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The Formation of a Foreign Language Professionally-Oriented Competence among Students of Technical Specialties in the Chinese Language

Gaukhar Seitova^{1a}, Klara Kunakova^{2a}, Tatyana Yakunina^{3b}

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Abstract

The issue of studying the Chinese language by students of technical specialties is crucial and requires an effective teaching methodology. The purpose of the study was to analyze the proposed scientific and methodological material and the formation of a foreign language professionally-oriented competence in the Chinese language taking into account the scientific and technical terminology for students of technical specialties. In the course of studying this issue, the methods such as analysis of scientific literature on teaching methods, teaching materials in Chinese, pedagogical observation, experimental teaching, and questionnaire were used. The effectiveness of the proposed methodological recommendations for increasing the effectiveness of foreign language education in the Chinese language among the students of technical specialties has been determined based on the results of the empirical research. The proposed methodological system provides the development of students' linguistic competencies in the Chinese language. The system takes into account general knowledge, specialty context, the most common situations in professional communication, and terminological apparatus in use.

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¹ PhD Candidate, Email: g.seitova7615@ust-hk.com.cn (Corresponding Author)
Tel: +8-708-4112825

² Professor, Email: kl.kunakova@tanu.pro

³ PhD, Email: yakunina@uohk.com.cn

^a Kazakh Ablai Khan University of International Relations and World Languages, Republic of Kazakhstan

^b Herzen Russian State Pedagogical University, Russian Federation

1. Introduction

The study of the Chinese language by the students of universities of technical specialties in Kazakhstan is due to economic necessity at the present time. The 55 joint Kazakh-Chinese projects are being implemented in Kazakhstan in metallurgy, oil and gas processing, chemical industry, mechanical engineering, power engineering, transport, production of construction materials, and the agro-industrial complex, which are worth \$27.6 billion. According to 2019 data (Vasiliev, 2020), China invested \$1.2 billion in the economy of Kazakhstan. Many Chinese oil companies, both small and big, are located directly in the fields and regions and are attractive employers for the local population. In this regard, the issue of studying the Chinese language by students of technical specialties is relevant and requires an effective methodology for teaching it.

The teaching materials and methods, as well as the limited number of hours according to the curriculum, suggested at present, do not always correspond with the required level of formation of a foreign language professionally-oriented communicative competence among students of technical specialties. Consequently, it is necessary to revise the scientific and methodological foundations of teaching students of technical specialties the Chinese language since the currently proposed teaching method at non-linguistic universities of Kazakhstan is based on general linguistic knowledge without taking into account professional scientific and technical terminology. It is not enough to form a foreign language professionally-oriented communicative competence in the Chinese language among students of technical specialties. The above mentioned coincides with the opinion of leading specialists in the field of foreign language education (Bychkov, 2014; Cheng, 2019; Shvalova, 2012; Zubkov, 2020), which states the need for the following aspects:

1. The communication skills that are based on good knowledge of foreign languages;
2. The deep professional knowledge in the specialist's field;
3. The good psychological training, the ability to convince and defend the point of view, which is impossible without a high level of the future specialist's culture and personal qualities.

A great deal of research has been devoted to aspects related to the study of the problems that determine the effectiveness and efficiency of mastering the industry language (Gorokhova et al., 2016; Grigorash, 2014; Morozova & Dondokov, 2020; Polyakova, 2015). It is necessary to focus on communicative competence, which is one of the most important competencies that predetermines the effectiveness of professional activities of a specialist of any profile (Krylov & Yakunina, 2010; Mazaeva, 2003; Zeer & Symaniuk, 2005).

The purpose of this study was to propose methodological material for the formation of a foreign language professionally-oriented competence in the Chinese language, analyze the proposed scientific material taking into account the scientific and technical terminology for the students of technical specialties.

2. Theoretical Framework

The knowledge of a foreign language always opens up new opportunities and expands horizons. For the students of non-linguistic specialties, it is an additional opportunity to master their future profession. However, it is not always easy to fulfill this request. Taking into account the factors inherent in Chinese as a foreign language, the situation is even more aggravated. According to Sugie, the increased demand for Chinese language learning is stimulating discussions among researchers and educators about how to meet the needs of learners in the current world best. This issue is reflected in a growing number of scientific articles in major journals and conference reports dedicated to this subject. One of the didactic interests is the use of the Internet as a means of teaching in the classroom, thereby developing the information training of students (Sugie, 2012). For instance, Yang et al. (2018) suggest the use of inverted classroom technology in the classroom for more productive learning of the Chinese language, which might facilitate the integration of classroom activities with online lessons and stimulate independent learning. In turn, it may contribute to the intensification of the search required in the Chinese language for professional purposes since the mechanism of independent learning would already be laid.

According to Yue (2017), in order to boost the results of teaching Chinese as a foreign language, it is recommended to improve the qualifications of teachers due to cultural differences and difficulties inherent in the Chinese language, which is extremely important to consider both at the initial stage of acquaintance with the language and throughout the entire period of learning. In everyday work with colleagues from the People's Republic of China, specialists must certainly take into account the mentality and versatility inherent in the Chinese language, thereby demonstrating a broad outlook and professionalism. Bao (2020) supported the opinion that the teacher's awareness of the cultural realities of nationality is important for the more effective implementation of language knowledge and should not be limited only to the Chinese language itself and teaching. At the same time, Philp et al. (2010) and Storch (2002) supposed that the teacher plays a crucial role in ensuring the quality of the collaborative dialogue between learners, especially with regard to Chinese pronunciation and tones. In addition, the teacher has to take into account the individual characteristics of students, pay attention to the conversation process, and make the necessary adjustments. It is very important at the stage of teaching scientific and technical vocabulary and mastering writing as well.

Teresa Cáceres-Lorenzo (2015) considered that external and internal motivation is important to achieve performance due to the high degree of difficulty in learning the Chinese language in the most basic aspects of learning (writing Chinese characters, tone variations, etc.). The accurate motivation entails the development of the Chinese language and the ability of students to independently study issues of their interest, including a professional one. However, the study by Dewaele and Ip (2013) showed that the effect of knowing more languages appears only when the learners become authentic adult users of a foreign language and they have to work in a new environment. In order to accomplish the maximum level of preparedness of foreign language communicative competence in the professional field, it is necessary to harmoniously combine effective contemporary teaching methods. Kunanbayeva (2016) claimed that the implementation of set tasks had required the transition to a new educational paradigm, the

methodological basis of which is the competence-based approach.

The competency-based approach in contemporary psychological and pedagogical literature is defined as the leading methodological guideline for the development of modern education. Kunanbayeva (2016) also noted that the competency-based approach, which envisages the close interaction between the theory and practice, should become the basis for the development of a national learning model. Therefore, the first stage of professional training of a specialist is a block of professionally oriented competence, the main indicators of which are the capacity of a person to perform professional duties using information, communication, and socio-legal foundations of personality behavior in civil society. The coupled approaches are used in practice along with the competency-based approach in the process of teaching the Chinese language.

The cognitive-communicative approach is a conscious comprehension of a foreign language speech activity (Ignatova, 2007). The personality-oriented approach takes into account the individual characteristics of students (Lomakina, 2019). The integrated approach is the formation of skills and abilities in the types of speech activity (Khramtsova, 2017). The provisions of these approaches are supposed to develop a foreign language professionally-oriented competence at the four stages of teaching foreign languages proposed by Danilina (2014).

1. Design stage. It is proposed to create a positive motivational attitude and a sense of trust and test certain knowledge for further work on the upcoming lesson in the audience (Bashmakova, 2003).
2. Procedural stage. The forms, methods, technologies, and lesson strategies are determined, taking into account the degree of formation of students' foreign language capabilities and the professional specifics of students, thereby increasing the level of foreign language professionally-oriented competence at this stage (Zhunich, 2010).
3. Cumulative stage. This stage implements the forms, strategies, and technologies of the lesson chosen in practice at the procedural stage through teaching methods, taking into account the individual educational trajectories.

4. Reflexive-analytical stage. This stage provides for the analysis of students' work, both with the teacher and among themselves, and the assessment is carried out in an analogous form, taking into account the manifestation of personal qualities and active interaction with each other in the classroom (Danilina, 2014).

3. Methodology

3.1. Participants

The authors' technology was tested on the basis of Kyzylorda University named after Korkyt Ata among 3-year students of the Engineering and Technological Institute, specialty "Oil and Gas Business" (control group (CG) – 18 students) and "Technological machines and equipment" (experimental group (EG) – 21 students) during one semester, three credits in the discipline "Professionally-Oriented Foreign Language". The above-mentioned teaching techniques were used for the experimental group.

In order to determine the personal needs of students of technical specialties for the study of the Chinese language in the discipline "Professional Foreign Language (the Chinese language)", a random sampling method was used to select research objects; that is, a survey was conducted among the students of Engineering and Technological Institute of Kyzylorda University named after Korkyt Ata (Kyzylorda, Kazakhstan), which was attended by 60 respondents, including 45 boys and 15 girls aged 17 to 24 years (the number of respondents ensures the representativeness of the survey sample).

3.2. Instruments

In the process of studying this issue, methods such as analysis of scientific literature, scientific literature on teaching methods, teaching material in the Chinese language, pedagogical observation, experimental teaching, and survey were used. The proof of the competitiveness of students of technical specialties should be their proficiency in the language at a level at which they will be able to professionally communicate with the representatives of the Chinese language, that is, with the formation of foreign language professional skills. The level of proficiency was checked at the end of the semester using the

tasks developed by the authors. The results were evaluated on a 100-point scale where 0-30 points meant low proficiency level, 31-75 points meant medium proficiency level, and 76-100 points meant high proficiency level.

Students needed to use additional sources of information and view all available resources for a deeper study and consolidation of theoretical material while completing assignments for the formation of foreign language professionally-oriented competencies (Daulet, 2015). We prepared the educational material for 2-year students of technical specialties who studied the Chinese language in the amount of at least three credits per semester and mastered the initial (beginner) level of the Chinese language during the 1-year course of their study at the university, based on the above-mentioned information. The main purpose of the teacher is the formation of a foreign language professionally-oriented competence of students at a sufficient level A2 which consists of information-accumulating, communicative-reflexive, and professional-interpretive subcompetencies.

Information-accumulating subcompetence is aimed at the accumulation of information, the use of contemporary information technologies in the educational, and cognitive and professional activities of the future specialist (Kunanbaeva, 2014). Communicative-reflexive subcompetence provides for a set of specific personal capabilities and abilities and communicative knowledge and skills that ensure cooperation, communication, readiness for changes, responsibility for the successful implementation of professional activities, personal development of the professionalism of the future specialist, and the process of optimization of professional activities (Mukhametshina, 2014). Professional interpretation subcompetence includes the semantic interpretation of generalized, semantically integrated professional information in a foreign language (descriptions, technical explanations, characteristics, explanations of objects, proposals, statements, and complaints, etc.) (Kunanbaeva, 2014). It is proposed to decompose these kinds of subcompetencies by types of speech activity with the definition of the main descriptors and levels of acquisition, which is presented in the form of a methodological matrix (Table 1).

Table 1
Matrix of Competencies

Professionally oriented subcompetencies	Types of speech activity				Epithets	Grading level
	Speaking	Writing	Listening	Reading		
Information-accumulating	The ability to use modern information technology in order to develop speech style	The ability to use information technology in order to correctly spell Chinese characters	The ability to highlight the main idea, communication details	The ability to use information technology in educational, cognitive, and professional activities	Deeply	High
					Sufficiently	Medium
					Superficially	Low
Communicative-reflective	The ability to successfully conduct oral professional activities focused on responsibility, change and communication skills	The ability to successfully carry out written professional activities aimed at optimizing the process of professional activities	The ability to successfully carry out professional activities through the formation of a personal, professional personality with the help of multimedia means.		Exhaustive	High
					Sufficient	Medium
					In outline	Low
Professional interpretation subcompetence	The ability to clearly and convincingly formulate a professional word	The ability to maintain official and professional documents in the Chinese language	The ability to understand while listening to professional information in the Chinese language	The ability to read and understand the professional information in the Chinese language [descriptions, technical explanations, specification, etc.].	Confidently	High
					Specifically, not reasonably enough	Medium
					Questionably	Low
Total	500 replicas	400 Chinese characters	600 minutes	600-700 words		

The questionnaire was developed. It consisted of 10 questions that required information about the respondent, such as specialty, age, gender, etc. The main purpose of the survey was to identify the factors that prevent students from realizing their knowledge of a professionally-oriented foreign language, the expected results, and preferences for the course. The questionnaire consisted of the following questions:

1. Why are you studying Chinese?
2. What would you like to study in the discipline "Professional Foreign Language (the Chinese language)"?
3. Would you like to learn how to read and write instructions, conduct business conversations, and speak professional topics in Chinese?
4. Would you like to know scientific and technical (professional) terminology in your specialty in Chinese?

5. What result do you expect from this discipline?

3.3. Procedure

There is a wide range of difficulties in teaching the students of engineering specialties the Chinese language that has to be analyzed to improve the teaching of Chinese as a foreign language. As for the methodological point of view, there are many textbooks in Chinese for language specialties where every aspect of the language (vocabulary, grammar, Chinese characteristics, culture, and history) is studied separately, and a sufficient number of hours are allocated to this, but the teaching methodology for technical specialties is problematic since all aspects are studied simultaneously, and there is no professional orientation. As for the psychological point of view, the students of engineering specialties "know and master languages poorly due to a purely technical

mindset and lack of linguistic instinct without which it is difficult to perceive purely linguistic realities” (Evdoksina, 2007, p. 276).

There is a possibility to determine the increase in the level of knowledge by specialization, the formation of professional, communicative competence for the implementation of activities in the profession or in related fields with foreign colleagues, and linguistic socialization of the individual (Pustovalova, 2011), as well as the use of active teaching methods such as project training, case studies, competence-oriented exercises, role-playing games of a professional feature, etc. It can improve the quality of the professional knowledge volume by integrating specialization with a foreign language based on the results of the analysis of the content and orientation of the study of foreign languages in technical universities (Krasnoshchekova, 2015; Vatin, 2017).

However, there are a great number of problems, such as the formation of a foreign language professionally-oriented communicative competence for a future engineer, that are considered as a necessity for the effective implementation of professional activity (Perchatkina, 2013; Polyakova, 2012), there is a need to develop the communicative skills without interrupting real professional situations that arise in the course of the future specialist’s activity (Nurmukhambetova, 2016). Moreover, it is highly important to motivate students to learn a foreign language since, in the absence of motivation, students will not fully reveal their potential (Likhacheva et al., 2017).

By their personal nature, students of technical specialties do not always use the functional vocabulary of communication sufficiently, choose the wrong type of communication in accordance with the communicative task, and are not always sure of the accuracy of using language tools as students of the humanities use these skills. (Perchatkina, 2013, p. 268)

Therefore, university teachers have to choose the most effective teaching methods taking into account both pedagogical and psychological components.

Both social science and natural science students have their own preferences for using the teaching strategy (Wernicke, 2020; Zhang,

2019). For instance, students who study social sciences find it important to choose learning strategies that relate to local analysis and association, while students who study natural sciences find it important to write summaries and preview and analyze information in the foreign language being studied (Rao & Liu, 2011). Thus, the training material has to clearly meet the needs of the future specialists, in particular, using the CLIL methodology. In addition to general didactic principles, the following principles are taken as the basis for the formation of a foreign language professionally-oriented communicative competence:

1. The principle of imitative-activity mastering of the sound side of the Chinese language. The implementation of the given principle consists of multiple presentations of phonetic material by the teacher and its exact repetition by students. Following this principle in teaching practice would help the students to master the technique of articulation and, consequently, to apply the studied theory of phonetics, which is extremely important for understanding the similarities and differences in the pronunciation of homonymous words.

2. The principle of working out new lexical units in word-formation chains. This principle is implemented in exercises to determine the role of basic words for designing new words in teaching practice. The following can be used: the word 人 (a person) – 人民 (people), 人数 (the number of people), 人口 (population), 人间 (in the world), 工人 (a worker), 古人 (ancient), 故人 (an old friend), 行 (a pedestrian), 雪人 (a snowman), 机器人 (a robot). The second stage in the application of this principle is a variety of tasks with word-formation chains, such as 课 – 上课 – 下课 – 课文 – 课本 (class – on class – after class – text – textbook) (Zhang, 2020).

3. “The principle of systematicity and consistency requires that teaching is conducted in a certain order, system and is built in a strict logical sequence” (Tenitilov, 2010, p. 275). This means that the studied material should not only include the main content of the given topic but also ensure a logical order of the selected topics and a continuous learning process. Language teaching includes listening,

speaking, reading, and writing, which are interrelated with each other in terms of the content (topic) of teaching as well.

4. The principle of the optimal combination of verbal, visual and practical, reproductive, problem-search, and other teaching methods in teaching Chinese as a foreign language “involves the attraction of all human senses to the perception of educational material” (Rongyu, 2019, p. 162). Not only textbooks and a blackboard are used, but music and educational videos (films), etc., are applied while teaching as well.

5. The principle of taking into account the interests of potential employers of students provides for constant testing of theoretical knowledge with practical significance contrasting it with the criteria set by employers. According to this principle, the teacher is required to conduct a rational connection between theoretical knowledge and its practical mastery in the professional life of students.

4. Results and Discussion

Due to the limited amount of hours for studying the foreign languages allocated to technical specialties, the recommended distribution of classroom time by types of speech activity is as follows: reading – 30%, speaking – 30%, writing – 10%, listening – 30%. Thematically professionally-oriented didactic units of teaching were used in order to implement the formation of a foreign language professionally-oriented competencies of students of the oil and gas industry. The use of this teaching methodology for the formation of a foreign language professionally-oriented competence in students of technical specialties is shown hereafter on the example of one lesson of a recommendatory feature.

Lesson 10. 第十课. The lesson is designed for three academic hours. The number of lexical units is 18. The number of exercises for the formation of a foreign language professionally-oriented competence is 9. The purpose of the lesson is as follows:

1. To form the capacity to search, analyze, and select the necessary information independently.
2. To provide with the assignment which forms information-accumulating, communicative-

reflexive, and professional-interpretive subcompetences.

3. To extract the primary information.
4. To develop the primary information.

Such innovative technologies as a case study, brainstorming, competence-oriented pedagogical technologies were used.

1. The text of a new lesson is presented to the students for self-introduction and information analysis.

北京协调中心

协调函〔2015-〕15号

关于调整中亚各气源供气量的函

各相关单位：

因中国国内管道出现应急工况，康采恩 110 亿合同下供气量由 2300 万方/天调整为 3710 万方/天、康采恩 200 亿合同下供气量 660 万方/天不变，阿姆河供气量由 4000 万方/天调整为 3770 万方/天，乌输气供气量由 2200 万方/天调整为 1002 万方/天，哈输气供气量由 1800 万方/天调整为 1330 万方/天。自收到函件起即刻执行，9 月 17 日 15:00 [北京时间]前调整到位。

具体恢复时间以北京协调中心函件为准，请各相关单位做好运行调整。

主送：阿姆河，康采恩，乌输气公司，哈输气公司抄送：国际事业公司、中油国际管道公司、布哈拉调控中石 7 阿拉木图调控中心

(Beijing Coordination Center

Coordination Letter (2015-) No. 15

Letter on Adjusting the Gas Supply Volume of Various Gas Sources in Central Asia

All relevant units:

Due to emergency conditions in China's domestic pipelines, the gas supply under the 11 billion contract of Conzer was adjusted from 23 million cubic meters per day to 37.1 million cubic meters per day, and the gas supply under the contract of 20 billion by Conzer remained unchanged at 6.6 million cubic meters per day.

The gas supply volume was adjusted from 40 million cubic meters/day to 37.7 million cubic meters/day, the gas supply volume to Uzbekistan was adjusted from 22 million cubic meters/day to 10.2 million cubic meters/day, and the gas supply volume to Kazakhstan was adjusted from 18 million cubic meters/day. It is 13.3 million cubic meters per day. It will be implemented as soon as the letter is received, and the adjustment will be in place by 15:00 on September 17th [Beijing time].

The specific recovery time is subject to the letter from the Beijing Coordination Center. All relevant units are requested to make operational adjustments.

Main delivery: Amu Darya, Konzern, Uzbekistan Gas Transmission Company, Kazakhstan Gas Transmission Company Cc:

International Business Company, PetroChina International Pipeline Company, Bukhara Control Zhongshi 7 Almaty Control Center)

2. The number of lexical units to be entered is 18. It is presented in the following order: Chinese character – Latin transcription [pinyin] – translation into the language of instruction and listening to the audio version with a native speaker. The teacher, in the process of familiarizing students with each new word, together with the students pronounce it, loudly preserving the accuracy of the tone and give arbitrary examples to strengthen the expression in memory (Table 2). For instance: 石油 – shi you – oil. 你在石油公司上班吗? Ni zai shi you gong si shang ban ma? – Do you work for an oil company?

Table 2

New Words

协调中心	xiétiáozhōngxīn	coordination center
管道	guǎndào	pipeline
应急工况	yìngjīgōngkuàng	emergency conditions
康采恩	kāngcǎi'ēn	concern
输气	shūqì	gas
气源	qì yuán	gas source
供气	gōngqì	gas supply
万方/天	wànfāng/tiān	cubic meters per day
调整	tiáozhěng	regulate
函件	hánjiàn	correspondence; letters, papers
即刻	jíkè	immediately
执行	zhíxíng	execute
具体	jùtǐ	specific
恢复时间	huīfùshíjiān	recovery time
为准	wéizhǔn	prevail
相关单位	xiāngguāndānwèi	concerned department
输气公司	shūqìgōngsī	gas transmission company
控制和调度中心	kòngzhìhédiàodùzhōngxīn	control and dispatch center

3. The text contains about 300 Chinese characters. Students are already prepared when receiving the text; the vocabulary of the text was memorized according to the scheme: Chinese character – translation – example with a sentence. Therefore, text analysis begins immediately with expressive reading. The main emphasis at this stage is placed on the correct pronunciation of the Chinese characters. The text of this lesson is purely professional in its nature and could be used in the everyday work of a specialist engineer and therefore develops all types of subcompetences in aggregate. The

students start listening to the text for introspection and mastering speech skills after a thorough analysis of the text.

4. Exercise 1. Read the tones correctly:

Shíyóu – shīyóu, shū qì – shǔ qì, qì yuán – qī yuán, gōng qì – gǒng qī, xiétiáo zhōngxīn – xiētiáo zhōngxīn, guǎndào – guándào, yìngjī gōngkuàng – yíngjī góngkuáng, huīfù shíjiān – huífù shíjiǎn, wéizhǔn – wēizhùn, shū qì gōngsī – shù qì gǒngsī, kòngzhì hé diàodù zhòng xīn – kòngzhīhé diàodù zhóng xīn.

Exercise 2. Indicate the order of correct

pronunciation of words by rhythm in sentences

Table 3

Exercise on Correct Pronunciation

#	Task	Answer	Correct answer [highlighted after the answer]
1	管道出现应急工况 guǎn-dào-chū-xiàn-yìng-jí-gōng-kuàng (emergency conditions in the pipeline)		Guǎndào chūxiàn yìngjí gōngkuàng
2	康采恩合同下供气量由 kāng-cǎi'ēn-hé-tóng-xià-gōng-qì-liàng-yóu (the gas supply volume under the Konzern contract is determined by...)		kāngcǎi'ēn hétóng xià gōngqì liàngyóu。 。 。
3	哈输气供气量由 hā-shū-qì-gōng-qì-liàng-yóu (the gas supply volume of Kazakhstan gas is determined by...)		Hā shūqì gōngqì liàngyóu。 。 。
4	自收到函件起即刻执行 zì-shōu-dào-hán-jìàn-qǐ-jí-kè-zhí-xíng (to do immediately after receiving the letter)		Zìshōudào hánjiàn qǐ jíkè zhíxíng
5	中油国际管道公司 zhōng-yóu-guó-jì-guǎn-dào-gōng-sī (China Petroleum International Pipeline Company)		Zhōngyóu guójì guǎndào gōngsī

Exercise 3. Identify the Chinese characters with each other.

Students identify the corresponding numbers and letters in the process of group work which takes little time (Table 4).

Students are encouraged to find new vocabulary words among professional terms in this activity.

Table 4

Exercise for Chinese Characters

	The first part of the Chinese character	Identify across the line		The second part of the Chinese character	Write the Chinese character in full	Write pinyin
1	管		A	气		
2	输		B	源		
3	气		C	件		
4	调		D	整		
5	函		E	道		

Exercise 4. Write down the Chinese characters

for the following pinyin vocational terms (Table 5).

Table 5

Exercise in Chinese Characters

Pinyin	Chinese character	Translation
yìngjígōngkuàng		
guǎndào		
xiétiáozhōngxīn		
qì yuán		
kòngzhìhédiàodùzhōngxīn		
xiāngguāndānwèi		

Exercise 5. Make sentences with the following terms. 协调中心, 控制和调度中心, 输气公司, 相关单位, 恢复时间, 应急工况 (Coordination Center, Control and Dispatching

Center, Gas Transmission Company, Related Units, Recovery Time, Emergency Conditions)

Exercise 6. The text of this lesson is an informative letter with subsequent instructions for implementation by the received side;

students should be divided into pairs and role-play this text in the form of dialogical speech.

Exercise 7. Read the following sentences and mark the T (true) and F (false) sentences.

从管道上拆下 (Remove from the pipe)

应急工况气田在/在应急工况气田 (Gas field is in the emergency condition)

我父亲是控制和调度中心作业员的/我父亲是控制和调度中心的作业员 (My father is an operator of the control and dispatch center)

协调中心阿拉木图/阿拉木图协调中心 (Coordination Center Almaty / Almaty Coordination Center)

自收到函件即刻起执行/自收到函件起即刻执行 (Done as soon as the letter was received)

Exercise 8. Translate the following sentences into the Chinese language:

Gas supplies to Kazakhstan have been suspended due to emergency conditions in one main gas pipeline in Russia. The national gas transmission company KazTransGas assures that gas supplies to China will not stop. The control and dispatch center monitors the regime of gas supplies to China.

Exercise 9. Role play a situation similar to the text having divided into subgroups of 3-4 people.

The statistics of tests to determine the maturity of a foreign language professionally-oriented competence in both groups was carried out at the end of the semester and showed the following results (Table 6):

Table 6

The Results of Examinations for Determining the Formation of a Foreign Language Professionally-Oriented Competence

Level	Speaking		Writing		Listening		Reading	
	Control group	Experimental group	Control group	Experimental group	Control group	Experimental group	Control group	Experimental group
high	22%	29%	11%	15%	16%	25%	26%	32%
medium	50%	55%	31%	38%	38%	41%	52%	55%
low	28%	16%	58%	47%	46%	34%	22%	13%

These results make it possible to note a fairly high level of mastering the types of speech activity, which were checked within the framework of the control written work and oral

interview by the students of the experimental group. A survey was conducted among students of technical specialties. The results of the survey are shown in Table 7.

Table 7

Survey Results

No.	Question 1	Responses
1	To work in international companies	31.7%
2	To raise wages	5%
3	To be a sought-after specialist	25%
4	Interesting culture, nation and language itself	13.3%
5	Other	25%
	Question 2	
1	General language knowledge	31.7%
2	Professional topics	50%
3	I do not know	13.3%
4	Other	5%
	Question 3	
1	Yes	53.3%
2	No	30%
3	It's hard to believe	1.7%
4	I do not know	15%
	Question 4	
1	Surely	53.4%
2	It's hard to imagine	24.1%

3	I do not know	22.4%
Question 5		
1	To conduct conversations on professional topics in a foreign language	33.9%
2	To understand the information in a foreign language with professional content	35.6%
3	To understand a foreign language with professional content	10.2%
4	Other	18.6%

Figure 1 presents the average values in percentage terms of the most expected results

for successful professional activity by students of technical education.

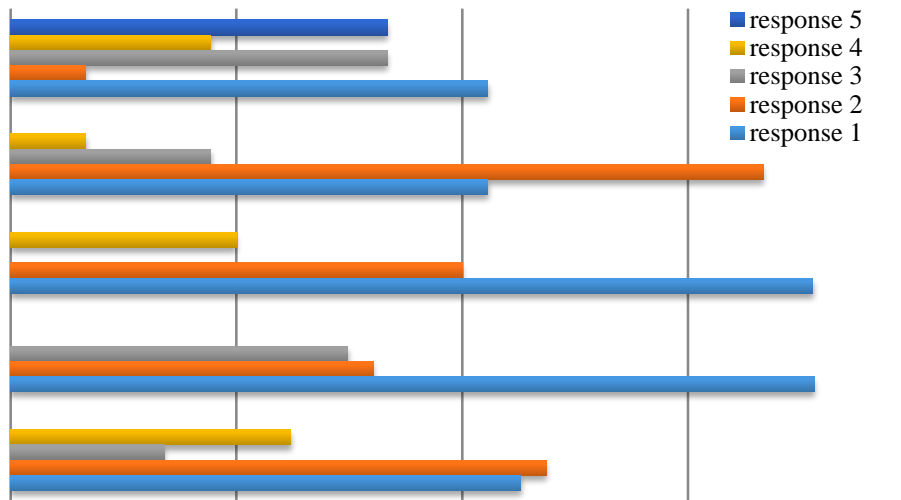


Figure 1
The Average Values in Percentage Terms

As it can be seen from the results of the survey according to Table 1 and Figure 1, the training course “Professionally-Oriented Foreign Language (the Chinese language)” should be based on joint thematic tasks of professional content and assignment of academic directions, as well as on the basis of the formed linguistic knowledge. It would be advisable to parallel the development of professional competencies. Moreover, to consolidate the results obtained, an analysis of variance was carried out, which

made it possible to exclude the confidence intervals of all research indicators and to clarify the range of their variation. The results of research of the significance of the personal needs of specialists in the technology industry showed that assignments based on the joint thematic tasks of professional content are the most significant where the development of professional competencies with the usage of a foreign language is provided (Table 8).

Table 8

Analysis of Variance

No.		X	G	Confidence interval	
1	In order to work in international companies	0.317	0.06007	0.19926	0.43474
2	Professional training in the discipline “Professional Foreign Language [the Chinese Language]”	0.5	0.06455	0.37348	0.62652
3	To learn to read and write instructions, conduct business conversations, speak professional topics in the Chinese language	0.533	0.06441	0.40676	0.65924
4	To possess scientific and technical (professional) terminology in their specialty in the Chinese language	0.534	0.06440	0.40778	0.66022
5	To understand information in a foreign language with professional content	0.356	0.06181	0.23485	0.47715

5. Concluding Remarks

First of all, it is necessary to revise the very method of teaching the Chinese language, which differs from language specialties, to have time to qualitatively introduce professionally important aspects of work in a short amount of time for the formation of a foreign language professionally-oriented competence in the Chinese language among the students of technical specialties. The professionally-oriented competence includes such subcompetencies as information-accumulating, communicative-reflexive, and professional-interpretive. The students were offered the exercises aimed at the developing of these subcompetencies and scientific and technical terminology, thereby forming the professionally-oriented competence during the lessons. According to the survey conducted among the students of engineering specialties, it is necessary to note that the students ranked the first the knowledge of scientific and technical (professional) terminology in their specialty in the Chinese language, the second one is learning how to read and write the instructions, conduct business conversations, and speak on professional topics in the Chinese language and the third one is the purpose of working in organizations of the international level. These results determine a wide range of directions for teaching and training specialists with a foreign language professionally-oriented competence. The development and implementation of programs, which are aimed at the formation of a foreign language professionally-oriented communicative competence in the Chinese language in the educational process of specialists in the technical industry, is a contemporary topical issue.

Summing up, it can be noted that the boom of learning the Chinese language 汉语热 (hanyuyzhi) in all over the world, in particular, by the future engineers, contributes to their cultural development, solving their professional problems at the international level without intermediaries, which is a very significant component of a specialist's qualification. In order to achieve this purpose, taking into account the small number of academic hours which are dedicated to the learning of the foreign language, it is important for the students of technical specialties to develop not only the general vocabulary but the professionally-

oriented competencies as well. It is the most important stimulating and motivating tool for learning the foreign language by the students of engineering specialties. The proposed methodological system provides for the development of the linguistic competencies of students in the Chinese language, taking into account the general knowledge, the context of the specialty, the most common situations in professional communication, and the used terminological apparatus. However, due to the fact that the Chinese language is one of the most difficult languages in the world, the given method requires further research in order to accomplish the productive results in a limited time in individual specialties, where their specifics are taken into account.

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