise society, teachers should be aware of the modern technologies to teach and educate good and functional future members.

When looking back to the history of education, one can notice that good education was of great value once, and only a few people could afford it. Today, the situation has changed and good education, in universities or colleges, is now available to almost everyone. The case has developed to such an extent that nowadays, people do not need to go to universities. They just need a laptop and Internet access, and students will receive the necessary knowledge and degrees while sitting at home or even being in another country. This phenomenon is called distant education.

Distant education has developed between 18th-20th centuries in Europe and North America. Some scholars (Hall & Knox, 2009) mentioned that distant learning could be traced back to ancient Greek and Jewish traditions. However, there is no precise date or place where it has started. Nevertheless, it gained popularity in universities worldwide, especially nowadays, mainly due to the COVID 19 situation. With the development of technologies, spreading of the Internet around the globe, distant education is becoming more exciting and

informative. However, M. Shachar and Y. Neumann (2010) state that scholars did not readily accept distant education primarily. Nevertheless, if we compare distant programs developed 20 years ago with current, we can observe a remarkable breakthrough in learning and teaching methodology.

Distant learning technologies started developing rapidly due to the COVID 19 pandemic in the world in 2019. Many students were forced to stay home and study remotely. A significant number of new methodologies and programs of distant education were developed due to the coronavirus's pandemic in the world. Numerous scholars have researched and are currently investigating the efficiency of distant education. They are developing new methodologies that are raising the effectiveness of distant education. A.D. Kurniawati and J. Noviani (2021) focused on E-learning's effectiveness within the Covid-19 Pandemic situation frames. Teaching activities and challenges of online education were investigated by A. Atmojo and A. Nugroho (2020). Furthermore, the adaptation of students and teachers to new teaching and learning technologies was researched by B. Pitula and B. Grzyb (2021), L. Octaberlina, and A. Muslimin (2020).

Concerning the notion of distant education Nicolas Sampson (2003) refers it as a mode of delivery, i.e., independent learning at a distance through self-study of texts and non-contiguous communication. However, the author mentions that in this form of education, a student is not alone. Amy S. Glenn (2001) mentions that distance learning occurs when teachers and students are separated by distance, and technology replaces traditional instructional methods. Some scholars (Glenn, 2001) states that distant learning can solve a significant part of the problems of Life Long Learning. However, there are some drawbacks to distant learning. Numerous scholars (Hall & Knox, 2009, Sampson, 2003, Glenn, 2001, Hannay & Newvine, 2006, M. Trajanovic et al., 2007, Sakar, 2009, White, 2006) who have conducted research activities and the questionnaire about the pros and cons of distant learning, found that one of the main drawbacks of distant learning, especially in foreign language teaching, is the lack of communication with the teacher. However, Amy S. Glenn (2001) states that distant technology facilitates interaction between teachers and students. This problem of distant learning can be solved using blended learning.

Blended learning is a methodology of teaching and learning when distant education is combined with face-to-face education. P. Pardede, in the paper (2012), mentions that blended learning includes most often face-to-face instructions with synchronous and, or asynchronous computer technologies. This methodology, developed in the second half of the 20th century, is popular among many teachers worldwide, for example, according to A. Kim (2014), blended learning is widely introduced into the educational system of the US. Furthermore, the study performed by the US Department of Education (Means et al., 2010) proved the efficiency of blended learning in comparison with the traditional face-to-face and sole online learning. Among the benefits of blended learning in a foreign language learning, P. Padede (2012) mentions: more student-centered learning, supports independent and collaborative learning, accommodates a variety of learning styles, ability to practice language beyond the class in a comfortable place, and time.

The notion, benefits, and drawbacks, differences of distant and blended learning from other methods of education were researched by many scholars (Hall & Knox, 2009, Yilmaz & Malone, 2020, Kim, 2014, Thompson & Whittacker, 2019, M. Trajanovic et al., 2007, Sakar, 2009, Castro, 2019, White, 2006, Padede, 2012, Kemaloglu & Bayyurt, 2022). However, we would like to pay attention to using these two education methods in conducting foreign language classes in the University. Considering the abovementioned, we decided to study the effectiveness of distance and blended learning with students while learning a foreign language, i.e., English. Moreover, we conducted a questionnaire of students and participated

in the research to evaluate the learning methods and their progress using one of these methods.

The research aims to study and compare the effectiveness of the usage of distant, blended, and traditional (face-to-face) methods of education in the English language classes at the University. Additionally, the study aimed to analyze students' thoughts about these types of learning and determine the students' possible future choice of the learning methods mentioned above.

Materials and methods.

Sixty-eight students of the 2nd course participated in the experiment. Students were divided into three groups:

Control Group – 23 students studying the language using traditional learning, i.e., usual lessons with teachers with little usage of media and internet resources;

Experimental Group 2 – 25 students studying the language using only distant learning;

Experimental Group 3 – 20 students studying the language using blended learning.

Time. Each group was studying the English language for one semester, i.e., 16 weeks. They were having three lessons in a fortnight for each group, each lesson lasting for 90 minutes.

Materials. Students of all groups studied grammar using books by Virginia Evans *Round up five* by Longman; *Grammarway* by Jenny Dooley and Virginia Evans by Express Publishing; *Hills Atlas of Veterinary Clinical Anatomy*; *English vocabulary in use* by Stuart Redman by Cambridge. These books were the basis of course development. However, we used other materials, handouts, websites, and presentations. In addition, we presented links to different YouTube channels, where grammar was explained. It is essential to notice that students of all groups have studied using the same materials. The only difference was in the methods of presentation – the 2nd and 3rd Groups, where students were using different YouTube videos, Prezi presentations, etc.

The teacher for all three groups was the same. The research was conducted using such an online platform for distant education as Canvas. The course for Experimental Group 2 and Experimental Group 3 was developed and placed on the platform separately. The online activities were developed by the same teacher.

The statistical analysis of the data was performed using the PC program RStudio version 0.99.486.

The procedure of research and results.

Students were given a diagnostic pre-test before the experiment to determine their level of the English language. The maximum score was 12 points. The results were the following:

- Control Group – av. 6.75 points;
- Experimental Group 2 – av. 6.8 points;
- Experimental Group 3 – av. 7.1 points.

In addition, students of the Experimental Group 2 and Experimental Group 3 (45 in total) were given a small questionnaire with yes/no answers. The only question was: *Have you ever taken distant or online courses?* This inquiry was made to determine the awareness of the students with distant learning or online courses. The answers were: *yes* – 4 students; *no* – 41.

Having completed all pre-tests and answered the question, students studied their English language course for one semester or 16 weeks (autumn-winter 2019). The attendance rate of all groups was relatively high:

- Control Group – 81% of all lessons;
- Experimental Group 2 – 89% of all online lessons;
- Experimental Group 3 – 87% of all online and face-to-face lessons.

The attendance of the Experimental Group 2 was measured by the participation in forum discussions, homework, and tests done.

All students were having lessons with the same teacher. This was done to avoid the dependence of the results on a personality of a teacher. When the same person conducts all lessons in each group, we have precise results of the method used in teaching.

At the end of the semester, students were given diagnostic tests, the same they had done at the beginning. It was done in order to determine the progress students made while using the appropriate method of education. The results were the following:

- Control Group – av. 7.34 points;
- Experimental Group 2 – av. 7.08 points;
- Experimental Group 3 – av. 9.2 points.

The results of each student of three groups are presented in *Table I*.

Table I. The results of the students' test

Control Group Traditional Learning			Experimental Group 2 Distant Learning			Experimental Group 3 Blended Learning		
Students *	Pre- test 6.75 points averag e	Diagnost ic test 7.34 points average	Students *	Pre- test 6.8 points averag e	Diagnost ic test 7.08 points average	Students *	Pre- test 7.1 points averag e.	Diagnost ic test 9.95 points average
1	3	6	1	6	6	1	5	9
2	10	9	2	5	6	2	6	9
3	10	10	3	1	2	3	8	10
4	7	8	4	4	6	4	6	11
5	6,25	7	5	5	5	5	10	11
6	5	6	6	7	5	6	7	9
7	3	5	7	12	11	7	4	8
8	1,5	3	8	5	6	8	9	11
9	11	11	9	8	8	9	7	9
10	7	5	10	11	11	10	5	10
11	8	8	11	4	5	11	9	10
12	9	10	12	3	3	12	6	9
13	6	6	13	8	5	13	9	11
14	1,25	2	14	7	8	14	8	11
15	10	8	15	5	7	15	10	12
16	5	7	16	7	6	16	4	9
17	11	11	17	4	5	17	11	12
18	5	7	18	11	11	18	7	10
19	8	8	19	6	6	19	6	9
20	10	11	20	8	9	20	5	9
21	4	6	21	10	11			
22	6	7	22	4	5			
23	8,25	8	23	11	11			
			24	9	9			
			25	9	10			

*Note: students have not signed the permission to mention their names in publications; therefore, we have affiliated numbers for each of them.

In addition, we decided to use the analysis of variances (ANOVA) method of obtained data analysis to determine the significance of the statistical data and find out which of the given form was the most effective. However, before using the ANOVA method, the first issue that should be checked is whether the obtained data is eligible for ANOVA analysis or not. Having entered the data, the program made a diagram shown in Figure I (for the pre-test) and II (for the diagnostic test).

Figure I. Diagram of the pre-test results

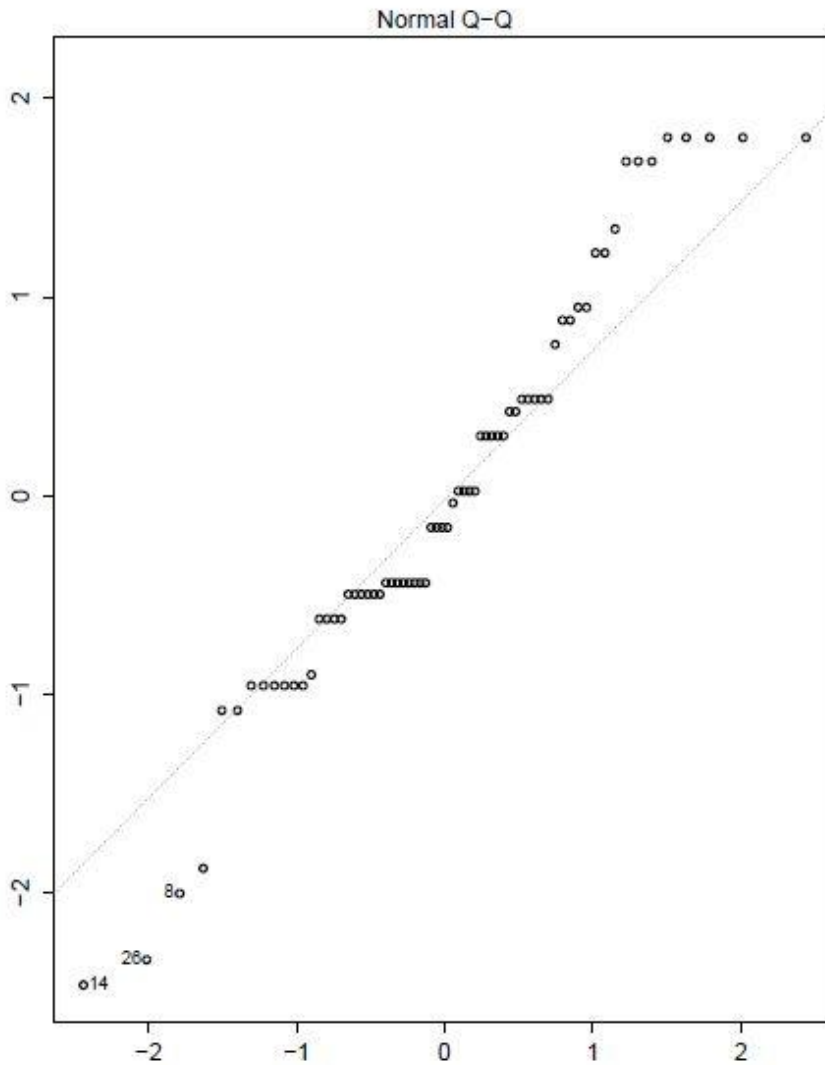
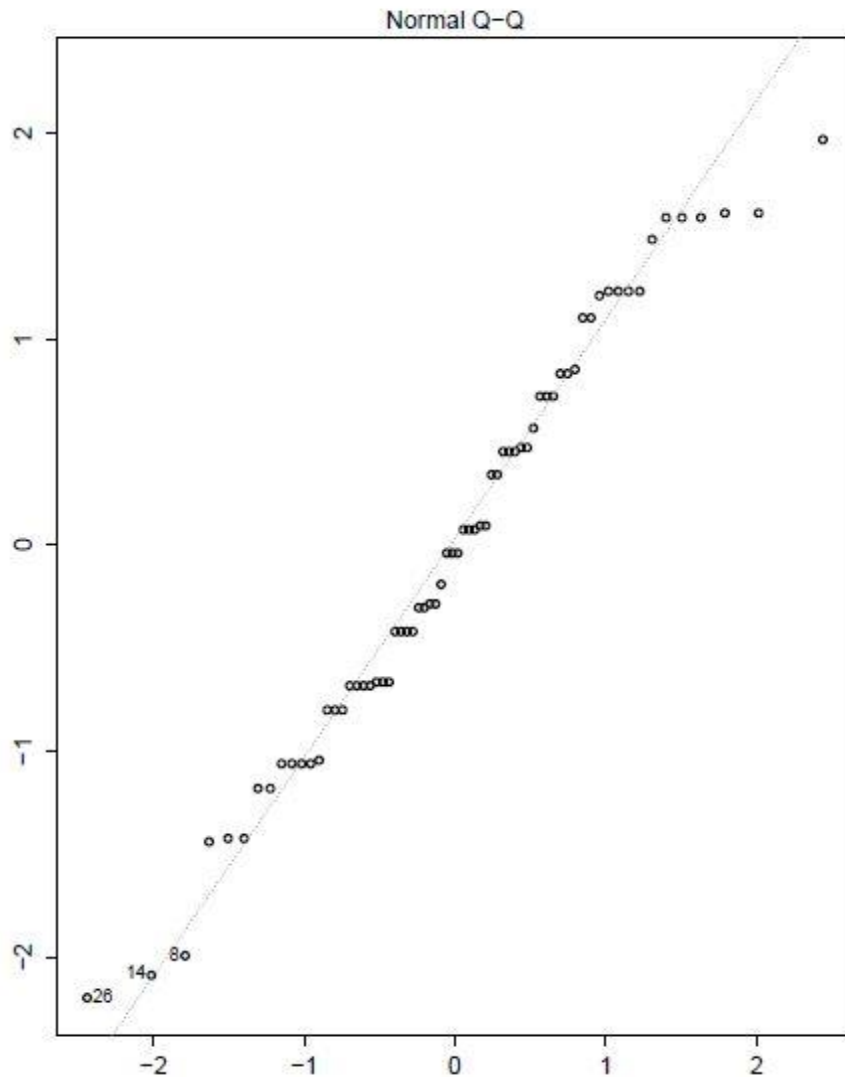


Figure II. Diagram of the Diagnostic test results



Therefore, the diagrams show that the data is eligible for the ANOVA test.

The following pictures present the results of the statistical processing using the ANOVA method. The results of the pre-test analysis are shown in Figure III; the results of the diagnostic test are shown in Figure IV; the comparison of both the pre-test and the diagnostic test results is shown in Figure V.

Figure III. The results of the Pre-test of the groups

```
Call:
lm(formula = Pre ~ gruppo)

Residuals:
    Min       1Q   Median       3Q      Max
-5.800 -1.800 -0.100  1.975  5.200

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  6.7500     0.5624  12.003  <2e-16 ***
gruppo2      0.0500     0.7792   0.064   0.949
gruppo3      0.3500     0.8246   0.424   0.673
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 2.697 on 65 degrees of freedom
Multiple R-squared:  0.003187, Adjusted R-squared:  -0.02748
F-statistic: 0.1039 on 2 and 65 DF,  p-value: 0.9015

> |
```

Figure IV. The results of the Diagnostic test of the groups

```
Call:
lm(formula = Diagnostic ~ gruppo)

Residuals:
    Min       1Q   Median       3Q      Max
-5.3478 -1.1470 -0.3478  1.0500  3.9200

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept)  7.3478     0.4627  15.882 < 2e-16 ***
gruppo2     -0.2678     0.6411  -0.418 0.677488
gruppo3      2.6022     0.6784   3.836 0.000285 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 2.219 on 65 degrees of freedom
Multiple R-squared:  0.2505,    Adjusted R-squared:  0.2275
F-statistic: 10.86 on 2 and 65 DF,  p-value: 8.497e-05
```

Figure V. Comparative results of the pre-test and diagnostic test

```
> summary(fit.aov)
          Df Sum Sq Mean Sq F value Pr(>F)
gruppo    2    1.5   0.756   0.104 0.901
Residuals 65  472.8   7.274
> summary(fit1.aov)
          Df Sum Sq Mean Sq F value Pr(>F)
gruppo    2   107   53.49  10.87 8.5e-05 ***
Residuals 65   320    4.92
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
> |
```

The next step was to determine whether the pre-test and diagnostic test results were different or equal. In order to do this, we should formulate two hypotheses, separately for pre-test and diagnostic test.

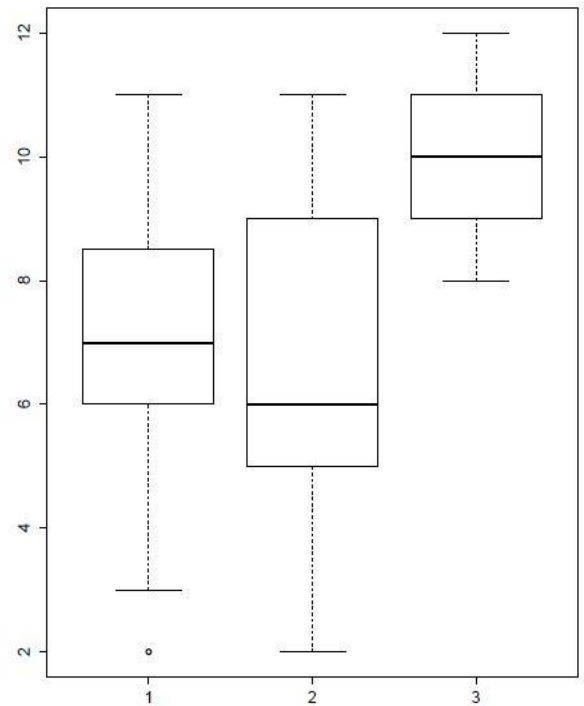
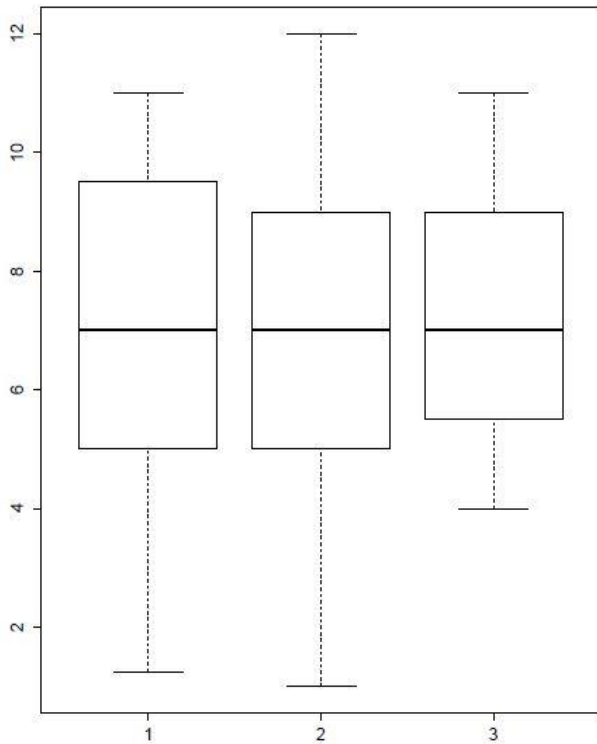
Hypothesis for pre-test:

H_0 – results are equal

H_1 – results are different

The obtained results demonstrate that the F value is 0.1039 and the difference in Estimate std. Value is within the frame of 0.35 points out of a maximum of 12. Thus, these results demonstrate that Hypothesis 0 is correct, i.e., the difference in students' knowledge of all three groups at the beginning of the experiment was equal (Figure VI).

Figure VI. The comparison of the pre-test result of 3 groups



Hypothesis for diagnostic test:

H_0 – results are equal

H_1 – results are different

The obtained results demonstrate that the F value is 10.86 and the difference in Estimate std. Value is 2.6022 points out of a maximum of 12. Thus, these results demonstrate that Hypothesis 1 is correct, i.e., the difference in students' knowledge of all three groups at the end of the experiment was not equal (Figure VII). In addition, the p-value in the diagnostic test results was less than 0.05, which demonstrates that the results are credible ($p < 0.05$).

Figure VII. The comparison of the pre-test result of 3 groups

Therefore, we can observe the changes in the students' knowledge of three groups between pre-and diagnostic tests.

In addition, we decided to conduct the questionnaire for Groups 2 and 3. It was done to receive feedback from the students concerning the efficiency and satisfaction of the teaching method from students' point of view. Separately, we gave a questionnaire to Control Group to see students' hypothetical future choice of the most effective and satisfactory learning method (choice between distant and blended). Control Group was chosen because students have learned using the traditional (face-to-face) learning method, which is used by most universities worldwide. As Nicolas Sampson cites (2003), surveys gather data at a particular point to describe the nature of existing conditions or determine the relationships between specific events. In addition, anonymous questionnaires encourage respondents to be honest. The possible answers for all questions, except Q2, were the following: Excellent, Good, Satisfactory, Poor.

Questions of the survey for Experimental Group 2 and Experimental Group 3 were the following:

Q1 How do you estimate the educational process?

Q2 Could you briefly describe the pros and cons of the program.

Q3 Estimate the content and materials of the course.

Q4 Estimate the communication in the course: between teacher and student and among students.

Q5 Estimate the feedback you received after the assignment.

Q6 Estimate the modules and evaluation in the course.

Q7 Estimate the level of support provided in the course.

The results of the survey for Experimental Group 2 and Experimental Group 3 are presented in *Table II (distant)* and *Table III (blended)*:

Table II. The results of the questionnaire of Experimental Group 2 (distant learning) students

Question №		Excellent	Good	Satisfactory	Poor
Q 1		16	6	3	0
Q 3		20	4	0	1
Q	Teacher and student	15	8	2	0
	Student and student	19	5	1	0
Q 5		22	0	2	1
Q 6		20	0	3	2
Q 7		21	4	0	0

Table III. The results of the questionnaire of the Experimental Group 3 (blended) students

Question №		Excellent	Good	Satisfactory	Poor
Q 1		18	2	0	0
Q 3		16	3	0	1
Q 4	Teacher and student	19	1	0	0
	Student	19	1	0	0

	t and student				
Q 5		19	1	0	0
Q 6		18	2	0	0
Q 7		17	3	0	0

Question 2 was descriptive and was aimed to receive students' points of view on the course. Therefore, the more frequent answers of the Q2 shown in *Table IV* were divided according to the type of learning, i.e., distant or blended:

Table IV. Pros and Cons of selected learning type

Distant learning		Blended learning	
Pros	Cons	Pros	Cons
Good materials to learn	No appropriate communication with the teacher	Good materials to learn	Little time for assignments and tests
Easy and comfortably to learn	Lack of speaking skills	Easy and comfortably to learn	
Suitable time and place	Little time for assignments and tests	Suitable time and place	
Communication with peers		Communication with teacher and peers	
		Repeated explanations	
		Ability to work in groups	

Since the traditional learning of a foreign language is the most widespread and the most used method worldwide, we decided to study the hypothetical choice of the learning method of the Control Group students. Therefore, they were presented with each learning method by the teacher, and they communicated with peers who were doing distant and blended learning. Then, students of the Control Group were asked to write answers to two questions:

Q1 What type, of course, would you choose to learn a foreign language?

Q2 Can you specify your choice?

The results for the Q1 was the following:

- Traditional learning – 2
- Distant – 6
- Blended – 15

The results of the Q2 were descriptive. The main statements, according to the frequency of answers written, were:

- Exciting and new learning experience;
- The excellent and suitable way of learning;
- Interesting and diversity of materials

Students, who have chosen blended learning, noted the importance of interaction between teacher and students and among peers. In addition, they mentioned that blended learning would motivate them more to study since the results of their education will be visible during lessons.

Discussion.

The study was designed to answer two questions: What is a more effective way of learning/teaching a foreign language? And which, according to students, is the most suitable way of learning a foreign language for them? There were three possible answers: traditional, distant, and blended.

Thus, having analyzed the obtained results after processing with the ANOVA statistic method, we conclude that the results of Experimental Group 3 (Blended learning) are the best out of all groups. Therefore, blended English language learning proved more effective than traditional

(face-to-face) and distant ones. According to the conducted research activities, we determined that the diagnostic test results in Control Group (Traditional learning) were higher than the pre-test by 8.74%. The results of Experimental Group 2 (Distant learning) were higher compared to the pre-test by 4.11%. Experimental Group 3 (Blended learning) was higher in comparison with the pre-test by 40.14%. The percentage of the efficiency of the method was calculated according to the formula:

$$(M_2 - M_1) / M_1 * 100$$

in which:

M_2 – are the results of the diagnostic test;

M_1 – are the results of the pre-test.

The study results showed that the most effective way of learning/teaching the English language is blended with the efficiency of more than 40,14%. In addition, the data in Figure 6 shows that all students from the three groups were almost equal in knowledge. Meanwhile, Figure 7 shows that students of Experimental Group 3 (Blended learning) have demonstrated the best results out of all three groups. However, there are slight differences in results between distant and traditional (within the frame of 4.63%). Concerning the abovementioned, Amy S. Glenn, in the paper (2001), mentions that there is no statistically significant relationship between scores and perceptions in face-to-face groups or the distant groups. In addition, she cites some results of research activities where the results between traditional and distant education were almost the same. Furthermore, M. Shachar and Y. Neumann, in the paper (2010), mentioned that in a significant part of studies, students of distant education outperformed students of face-to-face learning. However, according to the paper (Glenn, 2001), sometimes traditional learning results were higher than distant. M. Hannay and T. Newvine, in their study (2006), showed the results of the questionnaire where students stated that learning occurs more in distant (57%) than in traditional (41%). However, as one M. Hannay and T. Newvine in their study (2006) can notice, the difference is insignificant. The study, performed by the US Department of Education (Means et al., 2010), has demonstrated that blended learning is more effective than the distant or traditional one.

Nevertheless, Amy S. Glenn states that students who used distant learning spent less time learning than students of traditional learning methods. On the contrary, the study of M. Hannay and T. Newvine (2006) shows that students of distant learning spent more time learning than students of traditional one.

Therefore, we can not say that blended is a better learning method than distant or traditional because each student has his learning abilities, and each teacher has his teaching techniques and methods. However, we assume that the high results of the blended method of learning were caused due to the more frequent repetition of materials than in distant or traditional. C. White, in the paper (2006), mentions that the development of distant language courses should include human, logistic, and institutional infrastructure. Furthermore, she cites some scholars who emphasized the role of the teacher and his/her interaction within the distant language course, its design, content, equipment supply, etc. The other study by E. Ariza and S. Hancock (2003) states that distant learning language courses should be designed in such ways that follow constructivism philosophy, i.e., learners are seen as constructors of their knowledge through active participation in the learning process. Thus, we can assume that the success of a course, whether distant, blended or traditional, lies upon many factors that should be taken into account before developing such a course.

It is worth mentioning that in blended learning we developed, the division between face-to-face and distant lessons was about half. According to P. Padede (2012), the course can be considered blended when the percentage of online works is within the frames of 30-79%. However, we tend students to write tests during face-to-face lessons, but with the usage of Canvas. Therefore, they are more responsible for learning the material better and performing tests well. The other factor for blended learning was that they could communicate with the teacher in classes, often raising topics they did not understand while working distant with Canvas. The teacher explained and clarified grammar, vocabulary, and reading in almost every class in Experimental Group 3.

In addition, M. Trajanovic et al. (2007) stated the importance of training four basic language skills (reading, writing, speaking, and listening) in distant online courses. Hence, it is worth saying that we tend to include the abovementioned skills in our online course.

We suppose that the lower results of the traditional method of teaching and distant are caused by one method of presentation, i.e., explanation of teacher in traditional and video presentation in distant. There was a slight repetition of material in these two types of learning when we compared them with blended. In addition, we tend to use video presentations alongside with *pdf* files when explaining grammar. It proved to be an effective way of learning, as it comes from the article by M. Trajanovic et al. (2007), in which the authors stress the usage of a combination of video and text.

We can assume that the lowest results in distant are caused mainly by lack of communication with the teacher (as was shown in the questionnaire's answers). However, the teacher tried to perform synchronous and asynchronous communication with students during distant learning. Furthermore, the importance of synchronous communication with the teacher in a distant language course is mentioned in the article by C. White (2006). The research by E. Ekmerci (2014) showed that the more teacher interacts with students, the better level of satisfaction from the learning process will be. D. Hall and J. Knox mention the problem of communication (2009), stating that students who do distant learning in all fields can feel isolated, lack immediate peer support, have problems in communication, etc. In addition, the authors emphasize that distant learning students most likely study part-time and therefore suffer fatigue in learning. While doing blended learning, students have to show their results to teachers during face-to-face lessons. The other paper by C. White (2008) cites the scholar who investigated the role of communication of teachers with students. He mentions that distant learning students lacked immediate support from a teacher and language practice. E. Ariza and S. Hancock (2003) also mentioned that the teacher in distant learning courses should act as a facilitator for students, providing assistance and support while presenting the content in ways that encourage engagement.

The second issue in our study was the questionnaire to students concerning their opinion of learning methodology. There were two types of questions aimed at: to receive the feedback from the students of Experimental Group 2 and Experimental Group 3 about the method of learning; to determine pros and cons of distant and blended education; to decide which method of learning, i.e., distant or blended would choose students from Control Group.

The questionnaire results have shown that students from Experimental Group 2 and Experimental Group 3 were mainly satisfied with the learning method. Furthermore, the study by M. Allen et al. (2002) showed that the level of satisfaction from learning between distant learning students and the traditional one is almost the same.

The dissatisfaction in our experiment was only in the questions concerning learning materials, feedbacks, and the evaluation process. Here we should argue as we have considered the study by D. Hall and J. Knox (2009) emphasizing the role of evaluation and material preparation in distant learning. However, unlike the study, we did not assess discussions in distant learning but only students' knowledge through tests. In addition, we compiled tests strictly according to the materials students covered during the semester. Moreover, there were clear instructions on the work they should do and on the system of evaluation. These two principles are one of the main in students' knowledge assessments, as from D. Koksal (2004). In addition, the study by E. Ekmerci (2014) showed the importance of evaluation in distant language learning. In the study, the central part of students (75% and 85,5%) mentioned that the assignments and grading were not clear enough.

Concerning the materials of the course, it should be stated that they are of great importance. E. Ariza and S. Hancock (2003) mentioned that it is crucially important that learners of distant language courses understand the course's content for effective learning. Furthermore, the accessibility to materials is mentioned by Nicolas Sampson (2003) as a critical component in distant education. Considering the abovementioned, we tried to provide students of all groups with access to all necessary materials for learning.

The possible cause why students can be dissatisfied in distant learning towards traditional classes is mentioned in M. Hannay and T. Newvine (2006). The main reason for dissatisfaction mentioned in the article is that distant education students did not see much difference between distant and traditional learning. Sometimes, authors stated that students of distant education could be jealous of students of traditional one because of the possibility to interact and communicate with the teacher. M. Trajanovich et al., in the paper (2007), emphasizes that the distant course should be developed in such a way so that students do not feel they are out of class. It should be noted that in

our experiment, students did not state the difference from traditional class as the cause of dissatisfaction. On the contrary, one of our students' main dissatisfaction was the lack of communication with the teacher.

It is worth mentioning that article by M. Hannay and T. Newvine (2006) states that teachers of the distant courses are often dissatisfied with the distant teaching process. On the contrary, the teacher did not face dissatisfaction with our research since he taught all three groups. However, he mentioned that traditional learning was less time-consuming than distant and blended ones. Furthermore, he emphasized that blended learning required the most time of all methods used in the experiment.

The Q2 was dedicated to demonstrating students' thoughts on the course, which they were to formulate by themselves, without any possible choices. It is worth mentioning that the blended learning method has more benefits and fewer disadvantages than the distant.

Among the pros, students singled out for both learning methods as a comfortable and easy way of learning; the possibility of communication with peers; a new way of learning. Some students mentioned that electronic devices and the Internet in learning increased their interest and motivation to study. M. Hannay and T. Newvine, in their paper (2006), states that distant learning can be more motivating for students than a traditional one. M. Trajanovic et al. (2007) emphasize the role of the teacher while preparing materials. They mention that teachers should introduce tasks and materials that would retain interaction within limited direct contact and promote motivation in the teaching environment.

Moreover, some students noticed that distant learning taught them responsibility and time management since they have to decide how to do their online learning. A similar idea is stated in the study by Nicolas Sampson (2003), however for distant learning, mentioning that distant teaching support students' motivation, promotes learning pleasure and effectiveness. However, the study by M. Allen et al. (2002) showed that while assessing the quality of the educational process, students showed a higher level of satisfaction from traditional face-to-face education rather than from distant. N. Sakar (2009) raised the critical issue that if the distant course is not obligatory, students are less likely to take it seriously. The study shows that students enrolled for online courses just before exams to facilitate their preparation. Therefore, while doing blended learning with Experimental Group 3, we decided on the tests in face-to-face classes.

Blended learning has more minor disadvantages in comparison with distant. Students mentioned that they repeated the same material more times than during traditional and distant ones while doing blended learning. In addition, after watching videos or reading textbooks, they could communicate with the teacher during face-to-face lessons. M. Allen et al. (2002) states that some students may positively favor distant education and some traditional. The authors state that the link to student learning style may indicate the need to diagnose providing a course in multiple formats. Furthermore, the study of N. Sakar (2009) has demonstrated that online course was not enough for students to accomplish a complete learning process. The author provides the results, according to which 82,3% of students wanted to take face-to-face courses despite the published materials and online courses. Therefore, blended learning can be a possible option to satisfy more students' needs for education.

Compared to distant learning, the other cons of blended learning that students mentioned was that they could work in groups in class, communicating in the face with their peers. However, it should be mentioned that Experimental Group 2 did some group tasks and group learning as well. Furthermore, David R. Hall and John S. Knox (2009) mentioned that one of the problems of distant learning students is the lack of immediate peer support. M. Allen et al. in the study (2002) mention the different possibilities and importance of participants' interaction in the distant course. In addition, E. Ariza and S. Hancock (2003) states that different types of learner-learner interaction should be thoroughly planned to address goals.

One of the most significant drawbacks of distant learning towards blended was students' communication with the teacher. The majority of students from Experimental Group 2 mentioned that they were lack of live communication with the teacher. However, we should notice that they could write messages and have online chats. The other issue concerning communication was with speaking tasks. Experimental Group 3 presented almost all their speaking tasks during lessons and

some in canvas, recording their answers. Students from Experimental Group 3 mentioned that they faced some difficulties with recording their answers. However, a study by D. Koksal (2004) emphasizes that students' speaking skills should be tested by having them talk. In addition, M. Trajanovic et al. (2007) mentioned that speaking skills could be tested when the teacher listens to how students talk. According to the authors, the answers can be recorded and sent to chats or forums for teachers' evaluation. Nevertheless, when discussing their opinion of the learning process, they agreed that recording has pros and cons. The main advantage of recording was the possibility to rerecord your answer multiple times, but in a live answer, you have only one.

According to the results, the answers can be recorded and sent, and asking students' opinions after the experiment, students from all three groups were asked to answer two questions. The results showed that most students choose blended learning; distant goes the second, and traditional goes last. The reasons for choosing blended learning were; exciting and new learning experience, a suitable way of learning, and the diversity of materials. In addition, the results of the research by M. Hannay and T. Newvine (2006) showed that students are likely to choose distant learning (69%) towards traditional (31%). We suggest that students would opt more for blended learning despite this comparison between distant and traditional learning. Furthermore, P. Padede (2012) mentions that blended learning allows the teacher to provide more individualized learning through the phenomenon of partial self-education.

Conclusion.

The results of the research allow us to make several conclusions.

1. The results of the final tests, compared to pre-tests, showed that blended learning proved to be more effective in comparison with traditional and distant.
2. Questionnaire answers showed that students would prefer blended learning of a foreign language towards distant and traditional. The reason is that it is a new and comfortable way of education, combining both distant and face-to-face.
3. The benefits of blended learning are that it combines the advantages of both learning methods, solves problems that occur while doing distant learning, and modernizes traditional teaching.

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Topic 3

Telenursing in physical and occupational therapists' training

[Smolinska O., Budnyk O., Peleno R., Dzyubynska Kh. Telenursing in physical and occupational therapists' training. Information Technologies and Learning Tools, 2021. 85(5). P. 244–258. URL : <https://journal.iitta.gov.ua/index.php/itlt/article/view/4121>]

1. Read the abstract and try to get the main idea

The necessity of distance learning of specialists practitioners, in particular in the field of knowledge «Health care», which is induced by COVID-19, causes a significant public response. This is due to a possible decline in the quality of higher education, and therefore the security of citizens and the state. Consequently, the search of modern, effective methods and means of learning and training for healthcare specialists is relevant. Quarantine restrictions of educational communication have sharpened attention, firstly, to telecommunication means, secondly, to active learning methods, and thirdly, to the mobilization of internal reserves to expand the practical educational component. This is how the idea of simulated professional support arose. It was realized by the students of physical therapy during the rehabilitation period of a university lecturer. It was the postoperative period of endoprosthesis and simulated professional support was provided with the help of telenursing. The essence of the simulation was that the real rehabilitation period had already passed, but it was agreed to repeat it for a didactic purpose.

46 first-year students of the specialty «Physical Therapy, Occupational Therapy» took part in the experiment. At first, they were trained a set of exercises (according to the recommendations of the clinic), while paying attention to the practical, psychological and pedagogical aspects of interaction. Then, students conducted rehabilitation classes with the help of telecommunication means, which lasted for a month. An incoming survey was conducted (based on motivation of professional activity): among the students and it showed that 32 of them (69.6%) are positively professionally motivated, 45 respondents (97.8%) felt subjective satisfaction with their professional choice. The final study (an interview) with the question «How has the attitude to professional activity changed») represents that 31 (67.4%) respondents were ready for practical conduction of similar professional support.

Telenursing proves its effectiveness not only as a means of actual patient care (according to the literature), but also as a kind of learning, using a case study (according to our data). However, the telecommunication means, which were chosen for rehabilitation, including video communication via Viber and Messenger as more common among the potential customers, did not fully satisfy students who preferred Microsoft Teams and Google Meet as less related to social media and personal profiles data, as well as with better possibilities of lesson planning. This indicates the formation of professional competencies that are based on the combination of psychological and pedagogical, information and communication competencies, hence, the effectiveness of the proposed method.

2. Answer the questions

- What is the topic of the article?
- What is the purpose of the conducted research?
- What research was done?
- Who will benefit from this study?

3. Having read the article, please explain the meaning of the words

Distance learning, physical therapist, occupational therapist, telenursing, case study, psychological and pedagogical competence, simulated professional support

4. Read and translate

1. INTRODUCTION

In 2017, the World Health Organization initiated a meeting «Rehabilitation 2030: A Call for Action» [1] which resulted in a decision to coordinate actions and joint commitments of participants in order to improve the management of rehabilitation and investments, as well as to prepare a qualified workforce and rehabilitation services and to improve data collection. Within this initiative, another global meeting was held in July 2019, where the strategies of transformation of rehabilitation into a political priority were discussed. A. W. Heinemann et al. [2] note that the shift of rehabilitation from a medical to a political plane is caused by, firstly, aging of population and, secondly, by the availability of these services to low and middle-income nations. The authors [2] report that the need for physical therapy and rehabilitation institutions is increasing significantly per capita, as well as the percentage of total years lived with disability worldwide and across countries with different income levels. This increase was greater in lower-income countries where

rehabilitation was underestimated because of low labor costs, worse working conditions, unresolved environmental problems, wars and so on.

The content analysis of the standard of higher education at first (bachelor's) level of the branch of knowledge 22 «Healthcare», specialty 227 «Physical therapy, occupational therapy» proves that the formation of integrated competence in terms of the basics of psychological and pedagogical sciences is due to different general competencies. In addition, it also implies the necessity to apply «principles, theories and methods of medical, biological, social, psychological and pedagogical sciences» [3, p. 6]. There are such general competences as «skills of interpersonal interaction» (LC 03), «ability to motivate people and move to a common goal» (LC 05), «ability to act socially, responsibly and consciously» (LC 13). Besides, there are also special (professional, subject) competencies, especially «ability to take medical, psychological and pedagogical, social aspects into account in the sphere of physical therapy, occupational therapy» (SC 04), «ability to implement a program of physical therapy and/or occupational therapy effectively» (SC 08) [3, p. 8]. The same standard of higher education provides for such a learning outcome as: «to implement individual programs of physical therapy, occupational therapy» (PR 09), «to choose the most suitable forms, methods and techniques that would ensure respect to a patient / client, his safety / protection, comfort and privacy» (PR 13). Moreover, this standard aims at the ability «to communicate verbally and non-verbally with individuals and groups of interlocutors of different age, level of education, social and professional affiliation, psychological and cognitive qualities, etc. in a multidisciplinary team» (PR 15), «to instruct and train clients, members of their families, colleagues and small groups» (PR 16) [3, p. 9].

The researchers of the problem of psychological and pedagogical aspects of physical therapists training focus on the following problems: the correlation of direct and indirect interactions in both professional and educational activities (Rezaei M., Jalali R. et al. [4], Fukumoto M., Watanabe T., et al [5], Hughes E., Bradford J., Likens C. [6]). They also concentrate on the impact of socio-demographic and personal, the so-called, contextual, factors, on the effectiveness of interactions of the rehabilitation process (Coenen P., Hulsegge G., Daams J. G., et al [7], Covington K. and Barcinas S. J. [8], Mun C. J., Davis M. C., et al. [9], Morera-Balaguer J., Botella-Rico J. M., et al. [10], Yehorova Y. V. and others, edited by Ihnatovych O. M. [11], Andriychuk O. [12]). The works of Bazylchuk O. [13], Burka O. [14] actually highlight the pedagogical aspects in their articles while Rean A. [15], Barchi B. [16] investigate the problems of readiness for a professional activity.

The results of the above analysis show that the psychological and pedagogical component of physical and occupational therapists training is essential in the structure of professional training of specialists in this specialty. Besides, telenursing has been characterized by researchers as «bioinformation cornerstone in healthcare for the 21st Century» [17], and COVID-19 only promoted the understanding of it. Therefore, the relevance of the research and the content is obvious.

The choice of the theme is preconditioned by the lack of publications on the topic and methods of training for physical therapists and occupational therapists due to the conduction of individual and group classes remotely, which was caused by the pandemic COVID-19. Especially, this concerns the classes on postoperative rehabilitation of patients with diseases of musculoskeletal system.

The hypothesis, which had to be verified in the course of the research, is that the practical implementation of the functions of physical and occupational therapists at the initial period of training improves their conscious attitude to the chosen profession. Furthermore, psychological and pedagogical competencies play a key role and enable quick introduction to professional activity. On the one hand, they form important professional competencies: sociability, responsibility, time management (soft skills) and on the other hand, practical skills to provide a professional support during postoperative period of hip arthroplasty (hard skills). This surgical procedure is quite common, that is why a support of a physiotherapist at the recovery stage will be in great demand.

The aim of the study is to demonstrate the role of telenursing as a distance practice-oriented method of physical therapists and occupational therapists' training, using ICT tools, as well as one of their professional competencies.

2. THEORETICAL FUNDAMENTALS OF THE RESEARCH

Overall, the problem of telemedicine in general and telenursing in particular is urgent not only because of the pandemic, but also due to the fact that it creates new opportunities for remote care services, which is a positive factor in the availability of rehabilitation services. The Health Resources and Services Administration (HRSA) of the US Department of Health and Human Services defines telehealth as the ensemble of telecommunication technologies that «support and promote long-distance clinical health care, patient and professional health-related education, public health, and health administration» [18].

The study of the scientific literature on the problem of professional support of postoperative patients revealed that, first of all, first month is the optimal time to start as it has the highest efficiency, secondly, it can be done both remotely (telenursing) and directly (face-to-face). Although, the data on the level of their effectiveness vary. Researchers M. Rezaei, R. Jalali, et al. [4] compared the effectiveness of indirect impact of a physical therapist and face-to-face meetings on the quality of life of patients with burn injuries. They concluded that the difference in the effectiveness of these two types was insignificant; however, both groups with telenursing and face-to-face interaction with an occupational therapist proved to be much more effective than patients in the control group, who received regular care. Considering these results, we have chosen telenursing as a form of professional support. Thus, the interference in the client's personal space was minimized during the simulated recovery.

The authors of the article M. Fukumoto, T. Watanabe, et al. [5], analyzing the impact of home visits of physical therapists to patients after being discharged from an acute care hospital, noted that such visits reduced the prevalence of falls but had no significant effect on ability to perform activities of daily living, quality of life or mood. It is necessary to mention that home visits were paid a month after surgery to restore self-care skills. To sum up, the time of the highest efficiency of the physical therapist and occupational therapist is the first month after injury, surgery and so on. According to this research, we have defined that the first month after returning from a clinic is the most suitable to train students and simulate rehabilitation.

Although, the information on the key criterion of the effectiveness of rehabilitation is quite homogeneous. Thus, P. Coenen, G. Hulsegge, J. G. Daams, et al. [7] came to the conclusion that the effectiveness of integrated care programs and rehabilitation for postoperative patients should be measured by their ability to participate in work and sport. Next, the authors conducted meta-analysis, which shows that insufficient attention of researchers to the criterion of returning of postoperative patients to other activities, besides domestic self-care, is the reason for the distortion of data on the quality of rehabilitation. The information presented by the authors [7] is used together with authors' data [10] while choosing the subject of the experimental rehabilitation experiment (teacher), as well as while teaching the students the basics of psychological support of a client.

The article [8] presented the results of the research, according to which five types of behavior of physical therapy students were identified and they contributed to students' early professional progress. These types are the following: adapt, prepare, enhance, connect, and develop. The authors K. Covington and S. J. Barcinas emphasize that these types resulted from the ability of physical therapist to improve the functional ability of patients after injury and disease, thanks to the quality of their own movements. In this regard, the training of students should be also based on professional motor practice from the initial stages. Obviously, this is the reason why students studied pedagogical and psychological techniques while studying practical sets of exercises, which were recommended by the clinic [19], [20].

The researchers [6], who study the possibilities of using new technologies (such as Kahoot! and Google Suite) during physical therapists' training in the early stages of professional development, affirm that the students who were trained with the application of new technical innovations demonstrate better learning outcomes via collaboration, communication and critical thinking. In our research, we base on the ideas of these authors as to the educational effectiveness of technological innovations. The participants of the experiment used the means of video communication such as Viber and Messenger to conduct telenursing. This corresponds to the content of telenursing, as an interaction that is «mediated by devices that overcome barriers of distance and time» [21], namely information and communication technologies (ICT). Among the

most widely used ICTs are telephones (landline and mobile phones), copiers (fax machines), Internet, video and audio conferences, computerized information systems and data transmission devices in general [21]. That is why the most popular means of communication were chosen for potential patients. However, after the experiment, students pointed out that it would be rational to use the tools, focused on regular interaction with a fixed meeting time, such as Microsoft Teams or Google Meet. It should be indicated that as the rehabilitation was carried out by a teacher familiar with the methods of physical education, so he could correct the actions of students, if it was necessary.

Ukrainian authors, O. Bazylchuk in particular, analyzing practice-oriented approaches to the training of physical therapists and occupational therapists, mention that the usage of case method (case study) in addition to providing an interdisciplinary, integrated approach to professional issues, also forms independence and initiative. At the same time, its functional didactic purpose is determined by «the development of algorithms for analysis of typical situations..., as well as intensification of exchange of experience between students, gaining teamwork skills in a single problem field» [13, p. 316]. A practical case study was introduced in order to help while teaching the students and practicing their professional skills.

Nevertheless, our research had some limitations due to following factors: firstly, the size of a group of participants, namely the number of first year students. Secondly, it is impossible to check the structure of professional motivation and the degree of satisfaction with professional choice among undergraduates because this is the first enrollment of students in the specialty «Physical therapy, occupational therapy». Finally, the possibility of emotional infection among the study participants existed, as moderators had many roles at the same time (teachers, instructors, administrators, even a client), but this limitation was eliminated by the participation of a specialist from another educational institution.

3. THE RESEARCH METHODOLOGY

The authors analyzed the data of the conducted research [5], [16], [22] and the motives of professional choice, which were predetermined by the need for security and protection, accelerated making pragmatic decisions on high and fast profitability [23]. We investigated the structure of motivation of professional choice among 46 first-year students of specialty «Physical therapy, occupational therapy» at Stepan Gzhyskyi National University of Veterinary Medicine and Biotechnologies Lviv (motivation of professional activity (K. Zamfir's method in A. Rean's modification [24]).

In addition, these students were asked to assess the level of subjective satisfaction with their professional choice by answering the question «Are you satisfied with your choice of profession?» It was done by means of indication at a satisfaction scale ranging from «very satisfied» to «very dissatisfied».

Simulated professional support was provided 10 months after the last surgery and it was done for educational purposes. The circumstances of the patient's recovery during the first month after surgery were simulated. In general, there were two stages in the simulated experiment. Stage 1 is called training, which comprises the acquaintance with the method of professional support of postoperative recovery and is implemented using telenursing. It involves practical online study of exercises during their performance, pedagogical methods of work of physical therapist and occupational therapists (according to the sample); as well as the formation of such professional abilities as empathy, facilitation, ability to the distribution of attention. Stage 2 is a practical professional support-simulation of the alleged postoperative recovery during the first month and conducted in the form of telenursing, using the following online means of communication (Viber, Zoom, Messenger and Skype). Sets of exercises were recommended by the clinic where endoprosthesis was performed [19], [20].

In a final interview, with the help of Google Forms, students were asked: «Has your attitude toward the chosen profession changed?» In addition to confirmation or objection, they were asked to explain their answer concisely. Another question of the interview was: «Do you consider yourself practically ready to provide professional individual support of postoperative recovery to a patient with musculoskeletal diseases?» Moreover, the students indicated telecommunication means that were the most convenient for them. The sex and age of the students were insignificant, concerning

the objectives of the study. All the participants were adults. Participation in surveys and training was voluntary (all the participating students signed an informed consent to participate in the study, which consisted of 2 initial surveys, training, conduction of simulated professional individual support and a final interview). The client gave us consent to form a case study, to conduct simulated professional support in a remote mode as well as prepare and publish relevant materials.

3. THE RESULTS OF THE RESEARCH

The result of the initial research revealed that 32 students (69.6 %) out of 46 had the best ratio of professional motivation in the version IM>EPM>ENM, where IM stands for internal motivation, EPM stands for external positive motivation and ENM stands for external negative motivation. The worst complex (ENM>EPM>IM) was not found and 1 questionnaire was invalid. In terms of efficiency, 13 participants of the research (28.3%) showed intermediate indicators. The structure of professional motivation [20] is represented in Fig. 1.

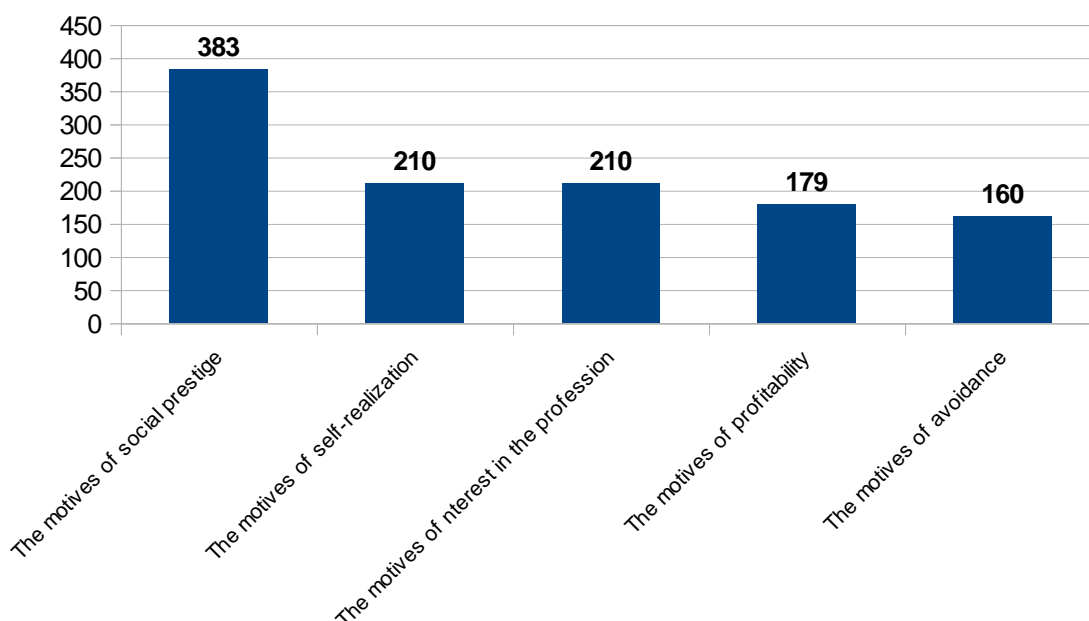


Figure 1. The structure of professional motivation of the participants of the research, points

Internal motives got the highest score at the assessment scale of importance (satisfaction with the process itself and the result of work; the possibility of the most complete self-realization in this activity) – 210 points for each one. Next motives were a career building, the need for respect, achieving a certain status and profitability (in terms of money), the desire to avoid possible punishments or troubles and the desire to avoid criticism from parents (friends). Motivational attitudes of the participants are represented in Fig. 2.

The client's choice of the desired telecommunication means from the offered ones showed the following preference (from the most widely used to the least one): Viber, Zoom, Messenger and Skype.

As it was only the first enrollment of first-year students of this specialty at our higher educational institution, so it was impossible to find out the dynamics of satisfaction with the professional choice among the surveyed participants. However, according to the obtained results, 45 people (97.8 %) declared being very satisfied, satisfied, satisfied to certain extend. The degree of subjective satisfaction with the professional choice was determined according to a six-point scale ranging from «very satisfied» to «very dissatisfied». The results demonstrate that most students chose such a positive assessment as «very satisfied», in general 25 people (54.3 %). Data of other authors indicate that this figure will slightly decrease in the future [15], an effective precaution of which can be supported by «competent conceptions about the profession. Only then, do the students begin to understand the sense of their own work, ways of self-expression and self-realization in the

activity» [25]. In order to prove this statement, we have chosen such a component as a psychological and pedagogical readiness. This approach is practically implemented within a simulated experiment, basing on a case study.

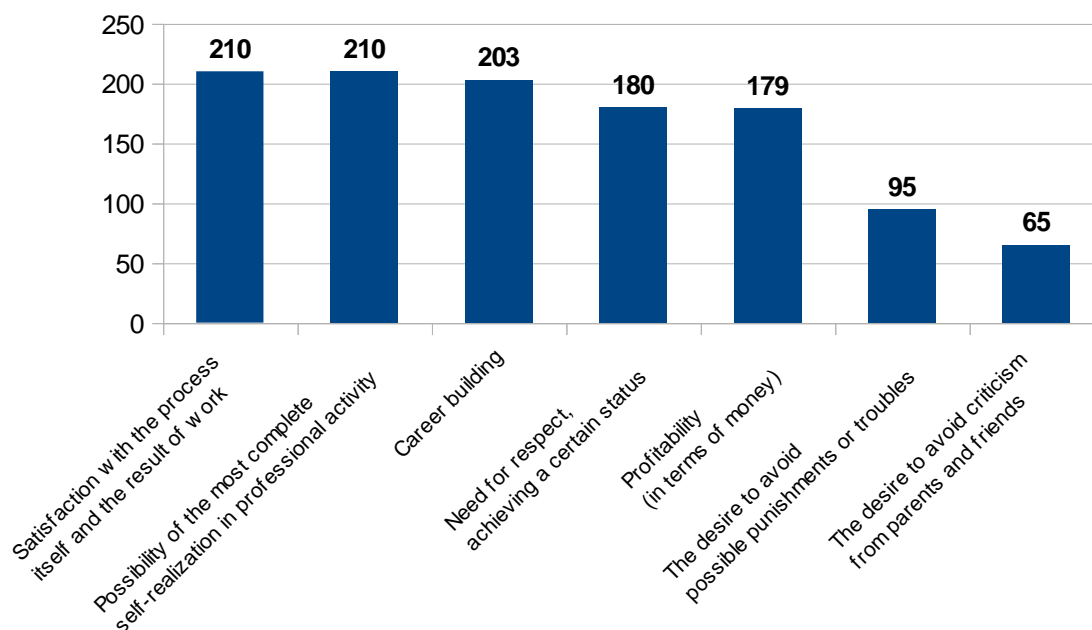


Figure 2. Motivational attitudes of the participants, points

The conduction of a final survey was considered inexpedient due to such reasons as: only first-year students were trained, the number of group members was small and its short duration. Interviews were conducted and students indicated that their attitude toward professional activities had somehow changed: on the one hand, romantic component was lost («helping is not saving, but working together»). According to B. Barchi, «romanticization» of the professional choice may be stipulated by the sources that influenced it, for example watching a film (by the way, the film «Intouchables (1+1)» shot in 2011, could influence the romanticization of the choice of physical therapist, occupational therapist's profession). In any case, such a choice is «based on a superficial, external impression or supported by the advice of parents, friends» [16]. Furthermore, the profession is considered as a systematic, well-organized, planned team work of a specialist in physical therapy or occupational therapy and a patient, who is motivated and determined to restore functioning after disease and surgery (involving the assistance of a physiotherapist). 31 students (67.4 %), who were surveyed, showed their desire and ability to provide a service of postoperative recovery of patients with the musculoskeletal system diseases.

4.1. Case study for students of the specialty «Physical therapy, occupational therapy»

A 47-year-old patient has been suffering from bilateral dysplastic coxarthrosis for more than 10 years. He underwent two surgeries with three-month intervals (joint arthroplasty) at the third stage of the disease. After a week of rehabilitation at the clinic, the patient returned home, where he had to do exercises, recommended by the clinic [20], perform activities of daily living to develop a range of motion and improve muscle activity after a long period of the disease.

The main educational task is simulation of practical implementation of professional physical therapy and occupational therapy support during the first month after surgery in remote mode (telenursing).

Teachers conducted preparatory work to accomplish this task with students online (using Zoom). Its task was to prevent communicative barriers [21], namely the following psychological and pedagogical aspects were clarified and specified:

- special training course, aimed at the formation of empathy, the ability to facilitate and to distribute attention, was conducted;

- the peculiarities of occupational therapy, after a joint replacement, were explained (climbing and going down the stairs; sitting / lying-standing up; turning to the side while lying; going into and out of the bath / shower; turning / changing the direction; tilting, lifting from the floor; walking with crutches; getting into and out of a car; temporary and lifelong prohibitions and restrictions);

- two sets of exercises (according to the recommendations of the clinic, first complex was performed lying down, the second one – sitting and standing) and pedagogical techniques of their implementation were studied.

Overall, students were taught the basics of professional support of this category of clients using Google Meet and methodological materials were provided via Google Classroom.

Students conducted classes 4 times a day (except for the morning set of exercises) and repeated the basic rules of ergonomics of movement, temporary and permanent prohibitions according to the peculiarities of the postoperative period. It was done at the request of the «client» and basing on the popularity of such information and communication means as Viber and Messenger in this age group (based on own observations of the authors).

4.2. The content of psychological training for providing professional support to patients with musculoskeletal system diseases at the stage of postoperative rehabilitation

According to a research of J. Morera-Balaguer, J. M. Botella-Rico, et al. [14], there has been a paradigm shift towards patient-centered biopsychological care model in physical therapy. The authors [10] state that, there is a growing interest to the understanding of the contextual factors that influence the patient's individual experience of illness, pain and recovery (this corresponds to the study of C. J. Mun, et al. [9]). It means that the building of therapeutic relationships, which comprise not only the personal qualities of a professional, but also the relationship between medical workers and care recipients, is a guarantee of successful therapy. The authors also highlight the need for physical therapists to rethink the situation of interaction with a patient and the choice of methods to improve it. Therefore, our main aim concerning psychological training of physical therapists and occupational therapists, who provide professional support of a patient during postoperative recovery period, was to develop professionally important qualities («a set of the most important individual psychological person's characteristics that determine the success in mastering the profession and in professional performance» [11, p. 231]). Other domestic researchers state that the first thing, which ensures the formation of readiness of physical therapists for practical work is the presence of appropriate features and qualities, in particular O. Burka [14] defines this component as necessary at the first stage of her author's model. In our research, referring to this aspect of the profession, these qualities are empathy [12], facilitation and ability to distribute attention.

The students were explained the level of pain that the client felt before the operation and after the first and second operations, this was done in order to form their empathic attitude towards the client. Before the first operation, pain could be comparable to the fracture (according to the client's words) and the patient had lived and experienced it for years. During the first postoperative period, in addition to pain, there was a need to do exercises for patient's sore leg, but the level of pain changed (weakened significantly in intensity and localization). After the second operation, the pain was much weaker than before, and besides, the client was not stressed because of fear, as he was aware of the finiteness of pain, as a result, the second recovery period was under more favorable psycho-emotional conditions.

A group of researchers C. J. Mun, et al. [9] studied the interdependency between the intensity of chronic pain and personal resources. According to J. Dahlhamer, et al, in the United States the number of adults suffering from chronic non-cancerous pain was raging from 11 to 40 % in 2016 [26]). We did not come across such information concerning Ukraine, as only those who need palliative care, especially analgesia for cancer, are registered. Thus, C. J. Mun, et al. [9] found out that personal resource variables could influence the negative consequences of pain (such as reduction of the quality of life, striving for the goal achievement, negative expectations, limitation of social contacts). The authors enumerate the following personal resource variables: sense of resilience, self-efficacy, purpose in life, positive self-acceptance, perceived social support, satisfaction with social roles, pain acceptance, sleep quality, etc. In conclusion, the authors suggest that there is [9] an inverse relationship between economic well-being, personal resources and pain

(the better financial condition and more powerful personal resource is, the less intensity and impact of chronic pain on various spheres of life is and vice versa).

Thus, the assistance provided by students was aimed at different factors: it was voluntary, so it didn't threaten material well-being, at the same time it helped to restore social ties (in our case – social roles as well, because the case concerned a teacher of the same educational institution). In fact, this assistance was a kind of social support. All the additional information was also explained to the students.

Such kind of information contributed to the formation of conscious attitude of students to the implemented professional functions, made it possible to predict the improvement of the patient's condition, provide the necessary emotional and professional support, as well as carry out facilitation.

The ability to distribute attention is an important individual characteristic of a physical therapist and occupational therapist. This ability has been constantly developing, since the childhood. Since such kind of specialist must keep in sight a lot of things: the quality of exercise, patient's condition, his own movements, the decision-making process as to the intensity of exercises, so the practical work with a client-teacher contributes to the development of this ability.

4.3. Pedagogical methods of work of a physical therapist and occupational therapist

The pedagogical component of preparation of future physical therapists and occupational therapists for work implied practical mastering of some pedagogical methods and studying of different sets of exercises.

1. The first one is the dosage of intensity and pace of exercises with the help of verbal commenting of actions. Counting is not recommended because, in this case, a client associates it with training load in sports, which is not desirable, as there are significant differences in the dynamic characteristics of movements and pain. During the recovery period, a client is not allowed to make sharp, jerky movements and pain is a signal either to stop exercising, or significantly reduce the amplitude and soften the manner of movements. Whereas, moderate pain or fatigue is not a direct indication to stop for a healthy person who is exercising. In such a way, the commands, which explain the manner of movement, are the most acceptable, for example: «Raise the right (operated, injured) leg, counteracting with the hand and creating a load». This formulation of the command significantly reduces the pace (speaking time prolongs the exercising time), besides, the client remembers better methodically correct algorithm of doing exercise. The usage of a pronoun «we» is also the method of psychological association between a physical therapist and his client / rehabilitation group.

2. Simultaneity between voice accompaniment and exercise performance is the second method. According to the consistency of time, performance and commenting, two types can be distinguished: synchronous and asynchronous. During synchronous voice accompaniment, commands coincide in time with their execution by a client(s). Asynchronous can be carried out both before an action, and after it. Anticipatory voice accompaniment is used at the initial rehabilitation stage, when it is important to master the technique of movement, while voice accompaniment, which is after the movement aims at the controlling the quality of understanding and, at the same time, activates the attention of a rehabilitated person (people). There is another technique connected with the simultaneity of voice accompaniment and aimed at activation of client's attention (it is used at the appropriate level of mastering the methodology of exercises). This is the wrong support, or support with errors. To some extent, this is a game component, but it has some advantages, in addition to the degree of mastering the exercises: firstly, the presence of good personal contact between a therapist and a client (rehabilitation group); secondly, stable positive psycho-emotional physical condition of a rehabilitated person /people and its positive dynamics. The degree of errors should not completely confuse the client, but only attract his attention. An example of such error can be a command to do an exercise for the same arm (leg) twice in a row. Although, errors should not be abused both in order not to interrupt the rhythm of exercising, and to form a verbally dynamic connection «command-movement-muscle memory», the quality and strength of which help to form a dynamic stereotype (I. Pavlov), and therefore skills and abilities, which is a guarantee of client's independence while exercising..

The usage of information and communication means justifies the expediency of an asynchronous anticipatory voice accompaniment, preventing a possible desynchronization of an image and sound.

3. In addition, demonstration is an important practical method. Lack of demonstration or careless attitude to this stage of exercising is the reason for low efficiency of work. Careless, unaesthetic, inaccurate, undisciplined movement of a physical therapist or occupational therapist demonstrates his indifference to the quality of performance of the same movement by the client.

Concerning the stages of mastering the movements, we can distinguish such a technique as a demonstration-performance with a division into operations (specific «storyboarding»). At the same time, special attention is paid to the demonstration of correct options of exercises (for example, the exercise can be done either sitting or standing). In addition, a rehabilitated person should be warned against significant errors, which can potentially harm his health. There are at least two conflicting approaches to errors demonstration among physical therapists practitioners, according to the first one, the method of errors demonstration should not be applied in order to prevent from being engraved in memory; however, others believe that the display of an error exposes and disavows it, so the awareness of performance increases. Although, each separate case demands an individual solution. Moreover, a physical therapist must always take into account the degree of intellectual and emotional development of his patient, as well as his age, attitude to health and individual concept of recovery.

Another type of demonstration is a performance by a physical therapist. It takes place either in front of or simultaneously with a client and at his pace. First of all, the task is to demonstrate the correct movement and to show the desired range of motion, strength, etc.; secondly, the projection of the beauty of movement on a client, who is striving to repeat the demonstrated movement as accurately as possible, psychologically identifies his movement with the one he saw, thus progressing and improving. In this case, a physical therapist or occupational therapist should explain to his ward that, for example, toe stretching is not an obligatory task at a certain stage of restoration of motor function of a lower limb, but only an aesthetic component.

The next type is a demonstration-correction. During this stage, it is not necessary to demonstrate an error in order to prevent it, but the correction of the error is an essential task of a physical therapist. In fact, there are two possible approaches to the demonstration-correction: the first one is to stop exercising, according to the practice of positive reinforcement, and demonstrate slowly the correct one – «storyboarded» (divided into separate actions). The second option is to show the actual error, explain its origin, help to understand it, and thus to correct. At the same time, a physical therapist makes decisions individually as well as in case of a demonstration-performance.

4. Another method is counting the multiplicity of repetitions. It is done silently in mind not to distract a client from focusing on the quality of exercise and safety. It is possible to use the following methods of counting:

- counting each cycle of actions (for example an exercise consisting of several movements is done both by right and left limb);

- counting while performing the initial or final movement of the cycle (rise-lower, turn-return to starting position, etc.);

- performing two-stroke movement, it is possible to count «and» in the first stroke, «one» in the second, «two», «three» and so on (actually multiplicity of performance). Other options are: only the first or only the second stroke counting or; counting each movement but with reduplication (if it is necessary to perform 5 times, we score up to 10).

One more option to replace the verbal form of counting is bending of fingers (if it is suitable for the type of exercise).

5. Tactile interaction with the client may result from the need to bring the movement to necessary and appropriate amplitude at this stage of rehabilitation. The trajectory of movement may also require direct contact. It is important to remember that a physical therapist or occupational therapist is a person who provides additional support, guarantees the safety of client's movement at the initial stage and / or due to the physical weakness of a rehabilitated person. Tactile interaction was not applied in the given case due to the fact that our research dealt with the investigation of indirect interactions.

5. CONCLUSIONS AND PROSPECTS FOR FURTHER RESEARCH

The study of scientific sources, the organization and conduction of the experiment proved that in terms of quarantine restrictions in the educational process, the implementation of practical training of bachelors of the specialty «Physical Therapy, Occupational Therapy» becomes more and more acute.

In these circumstances, basing on the authors' data and information on the introduction of telecommunications technologies in medical practice, it can be argued that telenursing can be a method of learning. This method facilitates both in terms of gaining additional practical, psychological, pedagogical, communicative competencies, and in terms of increasing the motivation of professional choice among first-year students, as well as increasing personal interest in educational results.

The results indicate that the usage of the telecommunication means while implementing the curriculum of telenursing proved to be effective (all the students have completed the full cycle of the experiment). However, there is a discrepancy between the intended distance learning tools (Microsoft Teams and Google Meet) and telecommunication means, which were actually used for telenursing (Viber and Messenger).

The article demonstrates practical pedagogical methods of work of a physical therapist and occupational therapist within the framework of the given case.

Consequently, early (starting from the first year) inclusion in practical professional activity, with the help of information and communication technologies has a lot of advantages. Firstly, it gives the satisfaction with a professional choice; secondly, the correction of the motivational sphere of professional activity, as it stimulates internal motivation and external positive motives; thirdly, it enables to assess the importance of routine professional procedures and personal features and characteristics, to argue the need for their further development. Furthermore, we found that additional results of the research and training were: productive communication and interaction between «teacher-student», «physiotherapist-client» and the possibility of earning an income for students.

The prospect for further research consists in finding new information and communication methods and means for the development and improvement of the practical component of physical therapists and occupational therapists' training. The implementation of new educational cases that facilitate the development of both professional psychological and pedagogical competencies as well as professionally important personality traits, thus building professional competencies at the stage of getting higher education is another prospect.

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5. *Make an outline of the article*

6. *Explain the relevance of the study*

7. *Find and name the main results of the conducted research*

8. *Formulate 2-3 connected or related topics to this research*

9. *Read the prospects for further research and identify:*

- What teaching method is described in the article?

- What method of transmission of professional pedagogical information was chosen by the authors of the article?

10. *Formulate 5 questions for the authors of the article.*