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PEDAGOGICAL EXPERIMENTS ON IMPROVING TECHNOLOGIES OF A PRODUCTIVE AND SEARCHING APPROACH

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Abstract

The organization of experimental work was carried out within the scope of the research work in the 2021–2023 academic years. The main purpose of conducting the experimental work is to provide students of non-philological education (history major) with exercises aimed at improving foreign language teaching based on the technologies of a productive and searching approach, integrative assignments aimed at developing creativity, and the “Flipped classroom” model using SMART-technologies based on the CASE study technology. The purpose of the experiment is to check the effectiveness of the system of exercises and tasks in improving the productive and searching approach to teaching English to students of the 1st and 2nd levels of social humanitarian (history major).

Keywords: *language teaching, productive approach, research skills, SMART technology, CASE study technology, Flipped classroom*

Educational objectives

The objectives of the experiment were achieved by:

- questionnaire surveys and tests were conducted and analyzed in order to determine the use of productive and searching approach technologies in English language classes in non-philological HEIs (history major);

- a system of creative, integrative, didactic exercises and tasks effective in improving the technologies of a productive and searching approach was developed and tested in experimental groups;

- non-philological education direction (history) improved the productive and searching approach to English language teaching in 1st and 2nd grade students using

the “Flipped classroom” model with the help of CASE study and SMART technologies;

- the obtained results were analyzed mathematically and statistically, and the effectiveness of increasing the level of productivity and curiosity among students was determined.

Introduction

Andijan State University, Tashkent State Pedagogical University named after Nizami, and Jizzakh State Pedagogical University were chosen as experimental sites. In the indicated regions, the experimental work was organized and carried out in the 2022–2023 academic year at the diagnostic and forecasting, organizational-preparatory, practical and generalization stages.

In the foundational stage (2022–2023 academic year), the existing conditions in the educational process were studied, educational and methodological support of non-philological HEIs: curriculum, model program, working curriculum, scientific-pedagogical works dedicated to improving the productive and research approach, educational literature, textbooks, manuals were analyzed and foreign materials related to the topic were studied. At the same time, English classes were observed, questionnaires were conducted among English teachers and students.

A total of 686 respondents from 1st and 2nd level students took part in the questionnaire-interview conducted in order to objec-

tively evaluate the current situation regarding the use of productive and researching approach technologies in the teaching of English in non-philological HEIs at the organizational-preparatory stage of the pedagogical experiment-test. The results of the experiment were recorded by taking the preliminary questionnaire, preliminary and final tests.

Methods

Experiment-test results In the 2022–2023 academic year, 253 students of ASU, 224 students of TSPU named after Nizami, and 209 students of Jizzakh Pedagogical University were involved in the initial questionnaire. (See Table 1):

Table 1. *The total number of respondents who participated in the initial questionnaire of the experiment*

Experimental place	Numbers of respondents	1-course	2-course
ASU	253	118	135
TSPU	224	109	115
JSPU	209	103	106
Total	686	330	356

In the 2022–2023 academic year, at the beginning of the experiment, 66 students of ASU participated in experimental groups and 63 students in control groups, 60 students of TSPU named after Nizami participated in experimental groups and 53 students in control groups, and 56 students of JSPU participated in experimental groups and 51 students in control groups. A total of 233 students took part in experimental groups and 214 students took part in control groups.

In the 2022–2023 academic year, at the end of the experiment, 64 students of ASU participated in experimental groups and 60 in control groups, 57 students of TSPU named after Nizamiy participated in experimental groups and 54 in control groups, and 52 students of JSPU participated in experimental groups and 50 in control groups. A total of 229 students participated in the experimental group and 211 students in the control group during the experiment conducted this academic year (see Table 2):

Table 2. *The amount of experimental sample in the process of pedagogical experiment-testing*

Higher educa-tions	Number of students at the beginning of the experiment		Number of students at the end of the experi-ment		Total	
	EG	CG	EG	CG	EG	CG
ASU	66	63	64	60	130	123
TSPU	60	53	57	54	117	107
JSPU	56	51	52	50	108	101
Toatal	182	167	173	164	355	331

In the process of experimental work, questionnaires from students were conducted and analyzed.

Results

The results of the questionnaire survey show that the 4th question of the questionnaire “Which materials are effective for you in the formation of speaking skills such as reading, listening, speaking and writing in English classes?” to the question, 107 (10.4%) students asked to watch films related to the topic, 122 (11.9%) to work with pictures, 290 (28.3%) to use technological tools, 65 (6.3%) to use audio materials, 172 (16.7%) only 7 (0.68%) stated that it is effective to translate texts.

According to the answers to the questionnaire, 793 (77.4%) of the students responded positively to the use of didactic tools in English language classes. It was also known that the majority of students did not respond to SMART, CASE study technologies.

A preliminary examination was conducted in order to determine the students’ speech skills. Tests consisting of exercises and tasks on listening comprehension, reading, speaking and writing were distributed to students of the 1st and 2nd stages of history. The results were evaluated in tabular form in the following order (see Table 3):

Table 3. Indicators of the initial state of four skills of students of the 1st stage

Assignment types	Grade	ASU		TSPU		JSPU	
		abs	(%)	abs	(%)	abs	(%)
Listening comprehension	5	4	5.7	3	10.3	2	8.3
	4	15	21.4	2	6.9	7	29.2
	3	15	21.5	6	20.7	10	41.5
	2	36	51.4	18	62.1	5	21
Total		70	100	29	100	24	100
Reading	5	4	5.7	2	6.8	3	12.5
	4	21	30	6	20.7	7	29.2
	3	30	43	11	38	12	50
	2	15	21.3	10	34.5	2	8.3
Total		70	100	29	100	24	100
Speaking	5	5	7.2	1	3.4	4	16.7
	4	6	8.6	2	6.9	5	20.8
	3	19	27.1	8	27.6	6	25
	2	40	57.1	18	62.1	9	37.5
Total		70	100	29	100	24	100
Writing	5	5	7.1	1	3.4	2	8.3
	4	4	5.7	5	17.2	3	12.5
	3	20	28.6	10	34.6	13	54.2
	2	41	58.6	13	44.8	6	25
Total		70	100	29	100	24	100

Table 4. Indicators of the initial state of four skills of students of the 2nd stage

Assignment types	Grade	ASU		TSPU		JSPU	
		abs	(%)	abs	(%)	abs	(%)
Listening comprehension	5	4	5.3	2	6.9	8	26.7
	4	16	21.1	2	6.9	7	23.3
	3	41	53.9	12	41.4	10	33.3

Assignment types	Grade	ASU		TSPU		JSPU	
		abs	(%)	abs	(%)	abs	(%)
Total Reading	2	15	19.7	13	44.8	5	16.7
	5	5	6.6	4	13.8	5	17
	4	38	50.0	8	27.5	12	40
Total Speaking	3	20	26.3	12	41.4	10	33.3
	2	13	17.1	5	17.3	3	10.3
	5	5	6.6	3	10.3	6	20
Total Writing	4	26	34.2	8	27.5	5	16.7
	3	30	39.5	14	48.2	13	43.3
	2	15	19.7	4	14	6	20,0
Total		76	100	29	100	30	100

Discussion

According to the analysis of the initial situation, it was found that many difficulties arose from oral and written speech in relation to listening comprehension and reading from the types of speech activities of non-philological education (history) students. Also, it was observed that students can understand the content of the materials related to the topic by guessing the title of the text or some familiar words during reading and listening comprehension, but it is clear that they cannot express their thoughts on the topic in written and oral form. In particular, in the process of communication, it was shown that the

students were unable to use words in their place and correctly as a result of their narrow thinking and insufficient vocabulary.

When expressing written speech, students faced some obstacles, such as writing answers to questions about the topic, creating dialogues or questions. The results of the control work carried out at the foundational stage led to the conclusion that it is necessary to use the types of speech activities in harmony, to give more emphasis to oral and written speech skills, through the introduction of technologies of a productive and searching approach to the development of the foreign language of history students.

Table 5. Analysis of the initial general state of students' types of speech activity

Assignments the number	Experimental group (355 people)				Control group (331 people)			
	Correct Answers		Incorrect Answers		Correct Answers		Incorrect Answers	
	No of students	(%)	No of students	(%)	No of students	(%)	No of students	(%)
(Listening)	180	50.6%	175	49.4%	160	48.3%	171	51.6%
(Reading)	182	51.2%	173	48.8%	163	49.4%	167	50.6%
(Speaking)	181	50.9%	174	49.1%	166	50,1%	166	50.2%
(Writing)	179	50.3%	176	49.7%	159	48.1%	171	51.7%
Overall average	181	51%	174	49%	162	49%	169	51%

In the formative stage, 1st, 2nd stage students of non-philological education (history) were divided into experimental and control groups. In the research process, a system of exercises and assignments was developed for each stage aimed at improving the productive and inquisitive approach of students, and the use of CASE

study technology based on the “Flipped classroom” model using SMART-technologies was tested in experimental groups. Experimental work was carried out within the framework of working training programs based on the model program approved by the Ministry of Higher and Secondary Special Education.

Table 6. *The final comparative table of the experimental work on improving the technologies of productive and searching approach to the development of the foreign language of non-philological education students*

	Research objects	Excellent	Good	Satisfactory	Unsatisfactory	Total
Experimental group	ASU	41	59	16	14	130
	TSPU	37	53	17	10	117
	JDPU	36	51	13	8	108
	Total	114	163	46	32	355
Control group	ASU	14	39	46	24	123
	TSPU	11	34	41	21	107
	JDPU	11	33	39	18	101
	Total	36	106	126	63	331

Table 7. *Final analysis of the results of the experiment on improving the technologies of productive and searching approach to the development of the foreign language of non-philology students*

Groups	Level of preparation							
	At the beginning of the experiment				At the end of the experiment			
	Excellent	Good	Satisfactory	Unsatisfactory	Excellent	Good	Satisfactory	Unsatisfactory
Experimental group	37	103	124	89	114	163	46	32
Control group	34	98	121	78	36	106	126	63

In the formative stage of the research, the level of education, conditions and possibilities of using the technologies of productive and searching approach to the development of the foreign language of non-philological education students were evaluated. At this stage, English lessons were conducted on the basis of productive, inquisitive, creative, authentic exercises and case studies, taking into

account the skills of reading, writing, speaking and listening. At this stage, the following activities were carried out:

- 1) training sessions were held in the experimental group with the help of productive and research approach technologies;
- 2) questionnaires and post-experimental and final tests were organized to determine the level of English speaking skills among

students in the control and experimental groups;

3) the effectiveness of the developed teaching methods was determined and the shortcomings were corrected;

4) methodological feasibility and effectiveness of the proposed set of exercises and assignments were checked;

5) preliminary conclusions were formed based on the results of the second stage of research.

Conclusions

At the end of the educational research sessions, students were given post-experimental and final pre-tests. The post-practice test consists of two stages, the first stage consists of exercises and tasks consisting of several questions; and in the second stage, according to the types of speech activity: reading, listening, speaking and writing skills were checked. In this section, written exercises and communicative tasks were presented to students.

At the final stage of the research, the efficiency of productive and searching approach technologies and the level of integrated learning of speech activities in the development of the foreign language of the 1st – 2nd level students of non-philological education history faculties were compared. At the final stage of the study, the training results from the control and experimental groups were analyzed using mathematical statistical methods. The obtained information is related to the general theoretical conclusions of the dissertation.

The theoretical and practical results of this stage consist of:

1. the final test was conducted;

2. the post-experimental and final test results were compared;

3. a conclusion was drawn based on the results;

The effectiveness of the exercises and tasks used on the basis of the speech skills of the students of non-philological higher education institutions and the technologies of a productive and searching approach and the correct selection of the presented materials were proven.

The χ^2 formula (χ^2) was used when analyzing the state of speech activity in the experimental groups compared to the control group. Control groups and experimental groups were divided according to the skills: Listening, Reading, Speaking, and Writing. Objects (students) in the samples were divided into four categories according to the evaluation level of “5” (excellent), “4” (good), “3” (satisfactory) and “2” (unsatisfactory). The evaluation criteria are given in the following table. This criterion was considered the main criterion for determining the theoretical knowledge, practical skills and qualifications of students.

As a result of creative and problematic exercises and tasks aimed at improving the technologies of productive and searching approach, the levels of growth of students' speech activities were compared. The role and position of the subject of English language in improving the technologies of a productive and searching approach to the development of the foreign language of non-philological education students was determined.

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