Creative method of metaphor associative carts application in foreign language communication in agrarian university

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Abstract. The present article is devoted to the analysis and development of the creative method of teaching foreign-language oral speech in agrarian higher education institution with the application of metaphorical associative carts. The aim of the article is to create a method for teaching foreign-language oral speech in agrarian higher education institution, including the consideration of creative thinking development as a means and technology of teaching. The article provides a detailed analysis of oral communication teaching in a non-language university. The author of the article has developed a course of oral communication training for students of agrarian specialties with the use of a creative-based method of teaching. The article presents the principles and methodological algorithm of teaching methods, the criteria for assessing the level of creativity of students and the complex of exercises in teaching oral foreign language speech with the use of creative teaching methods.

1 Introduction

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diagnostic tools in foreign language teaching methodology, forming a new technology of teaching oral professional-oriented foreign language communication in a higher educational institution.

The theoretical significance of the research is caused by the development of theoretical basis of the methodology of teaching professional foreign language communication in agrarian higher education institution on the basis of integration of creative thinking, its indicators and components. This theoretical significance is presented in the form of learning principles.

The scientific and applied significance of the research is conditioned by the possibility of practical use of the developed by us creative-oriented methodology of teaching professional-oriented communication in agrarian higher education institution in accordance with the conceptual provisions of its content.

2 Material and methods

1. Introductory and preparatory stage. This stage represents preparation for the process of idea generation before performing the tasks. The key element of this stage, in our opinion, is “tuning” the learner’s attention and perception to the creative way of thinking. The purpose of this setting is to inform the appropriateness and effectiveness of using creative thinking as a tool and method in the learning process.

At this stage the informativeness on the part of the teacher to the students includes the following aspects:

- Description of the specifics of divergent and convergent thinking.
- Description of the advantages of divergent thinking over convergent thinking.
- Description of the techniques of divergent thinking required for application in the process of performing a speech problem task.

2. Functional-generating stage. This stage represents the process of generating ideas, i.e. putting forward an original idea while solving a problematic speech task. The aim of the stage is the formation of creative thinking skills, necessary for further performance of speech exercises. At this stage the following algorithm of actions on the part of participants of training process is realized:

- Familiarization with the speech problem task.
- Selective coding.
- Incubation period.
- Creativization.
- Reflection.

3. Existential-analytical stage. This stage is an analysis of the ideas put forward, as well as self-analysis and self-actualization. The goal of the stage is to form the skills of existential competence including: self-analysis, self-assessment and self-actualization (See Table 1).

<table>
<thead>
<tr>
<th>The invariants of the lesson from the teacher’s point of view</th>
<th>The invariants of the lesson from the student’s point of view</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creating an atmosphere of creative learning</td>
<td>Entering (integrating) the atmosphere of creativity-oriented learning</td>
</tr>
<tr>
<td>Showing the functioning and use of the material being learned</td>
<td>Awareness of the material and how to deal with it</td>
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<tr>
<td>Managing the process of mastering the lexico-grammatical material</td>
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</table>

Table 1 Lesson participants’ activity
Creating an atmosphere of creative-oriented learning is achieved by setting up a creative way of thinking (i.e. setting up students for creative interaction, introducing them to the topic of the conversation, awakening their speech interest, providing a speech partnership) and a creative way of solving a problematic speech task, speech recharging, speech preparation.

We also consider the following levels of analysis and performance of metaphorical associative maps in teaching oral foreign language communication:

- **Dissociative-static**
  - What happens to the images on the map, i.e., it has nothing to do with associations and is a static position of perception of what is depicted;

- **Associative-metaphorical**
  - What the student sees in the map and relates to his or her reality, based on the position of his or her worldview, opinion, and vision of the problem he or she is solving;

- **Associative-realistic**
  - What happens and is associated by the learner with real life, i.e. taking into account his or her life experience.

At the dissociated-static level, the main focus of the questions, in our opinion, should be aimed at deepening and expanding the description of the content of the map—i.e. the maximum saturation of the story with projective material.

Questions asked at the dissociated level differ from questions about reality only in their focus (whether they are asked in the first or third person).

Performance is limited to describing the depicted objects and images depicted in the map.

The associative-metaphorical level allows to connect the card image with the imagined reality by associating and metaphorizing the depicted images with the supposed phenomena and concepts. Questions concentrate on clarification of the attitude to the card; clarification of thoughts, expression of the position and its argumentation; decoding of the basic metaphor.

The associative-realistic level in the focus of conversation and questions contains actual events of the learner that are relevant to his or her immediate life and life experience. Here the associative connection has to do not with the expression of the learner’s personal opinion in solving a hypothetical problematic task, but directly with his real life experience. This is essentially what he could say even without working with associative-metaphorical maps.

When using the cards, it is necessary to remember the importance of following etiquette and rules to facilitate openness and increase students’ motivation.

We also consider the following methodological algorithm for performing tasks related to the use of metaphorical associative maps:

1. **Introducing the material.** This stage is the starting position of the class, in which the teacher introduces the metaphorical associative map to the learners. The teacher should carefully prepare this material in advance, so that the creative tasks correspond to the lexicogrammatical material.

2. **Creative Pause.** This stage consists of a pause of 5-15 minutes (depending on the level of foreign language proficiency of the students), during which students are given time to analyze the metaphorical associative map they perform.

3. **Implementation.** This stage represents the production of foreign language speech while describing the images depicted on the map and performing the tasks associated with it.

4. **Summarizing.** The final stage of work with maps is a general discussion of the task performed by the participants in the learning process in one of three forms.

We consider the following creative-language exercises preceding the work with metaphorical associative maps. These exercises, in our opinion, contribute to the formation of the creative thinking skill that contributes to the most successful performance of tasks related to metaphorical associative maps:

I. Name synonyms for the following agrarian terms:

   a) **plant breeding**
   b) **animal husbandry**
   c) **to cultivate**

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II. Make word combinations with the following agrarian words:
Example: plant – plant breeding

a) agricultural – ____________________________
b) animal – ____________________________
c) production – ____________________________
d) domesticated – ____________________________
e) cultivated – ____________________________
f) farming – ____________________________
g) breeding – ____________________________
h) crop – ____________________________

VII. Define the following agrarian terms:
1. Agronomy
2. Agricultural output
3. Horticulture
4. Genetically modified
5. Forestry
6. Arable farming
7. Agrochemicals
8. Fertilizer

VIII. Look at this metaphorical associative map (fig.1). Tell me what you see. What associations do you make when you see this image? Explain if it relates to nature, to society, and to you.

Fig. 1. Metaphorical associative map (borrowed from the source: https://www.greenbiz.com/article/ambitious-partnerships-climate-action-are-taking-root-and-bearing-fruit)
The exercise in the form of a metaphorical associative map is an image of agrarian content. The student should explain in a foreign language the content of the picture, comment on his/her idea of the picture and express his/her attitude towards it. The task promotes the development of skills of foreign language speaking with the use of professionally oriented terminology and the development of creative thinking skills.

3 Results

Before the experiment students of experimental group were given necessary instructions concerning the aim of the experiment and the ways of its achieving during the interview. Total number of students participating in experiment was 120 people. The conditions for experimental research were the time (4 hours in a week, 10 weeks in general with duration 20–25 minutes).

Learning material for experimental research included text books, exercises system with specific creative-orientated content. Experiential training included 6 stages:

- organization and implementation of a pre-experimental section;
- an introductory conversation about the goals and objectives of experiential learning;
- actual experience training;
- post-experimental section in order to establish the effectiveness of the proposed technique;
- analysis of the results of experimental training.

The results, expressed as a percentage, were approximately equal in both groups, as reflected in the following chart.

Based on the diagram with the results obtained, where CG – control group and EG – experimental group, it can be concluded that there is a rather low level of formation of communicative competence skills.

The pre-experimental section was followed by an introductory conversation with the subjects of the experimental group. In the other group (control group – CG), students were trained in the usual mode on the basis of teaching aids.

Experimental learning was based on a comparison of learning outcomes in the experimental and control groups. The aim of the experiential learning is to increase the effectiveness of teaching oral communication to bachelors of an agrarian university.

Based on the post-experimental section results in Diagram No. 1, one can see the dynamics of changes that were outlined in the course of teaching oral communication in the process of developing creative thinking, where the exercises of the proposed methodology were used as a teaching tool.

These criteria included the following:

1. The ability to cope with the situation of communication in agrarian sphere.
2. Conformity of the speech behavior of agrarian students to the model of speech behavior of native speakers in a similar agrarian situation.
3. Correctness of definition of communicative purposes and intentions of the partner(s) of communication in agrarian situation.
4. Verbal communication correctness at realization of the certain communicative intention and achievement of the purpose during communication in agrarian sphere.
5. Level of creativity according to three indicators: fluency, flexibility, and originality.

The results of the experiment demonstrated in Fig.2.
Fig. 2. The results of the experiment

We offer an estimation system with 3 points - the maximum result of the assessment of creativity. In the process of performing the exercises, control is carried out according to three indicators of creativity (fluency, flexibility, originality), each of these components is assessed separately (for one work), after which the teacher summarizes the overall result, i.e. fluency - 3 points ("excellent"), flexibility - 3 points ("excellent"), originality - 3 points ("excellent") is obtained, in total, 9 points for one lesson.

$$3 + 3 + 3 = 9$$

In accordance with the Training Program, there are two lessons per week (4 academic hours), respectively, we multiply 9 by 2, we get 18, i.e. 18 points is the maximum number of points a student receives per week.

$$9 \times 2 = 18$$

By the end of the semester (in the last lesson), the teacher calculates the total number of student creativity points. For example, if you take a maximum of 18 points for each week, then 18 points are multiplied by 15 weeks in the semester (minus the credit week), you get 270 points at the end of the semester.

$$270 \div 3 = 90$$

90 points - the maximum end result of the student's creativity at the end of the semester (Table 2).

Table 2. Table of qualitative characteristics of quantitative knowledge of fluency, flexibility and originality

<table>
<thead>
<tr>
<th>points</th>
<th>characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>70–90</td>
<td>Very high (excellent)</td>
</tr>
<tr>
<td>66–70</td>
<td>Higher than standard</td>
</tr>
<tr>
<td>61–65</td>
<td>A little higher than standard</td>
</tr>
<tr>
<td>40–60</td>
<td>Standard</td>
</tr>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>65</td>
<td></td>
</tr>
<tr>
<td>54</td>
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<tr>
<td>62</td>
<td></td>
</tr>
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<td>64.7</td>
<td></td>
</tr>
<tr>
<td>62.3</td>
<td></td>
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</tbody>
</table>

Post-experimental stage: CG - EG - E3S - Web of Conferences 431, 09008 (2023)

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Experimental learning was based on a comparison of learning outcomes in the experimental and control groups. The purpose of the experiential learning is to establish whether the use of this learning model proposed by us in this study contributes to the formation of communicative competence, to increase the effectiveness of teaching oral communication to future bachelors of an economic university.

4 Discussion

In recent decades, educational institutions have highlighted the importance of preparing for a future landscape that will require students to have more complex problem solving and creative thinking skills [1]. A creative and adaptive mind is necessary to learn and integrate new knowledge and develop original and novel ideas. Furthermore, creative thinking helps children develop coping and adaptive thinking strategies [2]. The study of creative thinking across childhood and adolescence has been linked to certain factors that are influential for development. Therefore, creative thinking is considered a construct that does not develop in isolation and requires support from the environment [3]. Much research has been conducted on the effect of contextual factors that mediate creative thinking such as family characteristics or educational settings [4]; [5]; [6]. However, although it is widely accepted that contextual factors contribute to creative thinking development, the mediating role of teaching practice (e.g., methodologies, learning resources, or classroom experiences) has received relatively less attention in empirical research. Despite this, previous studies focusing on the effect of teaching methodologies on creative thinking in the child school population have reported that creative thinking skills could be promoted through structured methodologies such as Cooperative Learning [7]; [8]; [9].

Creative thinking has been considered a human skill that is necessary for facing challenging situations that require adaptive solutions. From an educational perspective, creative thinking plays an important role in learning processes and is an issue of central importance within classroom methodology [10]. Through creative thinking processes, individuals combine elements, perceive, understand, and generate new ideas, and share the results. Creative thinking skills are inherent in the generative and adaptive nature of human thought [11]; [12]. Further, creative thinking has been linked to specific individual characteristics. For example, Corbalan et al. [13], for the educational context, suggest that high performance in creative thinking is characterized by flexible and adaptive skills, along with a proactive and curious approach to learning. Consequently, creative thinking is considered a central skill for learning.

While divergent thinking tests such as the Torrance Test of Creative Thinking [14] have been used to assess children’s creativity, it is important to acknowledge the scope of these tests to achieve a more comprehensive understanding of the construct. Some researchers propose that creative thinking could consist of two components: the production of original ideas (through divergent thinking) and the assessment of novelty (through convergent thinking) [15]. Despite this proposal, divergent thinking tests have shown to be reliable indicators of creative thinking potential [16]; [17].

Kaufman and Beghetto [18] describe the individual creative process (based on the Vygotskian learning approach) as constructing personal knowledge and understanding within a particular social and cultural context. Within this paradigm, creative thinking is as an extension of the thinking and problem-solving aspects of student learning. This means that creative thinking processes require learners to use all kinds of thinking abilities to solve...
problems and adapt to the context and not only focus on the result of learning (e.g., curricular contents), but also on processes that imply the generation of experiences and cognitive strategies useful for the future of learners.

Jeffrey et al. [20], has documented numerous characteristics of creative teaching strategies including flexible structures, encouraging the taking of roles, creating critical events, problematizing and stimulating the imagination through narratives.

Cremin and Chappell [21]; [22] through their literature review (they draw on studies from 1990 to 2018), identified seven interrelated features that characterize creative pedagogies: generating and exploring ideas; encouraging autonomy and agency; playful-ness; problem-solving; risk-taking; co-constructing and collaborating; and teacher creativity. The above studies opened paths for the empirical investigation of teachers’ pedagogy for fostering creativity.

5 Conclusion

This study is focused on the development of methods of using metaphor associative maps in foreign language classes as a means of teaching oral foreign language professional-oriented communication of agrarian training area.

The aim of the developed methodology is to form students’ communicative competence skills, as well as to activate students’ activity when performing communicative exercises by developing creative thinking on the basis of the creative orientation of the methodological concept of modern linguodidactics.

The essence of creativity-oriented learning is that it helps to reveal the potential of each student’s personality, to activate their cognitive and speech activity. The students get enough oral practice to form the necessary communicative skills, in addition, the use of a variety of strategies prepares them for real communication.

We found that when performing tasks related to metaphorical associative maps, students are able to freely use a variety of linguistic means in various communicative situations, are able to supplement and develop thoughts, ideas; to express freely and fluently their thoughts without prior preparation, achieving a complete statement, to generate ideas in a foreign language.

The paper confirmed the hypothesis that teaching oral professional communication in foreign language classes in agrarian universities will be more effective if the following conditions are met:

a) consideration of creative thinking as a means and method of teaching foreign language speaking;
b) the use of metaphorical associative maps as a speech descriptive exercise in foreign language classes in agrarian higher education institution;

The main conclusion that can be made based on the results of the study is that the developed methodology is effective and can be used by students and teachers in the process of teaching foreign language communication in agrarian higher education institution.

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