SIMULATION-BASED SPEAKING ACTIVITIES FOR DEVELOPING PROFESSIONAL ENGLISH COMMUNICATION SKILLS OF CYBER SECURITY STUDENTS

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Abstract

This article examines the role of simulation-based speaking activities in developing professional English communication skills among cyber security students. In the field of cyber security, technical knowledge alone is not sufficient. Future specialists must also be able to explain risks, report incidents, communicate with team members, and present security solutions clearly in English. However, many students experience difficulties when speaking in professional contexts because they lack confidence, field-specific vocabulary, and practice in realistic situations. This study discusses how classroom simulations, role-plays, incident-response scenarios, and professional dialogues can help students use English in meaningful cyber security contexts. The article argues that simulation-based speaking activities increase learner motivation, improve fluency, develop professional vocabulary, and prepare students for real workplace communication. The findings suggest that such activities should be integrated into English courses for cyber security students in higher education.

Key words: *simulation-based learning; speaking skills; cyber security education; professional English; ESP; communicative competence; role-play; higher education*

Introduction

English has become an important professional skill for students studying cyber security, information technology, and related fields. Cyber security specialists often work with international documentation, software tools, security reports, global standards, and multinational teams. In many professional situations, they need to explain technical problems, describe risks, give recommendations, and communicate clearly with both technical and non-technical people.

For this reason, English language teaching in cyber security education should not be limited to general grammar and vocabulary. Students need English that is connected with their future profession. They should be able to use English in realistic situations such as reporting a cyber attack, explaining a data breach, discussing password security, presenting a security policy, or giving instructions during an incident response.

One of the main problems in English classes is that students may know technical words but still feel uncomfortable using them in speech. They may understand cyber security concepts in their native language, but they often struggle to explain them clearly in English. This creates a gap between professional knowledge and professional communication.

Simulation-based speaking activities can help reduce this gap. A simulation creates a realistic classroom situation where students perform professional roles. For example, one student may act as a cyber security analyst, another as a company manager, and another as a client affected by a security incident. Through such activities, students practise not only language but also professional thinking, problem-solving, and communication.

This article explores how simulation-based speaking activities can support the development of professional English communication skills among cyber security students. It also discusses the role of the teacher, the importance of professional vocabulary, and the value of realistic classroom tasks.

Literature Review

The idea of communicative language teaching emphasizes that language should be learned through meaningful communication. Hymes (1972) introduced the concept of communicative competence, which refers to the ability to use language appropriately in real social situations. Later, Canale and Swain (1980) developed this idea further by identifying grammatical, sociolinguistic, discourse, and strategic competence as important components of communication.

In English for Specific Purposes, language teaching is connected with learners' academic or professional needs. Dudley-Evans and St John (1998) state that ESP courses should be designed according to the specific needs of learners. This is particularly relevant for cyber security students because their future communication will often involve technical explanations, warnings, reports, and professional discussions.

Simulation-based learning is considered an effective method for preparing students for real-life communication. Jones (1982) describes simulations as classroom activities in which learners take on roles and interact within a realistic situation. Such activities allow learners to practise language in a context that is close to real professional experience. In language teaching, simulations can make lessons more active, purposeful, and learner-centered.

Role-play and simulation are especially useful for speaking development. According to Littlewood (1981), communicative activities encourage learners to use language creatively and spontaneously. Instead of simply repeating memorized sentences, students must listen, respond, clarify, negotiate meaning, and solve problems. These skills are essential in professional communication.

In cyber security education, communication skills are highly important. A cyber security specialist may need to explain a technical issue to a manager, warn employees about phishing attacks, present an incident report, or cooperate with a team during a security emergency. These situations require clear language, confidence, accuracy, and the ability to adapt explanations to different audiences.

Therefore, simulation-based speaking activities can connect English language learning with cyber security practice. They help students develop professional vocabulary, improve fluency, and become more confident in using English for workplace communication.

Methodology

This study uses a descriptive-analytical research design. It is based on the analysis of teaching methods related to simulation-based learning, communicative language teaching, and English for Specific Purposes. The study also considers practical classroom application for cyber security students in higher education.

The proposed teaching model includes several types of simulation-based speaking activities:

1. **Incident-response role-play**

Students act as members of a cyber security team responding to a data breach or phishing attack.

2. **Client consultation simulation**

Students explain a security problem to a client and suggest possible solutions.

3. **Security briefing**

Students present short oral reports about cyber threats, safe password use, malware, or network protection.

4. **Team meeting simulation**

Students discuss a cyber security issue, divide responsibilities, and agree on an action plan.

5. **Non-technical explanation task**

Students explain a complex cyber security concept in simple English for ordinary users.

The activities follow three main stages: preparation, simulation, and feedback. In the preparation stage, students learn useful vocabulary, phrases, and background information. In the simulation stage, they perform their assigned roles and complete the communicative task. In the feedback stage, the teacher discusses language use, pronunciation, clarity, professional vocabulary, and communication strategies.

Results

The analysis suggests that simulation-based speaking activities can improve professional English communication skills in several important areas.

Skill area	Positive classroom effect
Speaking fluency	Students speak more naturally when they have a clear role and purpose
Professional vocabulary	Students use cyber security terms in meaningful contexts
Confidence	Students practise asking questions, clarifying, explaining, and responding
Interaction skills	Students experience communication situations similar to real professional tasks
Workplace readiness	Students practise asking questions, clarifying, explaining, and responding

The first important result is the improvement of speaking fluency. When students participate in simulations, they are not simply answering textbook questions. They have to communicate to complete a professional task. This encourages more natural and extended speaking.

The second result is better use of professional vocabulary. Cyber security terms such as phishing, malware, firewall, data breach, vulnerability, encryption, authentication, and risk assessment become easier to remember when students use them in realistic communication.

The third result is increased confidence. Many students are afraid of making mistakes when speaking English. Simulation activities reduce this fear because students focus on solving a problem rather than producing perfect grammar. Over time, this helps them become more willing to speak.

The fourth result is the development of interaction skills. In real professional situations, communication is not only about giving information. Specialists must ask questions, check understanding, clarify problems, and explain solutions. Simulation-based activities provide practice in all these areas.

Finally, simulation-based learning supports workplace readiness. Students begin to understand how English may be used in their future careers, not only in exams or classroom exercises.

Discussion

The results show that simulation-based speaking activities are valuable because they connect English language learning with professional cyber security contexts. This is important because students are more motivated when they understand how classroom activities relate to their future career.

In traditional speaking lessons, students may discuss general topics that are not connected with their field. While such topics can be useful, they may not fully prepare cyber security students for professional communication. Simulation-based tasks are more relevant because they reflect real situations that students may face in their future jobs.

The teacher's role is very important in this process. The teacher should not simply ask students to "speak." Instead, the teacher must create a clear scenario, provide useful vocabulary, assign roles, explain the communication goal, and give feedback after the activity. Without preparation, simulations may become confusing or superficial. With proper guidance, they become meaningful and effective.

Another important point is the balance between fluency and accuracy. During the simulation, students should be encouraged to communicate freely. Constant correction during speaking may interrupt the activity and reduce confidence. However, after the simulation, the teacher can discuss common mistakes and suggest better expressions. In this way, students develop both fluency and accuracy.

Simulation-based speaking activities also help students practise communication with different audiences. A cyber security specialist may speak to another technical expert, a company director, an employee, or a client. Each audience requires a different style of explanation. For example, when speaking to a non-technical person, the student must avoid overly complex terminology and explain the issue in clear, simple English. This ability is very important in professional life.

For Cyber University, this approach is especially relevant because the university prepares students for modern digital and technical professions. English courses should support this mission by helping students communicate professionally in their

field. Simulation-based activities can make English lessons more practical, career-oriented, and engaging.

Conclusion

This article has examined the role of simulation-based speaking activities in developing professional English communication skills among cyber security students. The analysis shows that simulations can make English lessons more realistic, interactive, and relevant to students' future careers.

Through role-plays, incident-response scenarios, client consultations, security briefings, and team meeting simulations, students practise English in meaningful professional contexts. These activities help improve fluency, confidence, professional vocabulary, interaction skills, and workplace readiness.

The study concludes that simulation-based speaking activities should be integrated into English courses for cyber security and IT students. Such activities allow learners to move beyond general English practice and develop the communication skills needed in real professional environments. With careful teacher guidance, simulation-based learning can become an effective method for preparing students to use English confidently in their future careers.

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