

TEACHING VOCABULARY RELATED TO SEISMIC SAFETY FOR CADETS-RESCUERS

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Abstract

This article explores effective methods of teaching vocabulary related to seismic safety for cadets-rescuers. It emphasizes the significance of specialized terminology in the professional development of future rescuers and outlines pedagogical approaches that enhance lexical competence. Special focus is given to practical exercises, simulation tasks, and bilingual glossaries that allow cadets to master seismic safety vocabulary in real-life contexts.

Keywords: Seismic safety, cadets-rescuers, miscommunication, evacuation real-life scenarios, real rescue operations, challenges, contextual learning, simulation, practical exercises.

Introduction

Seismic safety remains a critical issue in the modern world, especially in seismically active regions. For cadets-rescuers, knowledge of professional vocabulary is not merely linguistic competence but a vital part of operational readiness. Miscommunication or lack of understanding during an earthquake emergency may cost lives [3]. Therefore, seismic safety vocabulary teaching should integrate linguistic accuracy, professional applicability, and psychological readiness for stressful situations.

Teaching vocabulary plays an important role in professional training. Language of rescuers must be precise and quick. A mistake in terminology may lead to wrong actions during earthquake response. Knowledge of English terminology is especially important for international cooperation (UN, Red Cross, joint drills) [2][4].

Vocabulary related to seismic safety covers the following domains:

- Natural phenomena – epicenter, seismic waves, aftershock, foreshock, fault line.
- Risk assessment – magnitude, Richter scale, intensity, ground motion.
- Protective measures – evacuation route, earthquake-resistant structure, safety drill.
- Rescue operations – search and rescue, emergency response, debris clearance, first aid.
- Equipment – seismograph, helmet, protective gear, communication devices.

By mastering this terminology, cadets can: a) operate effectively in rescue missions; b) understand international standards (FEMA, UN, Red Cross); c) ensure precise communication in multilingual teams.

The methodology for teaching seismic-safety vocabulary to cadets-rescuers must combine linguistic instruction with professional training, ensuring that learners not only understand the terms but can also apply them accurately in real rescue situations. Practical training is essential in this methodology. Field exercises, simulation drills, and scenario-based tasks immerse cadets in conditions that mirror real earthquakes. During these activities, instructors can integrate targeted vocabulary tasks, prompting cadets to identify hazards, describe structural damage, or give instructions using precise terminology. This blend of language learning and hands-on practice strengthens both linguistic accuracy and operational readiness.

Methodology of teaching seismic vocabulary includes following elements:

1. Contextualized Learning. This step involves introducing new vocabulary within meaningful contexts rather than as isolated word lists. Instructors can begin by presenting authentic materials such as vocabulary, introduced through real-life scenarios, case studies, and earthquake response manuals. For example, students analyze a report on the 2011 Japan earthquake and extract professional terms.
2. Another important methodological element is the use of scaffolded instruction. After the initial introduction of terms, cadets engage in guided exercises that gradually increase in complexity [5]. For example, they may start by matching terms with definitions, then move on to describing images or processes, and eventually progress to interpreting short seismic reports. This staged approach

allows learners to reinforce understanding step by step while steadily developing confidence.

3. Task-Based Approach. The task-based approach is especially effective in teaching seismic-safety vocabulary to cadets-rescuers because it places language learning within meaningful, goal-oriented activities that mirror real emergency situations. Instead of focusing solely on memorizing terms, cadets learn vocabulary by using it to complete authentic tasks directly related to their professional responsibilities. (e.g., “Rescue operation after a 6.8 magnitude earthquake”).

4. Simulation and Role-Play. Interactive and collaborative activities also play a key role. Instructors organize mock earthquake drills where cadets must give instructions, report casualties, and coordinate evacuation using correct vocabulary [1]. Pair and group tasks such as problem-solving discussions, role-plays, and teamwork-based emergency simulations encourage cadets to use new vocabulary actively. By communicating with peers in realistic contexts, they internalize the terminology more naturally and learn to respond appropriately during coordinated rescue operations.

5. Visual and Multimedia Tools. Instructors can present authentic materials such as Seismic maps, diagrams, 3D models of fault lines, videos of real rescue operations or short videos that depict seismic events. These resources help cadets see how the terminology functions in real-life scenarios and build an immediate connection between the word and its practical use.

6. Translation and Glossary Building. Translation and glossary building play an essential role in teaching seismic vocabulary to cadets-rescuers. The use of translation allows cadets to understand complex seismic concepts more quickly by linking them to familiar terms in their native language. During the lessons cadets can compile bilingual glossaries (English–Russian/Uzbek) which help overcome cross-linguistic gaps. For example, words such as *fault line*, *aftershock*, or *liquefaction* may be difficult to grasp through explanation alone. Providing accurate translations, supported by visuals or examples, helps clarify meaning and prevents incorrect associations.

Teaching seismic-safety vocabulary to cadets-rescuers involves several important **challenges** that influence both comprehension and practical application. One of the main difficulties is the abstract nature of a huge amount of the terminology. Concepts such as *epicenter*, *magnitude*, *aftershock*, or *structural integrity* can be

hard for learners to visualize when presented only through definitions. To address this issue, instructors can rely on visualization tools and digital simulations. Animated models of seismic activity, interactive maps, and virtual scenarios help cadets form concrete mental images of otherwise abstract processes, making the new vocabulary easier to grasp and remember.

A second challenge arises from the stressful and high-risk context in which seismic-safety vocabulary is used. During emergencies, rescuers must recall and apply terminology quickly and accurately, often under physical and emotional pressure. To prepare cadets for such conditions, training should include repeated drills, scenario-based activities, and controlled simulations of rescue operations. Consistent practice in realistic situations reduces anxiety and strengthens the automatic use of terminology when it is most needed.

A third challenge is a language interference which can hinder vocabulary acquisition, especially for cadets who study English as a foreign language. Many seismic-safety terms have no direct equivalents in learners' native languages or may resemble familiar words with different meanings, leading to confusion. This challenge can be mitigated through systematic glossary work. Creating structured glossaries with clear definitions, examples, visuals, and translations helps cadets develop precise term-to-concept connections. Regular review of these glossaries in meaningful contexts reinforces accurate understanding and prevents misunderstandings.

Conclusion

Overall, addressing these challenges through visualization, practical drills, and targeted glossary development creates a comprehensive learning environment that supports both linguistic and professional competence in seismic-safety communication [6]. Continuous assessment supports the learning process. Short quizzes, reflective journals, vocabulary checklists, and performance evaluations during drills help monitor cadets' progress. Feedback allows instructors to identify areas where learners struggle – whether with pronunciation, comprehension, or correct usage – and adjust the teaching strategy accordingly. The acquisition of seismic safety vocabulary is a vital part of cadet-rescuers' professional training. An effective methodology for teaching seismic vocabulary combines contextual learning, structured practice, interactive communication, simulation, glossary development, and practical exercises. Such an integrated

approach ensures that cadets not only remember terminology and develop the necessary linguistic competence but also apply it fluently increasing their confidence in using specialized terminology during high-pressure, real emergency response situations and rescue missions.

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