

## Assessing the Specific English Needs of Isfahan Province Gas Company to Develop In-service Instructional Materials

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**Abstract:** The aim of the present study was to investigate the job-related English language needs of employees at the Isfahan Province Gas Company (IPGC) through a systematic needs analysis, with the ultimate goal of developing tailored in-service ESP materials for designated departments and operational units within the IPGC. To achieve this objective, a qualitative approach was adopted to collect and analyze the required data and extract the real-world needs of IPGC personnel in Isfahan, Iran. The participants were 200 randomly selected IPGC personnel working in several departments in Isfahan, Iran. Semi-structured interviews and mixed-item questionnaires were used for data collection. Qualitative Content Analysis (QCA) was the cornerstone based on which the collected textual data were analyzed. The study resulted in systematic ESP needs priority lists of all IPGC units, with specific focus on Technical Inspection Unit, for which Vocabulary and Translation, Reading Comprehension, Speaking, Listening, and Writing, respectively were identified as prior needs. The findings of the study add significant emphasis to the importance of needs analysis in ESP courses for industry and demonstrate how needs analysis can help curriculum developers design effective ESP courses or programs. The study succeeded in designing ESP courses based on job-related needs for IPGC departments. The results also highlight the need to fill the existing gap between real-world English needs at workplace and the existing ESP material.

**Keywords:** English for Specific Purposes (ESP), Isfahan Province Gas Company, Needs Analysis

### Introduction

In recent years, teaching of English has shifted the focus from purely general purposes towards more specialized aims. English for Specific Purposes (ESP) is a type of language

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learning which gives learners the skills and vocabulary they need to communicate effectively in their chosen field (Hutchingson & Waters, 1987). It helps the learners to optimize their language proficiency in specific fields such as their profession. It can improve a learner's job prospects, career opportunities and the life which is based on communication skills. In the process need specification in ESP, the systematic process of identifying the language requirements of a learner or group for a specific academic or professional purpose is known as needs analysis. Needs analysis in ESP is the process of identifying and analyzing the needs of language learners in a specific field of expertise (Robinson, 1991). These needs can include specific language skills, vocabulary, terminology, and speech and writing patterns related to their job or field of study (Alemi & Pazooki, 2020, 2021).

Needs analysis plays a key role in ESP: it defines what learners require in terms of language, skills and tasks to make the course design relevant and efficient (Astika 1999; Tatar & Stojković, 2024). For example, needs analysis may examine learners' current skill levels, what they must do in their target situations, and what learning conditions will support them (Ekayati et al., 2024; Wulandari et al., 2024). In this way the ESP teacher moves beyond "one-size-fits-all" general English and towards a customized curriculum aligned with learners' real world needs (Tatar & Stojković, 2024). In this regard, the first step to developing job-related instructional material is to know the real-world needs, and subsequently designing real world -tasks which are based on real situations.

### **ESP and Task-based Language Teaching**

Modern pedagogical approaches in language teaching support teaching and learning using activities or tasks which are meaningful to language learners. Task-Based Language Teaching (TBLT) focuses on meaningful tasks for learners to do and learn. In fact, TBLT offers a shift from traditional grammar and vocabulary- based methods to effective communication in order to achieve an outcome which is efficiently practical in real-world situations. It includes activities that mimic real-life uses of language, such as situations in which learners need to use English to satisfy job demands (See Ahmadniay et al., 2014; Khakimova, 2024 for TBLT applications). Unlike the traditional methods, learners in TBLT are considered to have an active role in learning instead of being passive participants. They collaborate and work toward a task result (Li, 2023). Importantly, TBLT allows for integration of the four major skills, autonomy and real-world features especially attractive in ESP contexts (Motlagh et al., 2014).

The intersection of ESP and TBLT provides an effective framework for an impactful language teaching. On the one hand, ESP demands that the language course reflects genuine tasks and situations that learners face in their academic or professional lives. At the same time, TBLT offers a frame in which those tasks can be embedded in the classroom: learners engage in authentic tasks that mirror target-situation actions, thus aligning language-learning with real-world use. This amalgamation means that needs analysis in an ESP setting can inform the design of tasks that are meaningful, relevant, and motivating. In other words, through needs analysis we identify what learners need to do and what language they need; through TBLT we design how they will do it. Together they ensure that language teaching is not abstract and detached but grounded in real purpose.

The present investigation is an attempt to delve into extracting job-related needs of Isfahan Province Gas Company and developing ESP material for IPGC departments based on systematic needs analysis. The aim is to design task-based multimodal ESP material which is directly pertinent to IPGC language needs at workplace. The study is outlined as follows: a review of the related literature is presented in the next section; then, the

methodology of the paper will be elaborated. Finally, we explore how needs analysis can inform task design in an ESP course for IPGC personnel.

## Literature Review

### English for Specific Purposes (ESP)

English for Specific Purposes (ESP) emerged in the 1960s as a response to the growing need for English in academic and professional fields. Hutchinson and Waters (1987) defined ESP as an approach and not a product. Dudley-Evans & St John (1998) defined ESP as an analysis which is based on the learners' purposes and the communication demands of their target situations. In ESP the courses are designed to help learners perform real tasks. Tatar and Stojković (2024) noted that ESP courses should be flexible and dynamic, reflecting the specific communication needs of a group rather than relying on general English content. Critically, while the foundational definition remains relevant, contemporary ESP must grapple with the rapid evolution of professional genres. For instance, in technical fields, the required competence is increasingly multimodal. García and Fortanet-Gómez (2023) emphasize that modern ESP instruction must account for the creation and interpretation of complex visual and auditory communication (e.g., scientific dissemination videos), moving beyond solely written or spoken proficiency.

### Needs Analysis in ESP

Needs analysis as a cornerstone of ESP, involves collecting information about learners' language requirements, their real-time proficiency, and the contexts in which they will use English (Astika, 1999). Hutchinson and Waters (1987) divide needs into two broad categories: target needs (what learners must do in their target situation) and learning needs (what they need to do in order to learn). As noted by Wulandari et al. (2024), an effective needs analysis combines various tools, such as questionnaires, interviews, observations, and document analysis, which ensure learners' motivations and challenges are captured. Recent studies show that needs continue to evolve in response to globalization and technological change. For instance, Ekayati et al. (2024) found that students in non-English programs often require English for communication, digital literacy, and collaboration, not just for reading comprehension. This suggests that modern needs analysis should consider both professional and intercultural communication skills. In short, needs analysis is not only about language forms but also about the social and functional aspects of language use. Furthermore, recent methodological discussions stress the need for integrating learner-centered perspectives on *wants* and *needs* (Liu et al., 2011) and ensuring that the analysis itself is a participatory process to enhance engagement.

### Studies on ESP Course Design

Both ESP and TBLT approaches share a focus on meaningful communication and real-life relevance. In ESP, needs analysis identifies the authentic communicative situations that learners face. While in TBLT, these situations become the basis for classroom tasks (Motlagh et al., 2014). Needs analysis can be integrated into TBLT to ensure that the tasks are authentic and goal-oriented. See Tatar & Stojković (2024). Recent studies also highlight that combining TBLT with ESP principles enhances motivation and learning outcomes (Wulandari et al., 2024).

In Iran, Mazdayasna and Tahririan (2008) investigated the foreign language learning needs of undergraduate medical students studying in Iranian nursing and

midwifery schools through interviews and questionnaires. They found that ESP courses were not as effective as they were thought to be and did not meet the needs of the language learners. Therefore, they concluded that most ESP courses in Iran are conducted without consulting experts and without assessing the needs of the language learners.

In a study completely similar to the present investigation, Amirian and Tavakoli (2009) examined the language skills and components of ESP books provided to university students in Iran and also examined the success of these ESP courses in responding to the job needs of future engineers. For the first objective, the ESP textbook titled "Engineering Students" taught to university students in Iran was studied and its language components and skills were identified. For the second objective, a needs analysis questionnaire was sent to engineers working in the Production Line of the National Mobarakeh Steel Company. The results of the needs analysis showed that the ESP courses offered at universities can provide a foundation for future career goals, but are not sufficient to meet the specific career needs of each engineer. In other words, in-service ESP courses should be managed based on ongoing analysis of employee needs to meet their specific job requirements. Finally, based on the results of the needs analysis conducted in this study (through the use of a questionnaire), a proposed model for a "skill-based curriculum" for the in-service ESP course for engineers working in the production line department of the Mobarakeh National Steel Company has been proposed.

The same findings were reported for ESP courses in Taiwan, where Liu et al. (2011) showed that there is a discrepancy between students' perceptions of the needs in ESP courses and the actual content provided to them in Taiwan. In Greece, Chostelidou (2010) emphasized the need to develop a language course with a clear focus on English for specific purposes and the target discipline, through a different study, aiming to provide in-depth insight into the needs of language learners. The findings also showed that learners have different expectations for using the target language for study or professional purposes, which can be an important concern in identifying learners' needs. Supporting the studies mentioned so far, Busturkmen (2006, 2010) claims that conducting needs analysis can help curriculum developers design effective ESP courses or programs. To conclude, most recent ESP researchers have supported Long's (2005) argument that a course without a needs analysis is not useful for its potential users since the needs they feel and the instructions they receive would not match.

The critical synthesis of this body of work reveals a consensus: the failure to meet learner needs often stems from a flawed or absent initial analysis, rather than a failure of the ESP framework itself (Long, 2005). More recent research further complicates this by demanding that course evaluation must now assess competency in digital and multimodal communication alongside traditional linguistic skills (Grapin & Llosa, 2020; Skains, 2017). Regarding the gap mentioned in the previous sections, this study aims at answering the following research questions:

**Research Question One:** What are the specific English needs of IPGC departments?

**Research Question Two:** Do IPGC departments differ in specific English needs in their workplace?

## Method

### Design

This study enjoys a qualitative approach investigating the specific English needs of Gas Company of Isfahan Province. Qualitative research is an umbrella term which is used to

refer to a vast and complex collection of research methodologies, rooted in anthropology, sociology, and philosophy. The wide approaches used in qualitative data collection mostly include discourse analysis, observation, verbal reports, diaries, interviews, and open-response questionnaire items (Croker, 2009). Depending on the nature and requirements of investigation, the appropriate method is applied. In case of investigating job-related linguistic needs, semi-structured interviews and open-response questionnaire items are the most applicable since they provide the researcher with as many perspectives as possible on real linguistic needs of the workplace. Interviews offer a way to deeply explore job-related experiences and the worldviews people bring with them to the job context. Semi-structures interviews allow for obtaining richer insights as compared to predetermined structured interviews. On the other hand, through open-response questionnaire items, the researcher can quickly and efficiently collect textual data from a relatively large number of participants. In the present investigation, both instruments were used for data collection. The details will be elaborated in the following section.

### **Participants**

The participants of the present investigation comprise 200 officially employed personnel in the Gas Company of Isfahan Province. The participants are employed in 20 different departments in the IPGC. Statistically, 50 percent of the total population (100 participants) took part in semi structured interviews by random, and all the 200 employees were surveyed through the needs analysis questionnaire. The number of employees in each department is specified in detail in the following section:

HSE: 13, Financial affairs:37, Logistics and Merchandise affairs:19, Implementation of Plans:37, Contract matters:9, Human resources:46, Research affairs:6, Custody:97, Law affairs:9, design services:6, Technical and Engineering services:26, Public relations: 7, Gas supply to industries:11, Gas measurement and distribution: 9, Technical inspection: 14, Technical and sales services:24, Transportation:8, Planning:13, Information and communication technology:26, optimization of gas consumption:9, District 3: 29, District 5: 29.

### **Instruments**

#### ***Semi-structured Interviews***

A semi-structured interview was developed by the researchers which includes 5 main categories of questions: 1. general needs 2. Specific job-related needs, 3. Challenges, 4. Learning preferences, and 5. Personal goals. The interviews were conducted and recoded by one of the researchers. The interviewees were free to add anything they thought would help in diagnosing their job-related language needs. The interview question list is available in appendix 1.

#### ***The Questionnaire***

After analyzing the content of the interviews through qualitative content analysis, the researchers came up with categories and patterns to structure the body of the questionnaire. The goal was to conduct a IPGC needs-based questionnaire which is completely in accordance with the data extracted from interviews. The Likert scale questionnaire included 28 questions followed by 3 open-answer questions. The reliability of the items of the questionnaire was evaluated using Cronbach's alpha Coefficient. The items enjoyed acceptable internal consistency with 0.89 value of reliability.

### **Procedure**

### Converting the Recorded Interviews to Text

In order to conduct qualitative data analysis, all interviews conducted with personnel from various units of the gas company - who were selected from 20 different organizational units - were carefully transcribed in accordance with scientific principles.

The restoration process was carried out word-for-word and with full fidelity to the original content of the participants' speech, so that tone, pauses, hesitations, and important linguistic points were also recorded in the text if they were relevant to the research objectives. In order to increase the accuracy and validity of the data, the audio files of the interviews were first listened to in several stages and then an initial transcription was performed. In the next stage, the transcriptions were reviewed and revised by the principal researcher to ensure full correspondence of the textual content with the spoken data. Also, in case of ambiguity in a part of the speech, the relevant audio file was reviewed again and the final decision was made carefully. It should be noted that at in all stages, ethical principles including maintaining confidentiality of information, anonymizing data, and informed consent of the participants were observed.

### Extracting the Language Needs Mentioned in the Interviews

The findings obtained from the content analysis of the interviews were the basis for designing the linguistic needs analysis questionnaire. In other words, the categories and subcategories extracted from the inductive analysis of the interviews were used as the central indicators for developing the questionnaire items. This approach, known as data-driven instrument development, allows the final instrument to be contextual, valid, and consistent with the linguistic realities of the gas company's workplace.

In the questionnaire design process, each main category extracted from the qualitative analysis was transformed into one or more measurable items, so that the content of each item is directly rooted in empirical data and the real language learning needs of employees. This method, especially in language needs assessment in professional environments, increases the content validity of the questionnaire (Long, 2005). The extracted linguistic and non-linguistic needs from interviews are coded in tables 1 and 2 below:

**Table 1**

*Linguistic Items*

Linguistic Item	Interview Item
Reading Comprehension	1, 2, 5, 11, 12, 13, 16
Writing	3, 4
Vocabulary/Translation	4, 6, 15, 7
Listening	8
Speaking	9

**Table 2**

*Non-Linguistic Items*

Non-linguistic Item	Interview Item
Technical Software	10
Course Achievement	17
Multimodal Material	18
Job-Related Media	19
Hours/Priorities/Continuity	20, 21

Personalized/Interactive Activity	22
Qualified Instructors	23
Assessment	24
Certificates	25
Recourses	26
Exposure to Language	27
Online/Offline Preferences	28

After conducting the interviews and coding the patterns extracted, the questionnaire was designed and distributed to meet the predicted needs of the IPGC personnel.

### Data Analysis and Results

As mentioned in the previous sections the data collected through the interviews were the cornerstone for making a specific IPGC needs-related questionnaire. The data collected through the questionnaire were analyzed in two phases; the first phase included the statistical analysis of the linguistic items mentioned in table 1. above. For the statistical analysis, the Statistical Package for Social Sciences (SPSS) version 22 was used. In order to analyze and prioritize the linguistic needs of the units under investigation, the Friedman test was applied. The Friedman test is used to compare three or more related groups (variables) or repeated measures. It analyzes the ranks of the data rather than the raw values, which makes it ideal for non-parametric data. In the present study, 5 linguistic variables were ranked: Reading comprehension, Listening, Speaking, Writing, and finally vocabulary/translation.

In the following section, the results of data analysis for IPGC units will be reported. Tables 3 to 9 respectively present the results of assessing the priority of linguistic needs of IPGC units separately. It is worth mentioning that the results reported here belong to the units in which the differences in linguistic needs are statistically meaningful; thus, the units with no significant differences in needs are not included.

#### Unit: Human Resources

**Table 3**

*Results of Friedman Test in Ordering Linguistic Needs in Human Resources*

Linguistic Needs	Mean Rank	Chi-Square	DF	P
Reading	3.43	14.51	4	.006
Writing	1.95			
Listening	2.90			
Speaking	3.38			
Vocabulary/Translation	3.35			

Table 3 shows the differences in linguistic needs for Human Resources in the IPGC. The value of Chi-Squares (14.51) at the evaluated DF shows that the linguistic needs are meaningfully different (0.006) at P : 0/05. The linguistic needs come in order: Reading >Speaking>Vocabulary/Translation>Listening> Writing

**Unit: Technical Engineering**

**Table 4**

*Results of Friedman Test in Ordering Linguistic Needs in Technical Engineering*

<b>Linguistic Needs</b>	<b>Mean Rank</b>	<b>Chi-Square</b>	<b>DF</b>	<b>P</b>
R	3.81	31.39	4	<b>.000</b>
W	2.05			
L	3.14			
S	2.36			
Voc/Trans	3.64			

Table 4 shows the differences in linguistic needs for Technical Engineering in the IPGC. The value of Chi-Squares (31.39) at the evaluated DF shows that the linguistic needs are meaningfully different (0.000) at P : 0/05. The linguistic needs come in order: Reading >Vocabulary/Translation>Listening> Speaking> Writing

**Unit: Measurement and Distribution**

**Table 5**

*Results of Friedman Test in Ordering Linguistic Needs in Measurement and Distribution*

<b>Linguistic Needs</b>	<b>Mean Rank</b>	<b>Chi-Square</b>	<b>DF</b>	<b>P</b>
R	4.67	17.08	4	<b>.002</b>
W	2.17			
L	2.33			
S	1.92			
Voc/Trans	3.92			

Table 5 shows the differences in linguistic needs for Measurement and Distribution in the IPGC. The value of Chi-Squares (17.08) at the evaluated DF shows that the linguistic needs are meaningfully different (0.002) at P : 0/05. The linguistic needs come in order: Reading >Vocabulary/Translation>Listening> Writing> Speaking

**Unit: Environment**

**Table 6**

*Results of Friedman Test in Ordering Linguistic Needs in Environment*

<b>Linguistic Needs</b>	<b>Mean Rank</b>	<b>Chi-Square</b>	<b>DF</b>	<b>P</b>
R	4.06	14.80	4	<b>.005</b>
W	1.69			
L	3.50			
S	2.06			

Voc/Tr	3.69
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Table 6 shows the differences in linguistic needs for Environment in the IPGC. The value of Chi-Squares (14.80) at the evaluated DF shows that the linguistic needs are meaningfully different (0.005) at P: 0/05. The linguistic needs come in order: Reading >Vocabulary/Translation>Listening> Speaking> Writing

#### Unit: Technical inspection

**Table 7**

*Results of Friedman Test in Ordering Linguistic Needs in Technical Inspection*

Linguistic Needs	Mean Rank	Chi-Square	DF	P
R	3.50	10.73	4	<b>.030</b>
W	2.18			
L	2.61			
S	2.96			
Voc/Tr	3.75			

Table 7 shows the differences in linguistic needs for Technical Inspection in the IPGC. The value of Chi-Squares (10.73) at the evaluated DF shows that the linguistic needs are meaningfully different (0.030) at P : 0/05. The linguistic needs come in order: Vocabulary/Translation>Reading> Speaking> Listening> Writing

#### Unit: Legal Affairs

**Table 8**

*Results of Friedman Test in Ordering Linguistic Needs in Legal Affairs*

Linguistic Needs	Mean Rank	Chi-Square	DF	P
R	4.14	11.05	4	<b>.026</b>
W	2.07			
L	3.50			
S	1.93			
Voc/Tr	3.36			

Table 8 shows the differences in linguistic needs for Legal affairs in the IPGC. The value of Chi-Squares (11.05) at the evaluated DF shows that the linguistic needs are meaningfully different (0.026) at P : 0/05. The linguistic needs come in order: Reading>Listening> Vocabulary/Translation> Writing > Speaking

#### Unit: Production unit

**Table 9**

*Results of Friedman Test in Ordering Linguistic Needs in Production*

Linguistic Needs	Mean Rank	Chi-Square	DF	P
R	4.17	19.64	4	<b>.001</b>
W	3.39			

L	2.86
S	2.39
Voc/Trans	2.19

Table 9 shows the differences in linguistic needs for Production in the IPGC. The value of Chi-Squares (19.64) at the evaluated DF shows that the linguistic needs are meaningfully different (0.001) at  $P : 0/05$ . The linguistic needs come in order: Reading > Writing > Listening > Speaking > Vocabulary/Translation

The summary of the results of the IPGC units with statically significant order of linguistic needs is provided in table 10. In other words, Table 10 briefly illustrates how linguistic needs differ per unit in the IPGC.

**Table 10**

*Summary of Linguistic Needs in Order of Priority for Specific Units*

Unit	1	2	3	4	5
<b>Human Resources</b>	Reading	Speaking	Vocabulary Translation	Listening	Writing
<b>Technical Engineering</b>	Reading	Vocabulary Translation	Listening	Speaking	Writing
<b>Measurement and Distribution Environment</b>	Reading	Vocabulary Translation	Listening	Writing	Speaking
<b>Technical Inspection</b>	Reading	Vocabulary Translation	Listening	Speaking	Writing
<b>Law</b>	Vocabulary Translation	Reading	Speaking	Listening	Writing
<b>Production</b>	Reading	Listening	Vocabulary Translation	Writing	Speaking
	Reading	Writing	Listening	Speaking	Vocabulary/ Translation

Other units of the IPGC which were also subject to ESP needs analysis showed no significant differences in the order of linguistic needs. These units included: Financial affairs; Implementation of plans; transportation; Public Relations; Technical and Sales services.

### Summary of the Results

Table 11 concludes the results obtained from all units under investigation ( with and without significant differences in linguistic needs) to show a holistic view of the English needs of the IPGC units:

**Table 11**

*IPGC Linguistic Needs*

Linguistic Needs	Mean Rank	Chi-Square	DF	P
Reading	3.62	119.49	4	<b>.000</b>
Writing	2.23			
Listening	3.06			
Speaking	2.67			
Vocabulary/Translation	3.42			

Table 11 shows the differences in linguistic needs for all the units in the IPGC. The value of Chi-Squares (119.49) at the evaluated DF shows that the linguistic needs are meaningfully different (0.000) at  $P : 0/05$ . The linguistic needs come in order: Reading>Vocabulary/translation>Listening>Speaking > Writing

In the second phase of data analysis, qualitative content analysis has been employed in order to analyze the data collected from complementary questions. Qualitative content analysis (QCA) is a research approach for the description and interpretation of textual data using the systematic process of coding. In the following section, the patterns extracted from open-ended questions will be discussed in detail.

### Discussion and Conclusion

The present investigation was an attempt to highlight the specific English needs of the Isfahan Province Gas Company(IPGC) with the aim of developing instructional materials based on a systematic needs analysis. The results obtained from both quantitative and qualitative data analyses are indicative of the fact that needs analysis plays a basic role in extracting workplace language needs for specialized job-related purposes. In the quantitative analysis of data, the order of specific linguistic skills claimed by the IPGC personnel revealed a compelling need for designing specialized English courses focusing on technical vocabulary and the ability to translate technical texts. This shows that the IPGC workplace English language needs exceed far from general English courses which are available and taught in language courses offered by the company. The order of skills required also demonstrates the preference of “reading comprehension” over other skills. The participants asserted their need for reading catalogues, standards, brochures, and instructions highly crucial. They also highlighted the need for translating the same texts into Persian. For instance, one of the participants said, “*we need to comprehend the original version of the work-place standards because in some cases their translation is vague*” (Participant 6). Another participant said that “*I passed a lot of general English courses; however, I am still unable to understand or translate the professional texts in my work-place; It seems that something has been wrong*” (Participant 2).

This finding is indeed confirmed by the qualitative textual analysis of data as the need to read and comprehend technical texts, papers, catalogues, and brochures is highlighted by the IPGC personnel of different units. The results report that the skill of “writing” is the least needed as claimed by the units under investigation. As it was mentioned in the results section, in some units of the IPGC, no significant differences in linguistic needs were observed. This finding can be justified from two aspects: first, the few number of participants in these units might have been the reason why the linguistic needs have not been different (Lakens,2022); second, it can be postulated that the mean scores of all linguistic needs have been so close that no differences could be observed in the priority of needs. This part of the research findings needs future investigation. The qualitative content analysis of data revealed patterns of linguistic and non-linguistic needs which complement the findings of the quantitative analysis. According to the categories found in the qualitative content analysis, the IPGC units mostly require technical English vocabulary for purposes of reading comprehension and technical translation. The categories of linguistic needs are elaborated as follows:

#### Specialized English Language Requirements: Vocabulary/Translation

1. Specialized vocabulary is required for each unit based on unit specifications.
2. Text translation is significantly dependent on mastering technical vocabulary.

3. Interdisciplinary vocabulary is required for inter-unit negotiation.

**Specialized English language requirement: Reading skills**

1. Reading catalogs and brochures are significantly required for all units.
2. Reading installation/operation/safety instructions are needed.
3. Reading standards are required in all units.
4. Reading labels is an important skill.
5. Reading comprehension is mostly based on technical vocabulary. It is also critical to read relevant and up-to-date scientific articles and texts to keep up with current world knowledge

**Specialized English Language requirement: Speaking/Listening**

1. Ability to present in international forums is highlighted.
2. Ability to introduce the National Gas Company (Managers) at conferences is important.
3. Listening to audio clips related to the position and field of study must be included in instructional materials.
4. The ability to negotiate with foreign experts must be gained.

**Specialized English Language Requirements: Writing Skills**

1. Report Writing can be added to the instructional material.
2. Writing Specialized Analyses is helpful.
3. Writing Letters or Emails in English can be added to English courses.
4. Writing Job Titles or Job Duties in English is regarded as an important skill.

The overall assessment of linguistic and non-linguistic needs adds emphasis to the fact that IPGC job-related language needs are not the same as what we usually see in a general English course. Instead, the IPGC personnel need English courses designed specifically based on language needs they face at workplace. This finding is in line with Shikder, et al.'s (2025) who reported the urgent need for special focus on vocabulary in the area of hospitality and communicative tasks in the hotel workplace (hospitality industry). This finding is in line with the literature confirming that needs analysis is the cornerstone to develop ESP course (Bytyqi, 2021; Amirian and Tavakoli, 2009; Lie, et al., 2011).

The discrepancy between workplace linguistic needs and the contents provided in language courses has been repeatedly claimed by the IPGC personnel during interview sessions. This finding also sheds light on the critical role that a systematic needs analysis can play in course design and development. Needs analysis is a fundamental component in designing effective English for Specific Purposes (ESP) courses, as it allows educators to tailor their curriculum to meet the specific needs of learners/language users. By identifying workplace language requirements, preferences, and goals, needs analysis ensures that the course content is relevant and applicable to their professional contexts. This process not only enhances learner engagement but also improves overall language proficiency.

The current gap between what the IPGC personnel already know and what they really need at real-world situations at workplace foregrounds a deeper understanding of ESP in industrial contexts. Therefore, it can be claimed that English books and courses provided as far should be reviewed and revised to meet the specific needs of the IPGC. The present study concentrated on the Gas Company of Isfahan as one of the big industries in Iran in order to assess the specific English needs felt at workplace. The findings of the present investigation can be used as a contribution for future researchers to reassess the efficiency of currently available English materials to move closer in the direction of industry needs and requirements. The focus can expand in wider aspects of oil and gas industry as well as other big industries in Iran. It is also suggested that future researchers consider the inherent limitations of the present work including the few number of participants and deepen understanding to such aspects.

**Note:** The present study is part of a larger project which resulted in the development of multimodal, technical English material for selected units.

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## Appendices

### Appendix 1: Semi-structured Interview

#### General questions

Current ability: How would you rate your current level of English proficiency (beginner, intermediate, advanced)?

Learning experience: Did you have any formal education before this? Have you studied English? If so, what kind and for how long?

If you have had any training, how effective has it been in achieving your career goals?

If you have not received training, what training do you feel you need?

#### Work-related needs

Career: In your role, what specific tasks require the use of English?

Types of communication: What types of communication in English are you most involved with (e.g. emails, reports)?

Technical vocabulary: Are there any specific technical terms or vocabulary related to gas industry that you are confused about?

Customer engagement: Do you interact with international clients or partners? If so, how comfortable are you with speaking English with them?

#### Challenges

Communication barriers: What challenges do you face when using English at work (e.g. vocabulary limitations, pronunciation problems)? You are facing?

Confidence level: Are you confident when speaking and writing in English in work-related situations?

Situational stresses: Are there situations where using English causes you stress or anxiety?

#### Learning preferences

Learning styles\*: How do you tend to learn new language skills (e.g., through conversation practice, reading texts, online courses)?

Instructional format preference: Group classes or one-on-one instruction? Why?

Flexible learning options\*: Are flexible learning hours appealing to your schedule? Can online resources help you learn?

#### Personal goals

Language Goals\*: What are your personal goals for improving your language skills within the next year?

Career aspirations: How to improve your language skills?

**Feedback and Resources**

Which resources have been helpful so far in improving language skills (websites, apps, books)?

**Company Support**

How can the company support employees like you who want to increase their professional capabilities?

**Ideal Training Program**

If we want to set up an ideal training program focusing on strengthening business communication skills and specifically designed to meet the needs of our industry—what would you recommend?

**Complementary comments**

Is there anything else you would like to share about your own language learning needs or experiences? These questions aim to provide a thorough understanding of your employees' current proficiency, challenges, preferences, and goals related to their language skills in the gas industry.