

Experimental Study of Technology "Techno-R" in Teaching Grammatical Skills of the French Language

By

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Abstract

The article describes an experimental study of the Techno-R technology which is being developed at the Kazan Federal University. Techno-R technology is corrective and is designed to correct the communicative competence of trainees. This article describes an experiment to correct the grammatical skills of the French language using the example of teaching the relative pronouns *qui*, *que*, *dont*. The authors show how to implement a generalized approach to educational tasks, organize training and use of grammatical skills in speech. The article describes the procedural side of the Techno-R technology, which includes sequential stages - setting the educational task, mastering the tentative basis of speech actions, training in the performance of the educational task, control actions of the trainees and the teacher themselves, determining the level of the formed competence. To determine the validity of the results obtained in the experiment, the method of mathematical statistics "Student's t-test" was applied. The calculation was carried out according to the established parameters for comparing the results obtained before and after experimental training. The parameters were expressed in a digital assessment of the quality of a foreign language speech (written statement). The calculation according to the "Student's t-test" showed a value of $t > 2$, namely $t = 3.873$, which indicates the validity of the experimentally obtained data and the effectiveness of the "Techno-R" technology in the field of teaching grammatical phenomena of the French language.

Keywords: experiment, learning, technology, competence, foreign language.

1. Introduction

In the modern educational space, a competency-based approach to learning is recognized where the personality of the student occupies a central place. This approach replaced the educational concept of KSA (knowledge, skills, abilities), but it should be noted that knowledge, skills and abilities were included in the components of the competencies of the trainees. In the field of teaching foreign languages, the main goal is to form the communicative competence of students. Modern didactics is focused on the development and use of technologies aimed at improving the quality of education. Modern technologies of teaching foreign languages are distinguished by goal setting, content and procedural elements. Information and communication technologies, design technologies, game technologies, evaluation technologies, which make a certain contribution to the acquisition of a foreign language at various levels of the formation of the communicative competence of students are known (Dominique Markey & Elena Porshneva, 2015; Dodge, 2021; Vandaele Sylvie, 2011; Viculescu & Obilisteanu, 2017; Abdullina et al., 2017; Kessler, 2018; Yarmakeev et al., 2016). We are developing a remedial technology called Techno-R. Let us explain the abbreviation: "Techno" means abbreviated word "technology", "R" - the result, namely - this is the technology leading to the desired result. This technology is based on three fundamental theories: the theory of transfer, the theory of interiorization of mental actions by Galperin I.Ya. and the theory of methods of cognitive practical activity (Galperin, 2003; Peng et al., 2021; Kessler, 2019). Technology "Techno-R" is built on the principles that determine the achievement of the set educational tasks, these are: the principle of generalizability of educational tasks, the principle of transferring knowledge, skills and abilities to new conditions, the principle of gradual formation of speech independence of students (copying, reproductive-creative and constructive-creative independence in mastering educational material). Techno-R technology consists of eight blocks representing its thematic side. These are four types of skills that provide the lexical, grammatical, phonetic, and orthographic aspects of speech and four types of speech skills in the field of listening, speaking, reading and writing. The procedural side of the Techno-R technology includes the stages that we described earlier. It should be noted that each thematic block has its own specifics in terms of content, but the procedural side of the technology is the same for each educational task.

The developed technology is being tested experimentally in teaching foreign languages both in a general secondary school and in a university.

The research presented in this article was aimed at determining the effectiveness of the "Techno-R" technology in teaching grammatical skills of the French language at a university due to the fact that students make grammatical mistakes in speech.

In the experiment we used educational materials on the use of verbs, articles, pronouns. In this article we present the study of relative pronouns using the "Techno-R" corrective technology. Note that we have obtained positive results, confirmed by the use of the method of mathematical statistics "Student's t-test", which is described in the next section of the article.

2. Methods

The main research methods of the Techno-R technology efficiency were experiment

and purposeful observation. In this article, we describe an experiment on the "Grammar" block, conducted with second-year students of the Institute of Philology and Intercultural Communication of Kazan Federal University in the direction of preparation 44.03.01 Foreign (French) language. We have created an experimental group of 25 people. Purposeful observation showed that students make grammatical mistakes both in oral and written speech in the use of relative pronouns *qui, que, dont*. A control test was made for the following task :

Reconstituez le discours de l'entraîneur qui parle des résultats de ses sportifs. Introduisez qui, que ou dont (Reconstruct the speech of the coach talking about the results of his athletes. Enter who, that or whose) :

Je dois dire ... vous vous entraînez mal. Je vous ai répété plusieurs fois ... il faut faire du sport chaque jour de notre vie. C'est vous ... voulez être champions du monde, alors c'est à vous de faire des efforts. Mais je commence à m'en douter quand je vois Marat ... arrive au gymnase avec une demi-heure de retard ou quand j'aperçois Paul ... j'ai l'honneur de rencontrer dans le club sportif une ou deux fois par semaine. Cela ne va pas continuer comme ça! Moi, je suis votre entraîneur et je vous assure ... ça ne va pas durer. Ecoutez bien ce ... je vous dis: à partir de demain matin vous devez être tous présents à tous les entraînements du club, vous fréquenterez aussi les cours facultatifs ... on donne à notre club et vous participerez à tous les jeux ... l'association sportive de notre ville organisera cette année. La façon ... vous travaillez, n'est pas accessible. La chose ... j'ai besoin, c'est votre responsabilité. Ceux ... ne sont pas d'accord peuvent quitter le club tout de suite. Les autres, au travail! (I have to say ... you train poorly. I have told you several times ... we have to play sports every day of our life. It's you ... want to be world champions, so it's up to you to put in the effort. But I start to suspect it when I see Marat ... arrives at the gym half an hour late or when I see Paul ... I have the honor to meet in the sports club once or twice per week. It's not going to continue like this! Me, I'm your trainer and I assure you ... it's not going to last. Listen carefully to this ... I tell you: from tomorrow morning you must all be present at all the training sessions of the club; you will also attend the optional courses ... we give at our club and you will participate in all the games ... the sports association of our city will organize this year. The way ... you work is not accessible. The thing. I need is your responsibility. Those ... who don't agree can leave the club immediately. The others, at work!)

The control section was evaluated according to the following parameters: the number of correct phrases; the number of mistakes made in the use of relative pronouns.

To determine the validity of the results obtained in the experiment, it is necessary to translate the qualitative indicators of speech into digital equivalents; for this purpose, we used the above parameters in digital equivalents to compare the results of the control section and the training experiment.

According to the procedural aspect of the Techno-R technology training was organized in the following stages:

1. The students were given the task of learning to use the relative pronouns *qui, que, dont* accurately.
2. Since the stage of the indicative basis of speech actions should provide a generalized understanding of the linguistic phenomenon of relative pronouns, students were presented with generalized information on relative pronouns to clearly distinguish between their use:

the relative pronoun *qui* replaces the subject in the subordinate clause, the subject can be either animate or inanimate:

Le football c'est le sport *qui* est le plus populaire. (The football it's the sport that is the most popular).

Regardez les filles *qui* font du ski. (Look at the girls who are skiing). the relative pronoun *que* replaces the direct object, both animate and inanimate:

Les Français aiment le vélo de montagne, *qu'*ils appellent VTT. (The French love mountain biking that they call VTT).

Le sportif *que* vous voyez est très fort. (The athlete that you see is very strong).

there is a loss of a vowel in the use of *que* before a word starting with a vowel, but *qui* remains unchanged:

Le garçon *qu'*on aime. (The boy that we love).

La femme *qui* arrive. (The woman who arrives).

Dont can be a complement to a noun or an adjective:

Les sportifs *dont* il est entraîneur sont forts. (The athletes of whom he is a trainer are strong).

La médaille *dont* elle est fière. (The medal which she is proud of).

Dont can be a complement to a verb:

La femme *dont* je parle porte une robe *dont* je rêve. (The woman that I'm talking about is wearing a dress that I'm dreaming of).

3. The next stage is training in the execution of the educational task. The students were offered speech patterns for training in echolalic and substitutional exercises. Echolalic exercises (training in chorus and individually with the teacher):

Using the relative pronoun *qui*:

L'étudiant *qui* parle avec Paul est Russe. (The student who is speaking with Paul is Russian).

Paris est une ville *qui* change tout le temps et qui reste toujours la même. (Paris is a city that changes all the time and always stays the same).

L'étudiant *qui* est à côté de moi est très gentil. (The student who is next to me is very nice).

Le TYV est un train *qui* traverse toute la France. (The TYV is a train that crosses all of France).

Regardez les sportifs *qui* font de la gymnastique. (Look at the sportsmen who do gymnastics).

Vous voyez les garçons *qui* pratiquent la musculation. (You see the boys who are doing weight training).

Using the relative pronoun *que*:

La fille *que* je regarde est très belle. (The girl that I'm looking at is very beautiful).

La chaîne de télévision *que* je regarde est la deuxième chaîne. (The TV channel that I am watching is the second channel).

C'est une des couleurs *que* je préfère. (This is one of colors that I prefer).

Le garçon *que* je vois porte des lunettes. (The boy that I see is wearing glasses).

Le film *que* nous avons vu est très intéressant. (The film that we saw is very interesting)

On dit *que* ce spectacle est formidable. (They say that this show is great).

Using the relative pronoun *dont*:

La chose *dont* j'ai besoin est un bon film. (The thing that I need is a good movie).

La façon *dont* tu travailles n'est pas mauvaise. (The way that you work is not bad).

La femme *dont* je parle est intelligente. (The woman that I'm talking about is smart).

Les enfants *dont* il est le père se portent bien. (The children that he is the father of are doing well).

Further, the students were asked to answer the teacher's questions using the relative pronouns *qui*, *que*, *dont* with the setting - confirm everything I say. Examples :

Est-ce *que* l'étudiant *qui* parle est Français ? – Oui, l'étudiant *qui* parle est Français. (Is it student who speaks French? - Yes, it is student who speaks French).

Est-ce *que* le spectacle *que* nous avons vu est intéressant ? – Oui, le spectacle *que* nous avons vu est intéressant. (Was it the show that we saw interesting? - Yes, the show tht we

saw was interesting).

Les enfants dont elle est la mère se portent-ils bien ? – Oui, les enfants dont elle est la mère se portent bien. (Are the children of which she is the mother doing well? - Yes, the children of which she is the mother are doing well).

The next type of training was the writing exercises with the choice of relative pronouns *qui*, *que*, *dont*.

Examples of exercise:

Edite Piaf est une chanteuse ... est connue dans le monde entier. (Edith Piaf is a singer is known the world over).

Le portable est une invention ... je trouve géniale. (The laptop is an invention ... I think it's brilliant).

La politique est un sujet ... je ne parle jamais en famille. (Politics is a subject ... I never speak with family).

Le bruit est une chose ... je ne peux pas supporter. (Noise is one thing ... I can't stand).

La fille ... je regarde porte une belle robe. (The girl ... I'm watching is wearing a beautiful dress).

Salut est une chanson ... j'adore la musique. (Hi is a song ... I love music).

4. The training was followed by the trainee's control actions (performing a grammatical task - control slice). The students were offered the same text for filling in the blanks with the relative pronouns *qui*, *que*, *dont* which was given before the experimental study. After checking, the teacher reported the results of the control work for verification with the students' self-esteem.

5. The next stage was an assessment of the level of linguistic competence by the use of relative pronouns by the students themselves. At this stage, it was established what kind of revision the student needs for the unmistakable use of relative pronouns.

The control slice using the Techno-R technology, as well as the ascertaining slice, were expressed in numerical terms (the number of errors and the number of correctly written phrases for the assessment according to the "Student's T-test").

We determined the value of the student's significance criterion by the formula:

$$t = \frac{M_1 - M_2}{\sqrt{m_1^2} + \sqrt{m_2^2}}$$

where M_1 и M_2 are the compared average values of the parameters, m_1 и m_2 are their average errors, determined by the formula: $m = \frac{s}{\sqrt{n}}$, where n is the number of observations, s is the standard deviation, determined by the formula:

$$s = \frac{x_{max} - x_{min}}{k}$$

where k is the Ermolaev coefficient (for our number of observations $k = 25$), x_{max} and x_{min} are the maximum and minimum values of the observed parameter.

According to the "Student's T-test", the calculated value is considered significant if "T" is fixed more than 2. If the calculated value is less than 2, then the difference is recognized as random, statistically insignificant. In our experiment, the "T" value was found to be greater than 3.3, namely 3.873, which indicates the validity of the results obtained with a probability of 0.999 ($P < 0.001$).

3. Results and Discussion

The results of the research in the field of the formation of grammatical skills of the French language testify to the effectiveness of the technology we are developing. The empirically obtained data of the experimental work correspond to the students' opinion on increasing their competence in the use of grammatical phenomena of the French language, on increasing motivation in mastering the educational material, on the development of the ability to successfully master a foreign language and the desire to improve competence.

It is useful to compare the obtained results of the study with other experiments on the formation of the communicative competence of trainees. On the basis of the Techno-R technology, experimental studies were carried out to teach productive and receptive types of speech activity, to master the phonetic, grammatical, lexical and spelling skills of the French language. In all the experiments carried out, the "Student's T-test " showed a value of more than 2, which indicates the usefulness of our technology for mastering communicative competence by students in a foreign language.

Techno-R technology does not contradict the use of other technologies associated with the formation of the communicative competence of trainees. Modular technologies are effective for structuring educational material, design technologies develop a creative approach to solving educational problems, game technologies increase interest in learning a foreign language, traditional and innovative assessment technologies are important for determining the level of competence formation. The technology we develop is organically combined with other technologies, complementing educational activities to improve the quality of foreign language proficiency.

4. Summary

1. Our experimental study "Techno-R" in terms of the formation of the language competence of students in the section "Grammar" testifies to the effectiveness of this technology in the formation of the language competence of students.
2. The technology "Techno-R" developed by us is intended for the correction of knowledge, skills and abilities that are part of the communicative competence.
3. Technology "Techno-R" does not contradict other information and pedagogical technologies in terms of goal setting, content and procedural aspects.
4. The theory of technology "Techno-R", its procedural side allows for further development and clarification in terms of the development of speech independence of students in mastering a foreign language at the copying, reproductive-creative and constructive-creative levels.
5. We postulate the possibility of using the Techno-R technology in other disciplines, except for foreign languages, where competencies include knowledge, skills, and abilities.

5. Conclusions

Technology "Techno-R" is designed to adjust the level of communicative competence of trainees. It is applied on the basis of objective pedagogical facts, when, for whatever reason, a low level of formation of the communicative competence of students is noted and there is a need to improve the quality of education. This technology can be recommended for use in the educational process in foreign languages both in secondary schools and in a language university.

We assume that Techno-R technology can be used in teaching other disciplines, where competencies include knowledge, skills and abilities.

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