

# Development of professional foreign language competence within transport industry requirements

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**Abstract.** The labour market under current conditions is dynamic and non-homogeneous – it witnesses differentiation in terms of various phenomena and criteria, according to structural changes in the socio-economic environment of society. When considering the labour market requirements for foreign language proficiency, of crucial importance is to take into account the ultimate employers' needs in the transport industry, the main one being maximum adaptability of graduates-specialists to practical activities in the relevant real sector of the economy. Industry-related educational institutions offer the integrated multi-level system of staff training, retraining and refresher courses conducted under the state regulation in order to meet the state needs. Therefore, to respond to the new challenges, which the transport industry is facing, the educational process continuity requires expansion of professional competencies into supplementary fields of knowledge, taking into account the international labour market condition. Among these, a high level of foreign language proficiency should be noted, which is a significant competitive advantage for a transport university graduate. The authors of the research formulated the industry-related requirements for the level of foreign language proficiency, determined the relevance of improving the quality of foreign language training of students at a transport university, and proposed the methodology guidelines for the use of mnemonics in the process of forming the professional foreign language competence of future economists.

## 1 Introduction

Currently, modern companies impose high requirements to personnel and the personnel development system. During the transition to the new technological mode, some professions and occupations become unneeded, others change and new ones appear, which also demands novel forms of personnel training. In this regard, vital issues arise on organisation of training, selection of a personnel training programme or curriculum, etc.

Education and training within the framework of the educational standards in the two-tiered study structure imply a clearer focus on employers' requirements [1]. This is especially urgent for the transport industry, which traditionally centers on the industry-

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related state needs, and therefore, the employers regulate the content of professional training at the industry-related universities based on their needs.

Reforming the transport industry in Russia (Transport Strategy of the Russian Federation up to 2030), its participating in international economic processes and establishing business contacts with foreign companies expand the range of activities for economists working in the international sphere and, hence, special requirements are formulated for their professional training at transport universities. Accordingly, the solution of the pedagogical problem associated with formation and development of the professional foreign language competence in future transport industry economists becomes relevant [2].

To complete the task in question means to increase the efficiency of foreign language training at the industry-related university, which is achieved by various methodologically and scientifically determined methods and technologies, including those aimed at effective memorisation, retention and reproduction of professionally oriented information in a foreign language. This makes the **purpose** of this study relevant – to generalise the experience of using mnemonics in the process of developing the professional foreign language competence in students at a transport university.

## **2 Methods and materials**

In order to perform the tasks set, a complex of various research methods was implemented: analysis of psychological and pedagogical, methodological as well as specialist literature and sources on the research topic, their generalisation and systematisation; students questionnaire-based survey regarding various aspects of foreign language training at industry-related universities; study of students' scientific papers; generalisation of pedagogical experience and practices of lecturers in higher education. Within the framework of this study, an analysis was made of regulatory documents that determine the direction of professional and vocational education development in general and the industry-related sectoral education in particular.

The authors also reviewed the practical experience of using mnemonics in the process of forming the professional foreign language competence in future economists of the transport industry. The experiment was conducted on the premises of the Siberian Transport University. 214 students and 3 teachers participated in the experiment at all its stages.

To improve language courses with the use of mnemonics, a questionnaire-based survey was conducted among the students of the International Business and Law Faculty at the Siberian Transport University. This survey solved several problems of a methodological and academic research nature. Firstly, to investigate the relevance of the use of mnemonics in the process of teaching foreign language disciplines; secondly, to monitor the efficiency of the use of certain mnemonics in the process of studying professionally oriented material by students of economics and customs studies; and, finally, to propose improvement of the methodology for using mnemonics by digital educational technologies.

## **3 Theoretical background**

The analysis of the scientific literature shows that theoretical prerequisites have been created for solving the problem identified. Accordingly, the theoretical and methodological basis of the study is formed by the provisions of: competence- and context-based approaches; improvement of the higher professional education system, taking into account the industry specifics; professional training of specialists for the transport industry; mnemonics application in the process of foreign language training of students in a higher educational institution.

The most characteristic features of the Russian transport education are systemic interaction and liaison with the industry development, clear focus on the employers' interests, proactive nature of the educational infrastructure formation and provision of continuous education at all levels [3]. In this regard, the Corporate University of Russian Railways provides services in the field of supplementary professional education and promotes development of professional and corporate competencies, which include, among others, professional foreign language competencies. The requirements for foreign language proficiency in one of the largest companies in the Russian Federation determine the availability of various programmes and curricula aimed at developing the professional foreign language competence at the Corporate University of Russian Railways, including enlargement of communication links with foreign organisations (companies) in the same industry, especially those that have an opportunity to provide facilities for internships and practical training sessions, online webinars for employees of the Russian Railways holding and the international transport community in the English language with the invitation of speakers from the holding and foreign railway companies, round tables between representatives of the Russian Railways holding and foreign companies aimed at studying the best practices of Russian and foreign railways.

Notably, the Russian Railways Corporate University has established partnerships with various international associations, which contribute to the creation of a single international competence center in the field of railway education and unite experts from transport academies, corporate universities, training centers and industry associations from around the world [4]. Such practices of the Corporate University of Russian Railways also justify the relevance of the problem of forming professional foreign language competencies at industry-related universities, which will enable development of the industry's human resources potential as well as improvement of the industry's system of personnel training and retraining in all areas.

The need to form the foreign language competence in students is also reflected in the requirements formulated by the Federal State Educational Standard (bachelor's degree programme in economics and speciality programme in customs studies). The requirements for the results of mastering the programmes are divided into three groups according to the title/name of the established competencies: universal, general professional and professional proper.

Among the universal competencies for the bachelor's degree programme in economics, the ability is stipulated to perform business communication in Russian and foreign languages, while language proficiency of future customs officers is extended from using a foreign language only in the professional sphere to academic research activities as well. Both programmes acknowledge the importance of intercultural interaction, which is formed by studying a foreign language in close connection with the cultural and historical context. With reference to general professional competencies, there ought to be distinguished the ability to work not only with national, but also with international legal documents, which, as a rule, are created in languages non-native to citizens of the Russian Federation. When defining the requirements for professional competencies, both standards recognise the importance of "generalising both domestic and foreign experience", which is inextricably linked with foreign language communication in the professional sphere.

It should be noted that the authors understand "competency" as readiness to perform professional duties in real constantly changing conditions and manifestation of competences in real professional activities, while "competence" is a set of theoretical knowledge together with practical abilities, skills and personal qualities that ensure quality performance of professional activity by a specialist in a certain field [5].

The analysis of scientific works on forming the professional foreign language communicative competence in university students allows us to signify the relevance of

forming the professional foreign language competence of future transport industry economists with an emphasis on its industry-specific professional component [6].

This made it necessary to clarify the concept of “professional foreign language competence of future transport industry economists” with due regard to the industry specifics. Peculiarities of the latter are identified through the review of regulatory industry-related documents as well as the studies that reveal various aspects of training specialists for the transport industry. The competence includes not only knowledge of the general economic theory, but also awareness of the basics of international economic activities (technologies of international management and marketing, norms and rules of the international accounting and reporting standards, taxation, etc.), ability to perform and make responsible decisions under stressful factors and uncertainty of economic information as well as experience in organising project activities [7].

In this regard, the “professional foreign language competence of future transport industry economists” is a collection of motivators for learning a foreign language, background knowledge in economics, professionally significant foreign language skills, reflexive skills aimed at self-assessment of the foreign language proficiency as well as and experience in solving professional problems and performing professional tasks in a foreign language that are close to the real conditions of their future professional activity. The structure of the competence under study is updated on the basis of the analysis of works aimed at studying the composition of competencies. It is represented by motivational, cognitive-functional and reflexive components [8].

The motivational component manifests itself in the developed interest in foreign language learning and determination to speak a professionally oriented foreign language. The cognitive-functional component consists in the formation of a professional thesaurus as well as the acquisition of necessary expression means in verbal and non-verbal behaviours, including the skills necessary to perform professional functions related to foreign economic activities [9]. Reflexivity includes students’ self-assessment of their foreign language proficiency.

This study focuses on the formation of the cognitive-functional component of the examined competence by means of mnemonics [10].

Mnemonics is known to be a set of techniques and systems that serve to improve the storage of information and its reproduction from memory [11]. The present study took into account various types of perception on which the success of teaching foreign languages depends: visual, auditory and kinesthetic, which led to the conclusion that a greater number of modalities lead to faster and easier memorisation of the material. Well-trained memory will always rely on mnemonics. In addition, the mnemonic techniques employed in the process of forming the professional foreign language competence are confined to creating a certain image for the necessary unit of information, linking it with already known images and easily remembering it. The sequence of mnemonic operations can be represented as the following scheme: discrete abstract data – forming links (encoding) – storing data in a convenient (figurative) form – decoding data (deciphering) – obtaining the necessary abstract data [12].

Thus, any mnemonic technique used in the process of foreign language teaching implies identification and arrangement of certain connections with the material to be memorised; as a result the material that is difficult to memorise and perceive becomes much easier to acquire.

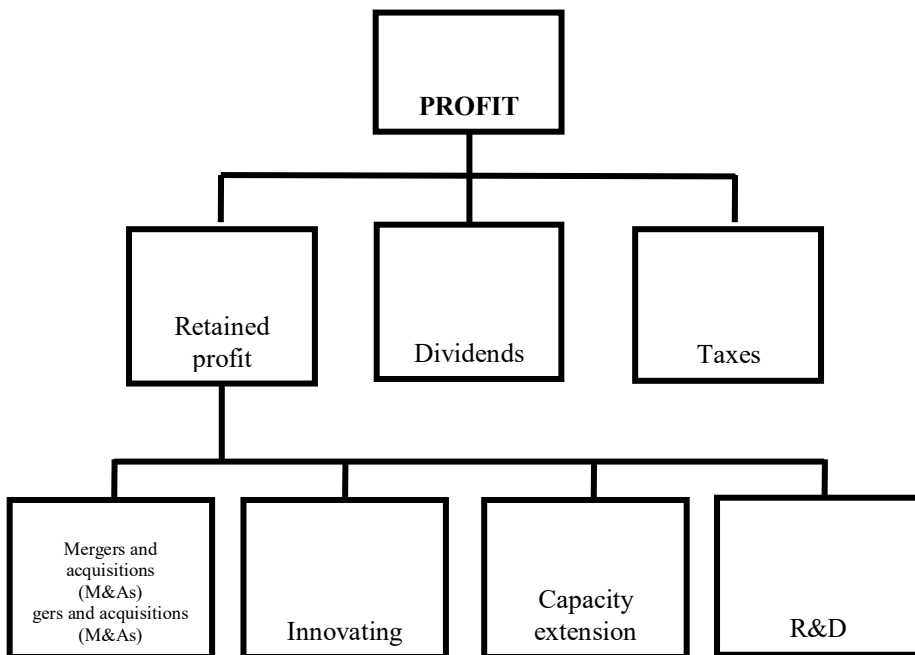
## **4 Results and discussion**

Mnemonic methods employ and facilitate natural mechanisms of memory and allow learners to control the process of memorising, storing, recalling and reproducing

information. Encoding of the information to be grasped into visual images is a necessary element of memorisation and memory retention. In this connection, when studying topics of a professional nature, it is recommended to compile mind maps. Despite the availability of various special software programs for drawing mind maps, for example, MindMapper, MindJet MindManager, etc., collectively compiling mind maps is more preferable and productive as it is accompanied by team work in jointly discussing the material studied and/or to be studied, building up the logic of reasoning, highlighting and emphasising the core information, etc.

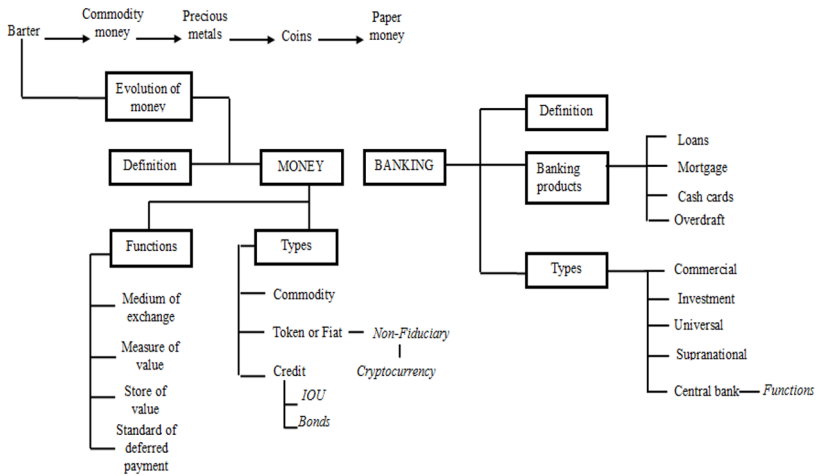
Application of mind mapping when students prepare for oral topic presentations can be illustrated using the example of the Russian and English language pair. Obviously, it is advisable to divide mind maps compilation into certain stages and accompany them by memory-developing exercises, which can be conventionally split into three groups in relation to the goals and objectives set: to visualise information, to create associations and/or to organise and arrange information.

To address the aforementioned issue, we give a practical example that encompasses techniques from all the three groups collectively. The teacher briefly shares some basic information as an introduction into the topic “Mergers and Acquisitions”, for example: “A company that makes profits must pay taxes and dividends as well as plan directions to reinvest its retained profit. The latter can be allocated to innovating initiatives, research and development (R&D), production capacity extension and/or mergers and acquisitions (M&As).” The information obtained is to be transformed into the flow chart that depicts the process involving the appropriate terminology in the English language (Fig. 1). In this way, students are invited to make a description of the process using the chart to answer the question: “What is the main purpose of M&As?”



**Fig. 1** A mind map on the introduction into the topic “Mergers and acquisitions”

When studying the topic “Money and Banking”, for instance, students proposed the following mind map for its presentation (Fig. 2).



**Fig. 2** A mind map on the topic “Money. Banking”

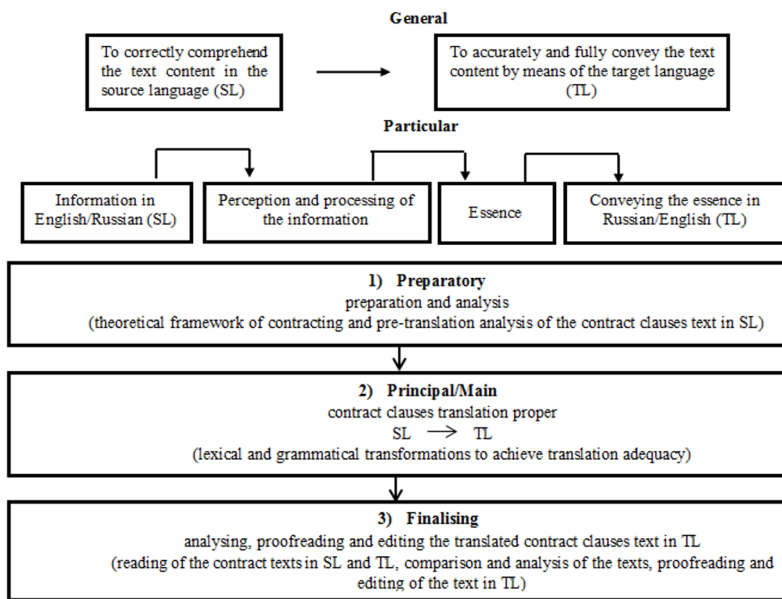
Pragmatically, mind mapping is the most effective technique for memorising and mastering specialised material in the process of forming the professional foreign language competence, since it productively combines visualising, establishing associative series as well as sequencing complex and large information arrays. In addition, it is this technique of mnemonics that allows logical incorporation of many mnemonic methods at all its stages: classification, grouping, number associations, phonetic associations, vocabulary chains, selection and distribution of the so called strongholds in the general mnemonic plan or their combination into a general mnemonic plan, etc. For instance, in relation to the bottom row of the thematically determined terms in Fig. 1 (M&As, innovating, capacity extension and R&D), students are assumed to find out and explain the meaning of each term separately, and then the contextual relationship between them in the form of a mini-narration according to the subtopic plan within the overall designated theme.

An example of a vocabulary chain that can simultaneously be included as an exercise in drawing a mind map, when prospective customs officers learn to process export documentation in English, is as follows. Students ought to memorise a significant number of new foreign terms, e.g., 14 types of bill of lading. Average untrained students frequently fail to store in memory more than 7 separate foreign language terms at once. Consequently, the task of the teacher is to provide students with appropriate tools for reducing the number of units for memorisation. The mnemotechnic steps are to identify the terms, determine the synonymous pairs, develop the grouping criteria, group the terms according to the developed criteria, transform the developed criteria into keywords (triggers), memorise the keywords, construct a sentence from the developed keywords and remember it (if remembering a strictly specified sequence of units is required). This technique can be applied in memorising separate foreign terms as well as a sequence of customs formalities, stages of processing the shipping documents, etc.

The long-standing practice of teaching English for Special Purposes at the Siberian Transport University (the English Language Department) proves the efficiency of mind maps application by both students and teachers.

As an illustration, teaching methods to translate foreign trade contracts in writing can be given, as a result of which the following tasks are addressed: to give exposure of the stages of concluding a foreign trade contract, its main characteristics and the compositional structure of the contract text; to introduce the general content as well as conceptual and terminological definitions of a standard foreign trade contract; to teach how to use high-

quality parallel corpuses of contract sample texts as well as evaluate the existing corpuses (identify shortcomings, if any, and correct them); to assess the communicative situation and extra-linguistic factors in the process of pre-translation text analysis; to observe the compositional structure of the contract clauses text; to translate precise information (literal and numerical) and relevant terminology; to duly convey the category of obligation in foreign trade contracts in terms of stylistics as well as to use adequate lexical and grammatical clichés; to apply appropriate techniques when translating culture-specific or non-equivalent vocabulary (proper names, titles, new terms, discrepancies in the conceptual meaning between units of the source language (SL) and the target language (TL)): variative matching, transliteration/transcription, calquing or loan translation and descriptive translation; to use transpositions in the translation depending on the actual division of the sentence or thematic-rhematic articulation; to transform noun chains in Russian into subordinate clauses in English; to apply substitutions (generalisation, substantiation, antonymic translation and compensation), additions and omissions; to translate the English article; and to correctly use the English punctuation rules when translating foreign trade contracts.



**Fig. 3** Translation roadmap to convey the essence of foreign trade contracts

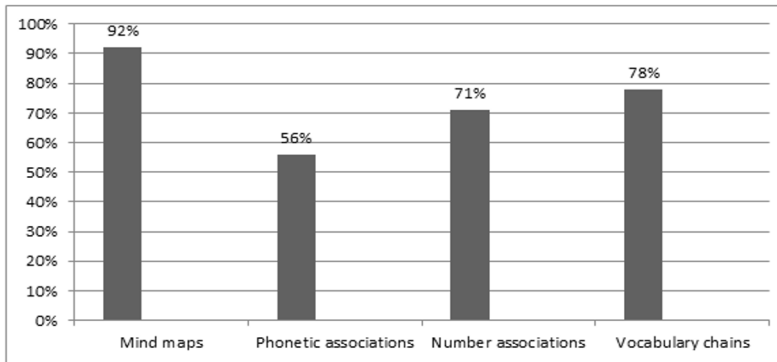
The tasks above led to the development of a mind map for trainers (Fig. 3), which turned into the methodology guidelines for teaching written translation of foreign trade contracts to students of economics. The guidelines, first of all, stipulate the necessity to clearly distinguish between and simultaneously integrate the general and particular approaches to the translation procedure regardless of the type of text. Further, in order to accurately and comprehensively convey the essence of each clause in a foreign trade contract in TL, compliance is assumed with the successive stages to follow, namely, preparatory, principal or main and finalising. The stage of preparation specifies awareness of the basics of contracting and pre-translation analysis of the text in question. The principal stage or translation proper implies application of the appropriate translation tools to achieve adequacy. The finalising stage entails proofreading and editing which, oftentimes being overlooked by non-philologists, are of crucial nature to observe the



pragmatics of both the sender and the receiver of the information, especially in the context of legally binding foreign trade contracts.

Therefore, development of the professional foreign language competence in students of an industry-related university is facilitated by both various mnemonic practices offered by or to students and all kinds of mnemonics used by teachers themselves in the process of foreign language training [13].

Thus, the results of the questionnaire-based survey (Fig. 4) indicate that 86% of students positively evaluate the use of mnemonics in learning a foreign language, noting (78% of the respondents) their maximum efficiency in studying such large in volume and rather difficult to comprehend themes as “Mergers and acquisitions”, “Accounting”, “Financial markets”, “Securities”, “Terms of payment in a foreign trade contract”, etc. Based on the outcomes obtained, a conclusion can be drawn about the necessity to use digital technologies, for example, in the development of mind maps, the visual perception of which leads to increased efficiency of their application.



**Fig. 4** Assessment of mnemonics efficiency

Incorporation of mnemonic techniques into the linguo-didactic framework and pedagogical toolkit for forming the professional foreign language competence in students of economics at a transport university under the conditions of close liaison between the industry-related university and the industry proper appears to be appropriate and rational, since it allows learners to develop their own cognitive style and their own algorithms for studying not only a foreign language, but also their major profession-related subjects. Notably, mastering the disciplines will be of a steady rather than episodic character. Therefore, formation of sustainable methods of cognitive activities and elaboration of relevant strategies, which consist in learning the techniques to obtain, process, memorise and reproduce information, can be interpreted as important factors for future specialists' personal development and professional growth.

## 5 Conclusion

The article presents the results of mnemonics application in the process of forming the professional foreign language competence in students of economics, taking into account the industry-related training at the transport university, as well as the main provisions of the competence-based approach. The practical significance of the research is elaboration of training and methodology guidelines for the use of mnemonics in teaching English for special purposes, both by/for students and teachers. Development and implementation of the research results contributed to enhanced quality of foreign language teaching, as well as



encouraged increased motivation to learn a foreign language for professional purposes and master top requested skills that are in demand by employers.

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