



**DEVELOPING ACADEMIC WRITING SKILLS IN GERMAN AMONG
ENGINEERING STUDENTS**

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A B S T R A C T	K E Y W O R D S
<p>In the context of the internationalization of higher education and increasing academic mobility, academic writing in a foreign language has become an essential component of professional training for future engineers. Particular attention should be paid to developing academic writing skills in German, as Germany remains one of the leading centers of scientific and technological innovation in Europe. The purpose of this study is to identify effective methodological approaches to developing academic writing skills in German among engineering students. The research employed pedagogical observation, analysis of students’ written assignments, questionnaires, and comparative analysis of learning outcomes. The findings demonstrate that stage-based instruction, a genre-oriented approach, and the integration of digital educational tools positively influence students’ academic writing performance.</p>	<p>Academic writing, German language, engineering education, professional communication, language competence, technical university, teaching methodology.</p>

INTRODUCTION

Modern engineering education places increasing demands on students’ foreign language competence. In addition to mastering professional terminology, future engineers are expected to write scientific texts, prepare abstracts, compose technical reports, develop research papers, and participate in international academic communication.

The German language occupies an important position in engineering, industrial technologies, and applied sciences. Numerous scientific publications, technical manuals, and academic exchange programs require students to demonstrate proficiency in academic written discourse. However, engineering students often experience difficulties when producing academic texts in German.

Common challenges include:

- limited knowledge of academic vocabulary;
- insufficient understanding of scientific writing conventions;
- problems with organizing ideas logically;
- grammatical inaccuracies;
- difficulty integrating technical terminology appropriately.

For example, engineering students frequently write:

Incorrect:

"Die Technologie ist gut und interessant."

Improved academic version:

"Die entwickelte Technologie weist eine hohe Effizienz bei der Datenübertragung auf."

(The developed technology demonstrates high efficiency in data transmission.)

Another example:

Informal:

"Wir haben das Experiment gemacht und gute Resultate bekommen."

Academic style:

"Die Ergebnisse des Experiments zeigen eine positive Entwicklung der untersuchten Parameter."

(The experimental results demonstrate positive development of the examined parameters.)

Despite extensive research on foreign language teaching in non-linguistic universities, the development of academic writing specifically in German for engineering students remains insufficiently explored. Existing approaches often focus mainly on communicative competence rather than discipline-specific academic literacy.

Aim of the study

To identify effective pedagogical conditions for developing academic writing skills in German among engineering students.

Research objectives

1. To examine theoretical foundations of academic writing in German.
2. To identify common difficulties faced by engineering students.
3. To design a set of instructional activities for developing academic writing competence.
4. To evaluate the effectiveness of the proposed methodology.

Methods

The study was conducted among engineering students at a technical university during one academic semester.

The following research methods were applied:

- analysis of scientific and methodological literature;
- classroom observation;
- diagnostic testing;
- analysis of students' written assignments;
- questionnaires;
- comparative evaluation of learning outcomes.

The instructional process consisted of three stages.

Stage 1: Preparatory Stage

Students became familiar with:

- the structure of German academic texts;
- features of scientific style;
- academic vocabulary;
- conventions of introductions, body paragraphs, and conclusions.

Example task:

Write a 150-word introduction for the topic:

“Erneuerbare Energien in modernen technischen Systemen”

(Renewable Energy in Modern Technical Systems)

Stage 2: Practical Stage

Students completed activities involving:

- writing abstracts;
- preparing technical descriptions;
- composing literature reviews;
- producing analytical reports.

Example exercise:

Transform informal sentences into academic style.

Informal:

"Die Maschine arbeitet schnell."

Academic:

"Die entwickelte Maschine zeichnet sich durch eine hohe Betriebseffizienz aus."

Students also practiced connectors frequently used in German academic writing:

- **darüber hinaus** (furthermore)
- **folglich** (therefore)
- **im Gegensatz dazu** (in contrast)
- **zusammenfassend** (in summary)

Stage 3: Final Stage

Students completed an independent mini-research project in German (1000–1500 words).

Sample topics:

- Künstliche Intelligenz im Ingenieurwesen
(Artificial Intelligence in Engineering)
- Digitale Transformation technischer Systeme
(Digital Transformation of Technical Systems)

Assessment criteria included:

- logical organization;
- linguistic accuracy;
- academic style;
- terminology use;
- coherence and cohesion.

Results

The analysis demonstrated measurable improvement in students' academic writing performance. After implementation of the proposed methodology, the following outcomes were observed:

- improved text organization;
- reduction in grammatical errors;
- expansion of technical vocabulary;
- stronger argumentation skills;
- increased independence in academic writing.

Example:

Before instruction:

"Deutschland hat gute Technologie."

After instruction:

"Deutschland nimmt eine führende Position bei der Entwicklung innovativer Ingenieurtechnologien ein."

The most effective instructional elements included:

1. genre-based instruction;
2. use of authentic academic texts;
3. staged editing procedures;
4. digital feedback platforms.

The findings suggest that academic writing development requires integration of language learning with professional engineering content.

Discussion

The results confirm that developing academic writing skills is a multidimensional process involving linguistic, cognitive, and professional competencies.

Unlike traditional approaches focused primarily on grammar instruction, the proposed model emphasizes practical application of German in academic and professional contexts.

For example, students reported greater confidence when writing conference abstracts and technical summaries after completing structured writing tasks.

Future research may explore the integration of artificial intelligence tools and automated feedback systems into German academic writing instruction.

Conclusion

Developing academic writing skills in German is an important component of engineering education. Effective instruction should combine genre-based pedagogy, professional orientation, and modern educational technologies.

The proposed instructional model may contribute to improving German language curricula in technical universities and preparing students for international academic communication and professional collaboration.

References

1. Biber, D., Gray, B., & Poonpon, K. (2011). Should we use characteristics of conversation to measure grammatical complexity in L2 writing development? *TESOL Quarterly*, 45(1), 5–35.
2. Cumming, A. (2006). *Goals for academic writing: ESL students and their instructors*. Lawrence Erlbaum Associates.
3. Flowerdew, J. (2013). *Discourse in English language education*. Routledge.
4. Galskova, N. D., & Gez, N. I. (2009). *Theory of teaching foreign languages: Linguodidactics and methodology*. Academy Publishing.
5. Grabe, W., & Kaplan, R. B. (2014). *Theory and practice of writing: An applied linguistic perspective*. Routledge.
6. Hyland, K. (2019). *Second language writing (2nd ed.)*. Cambridge University Press.
7. Hyland, K. (2016). *Teaching and researching writing (3rd ed.)*. Routledge.
8. Krumm, H. J., Fandrych, C., Hufeisen, B., & Riemer, C. (Eds.). (2010). *Deutsch als Fremd- und Zweitsprache: Ein internationales Handbuch*. Walter de Gruyter.
9. Nation, I. S. P. (2013). *Learning vocabulary in another language (2nd ed.)*. Cambridge University Press.
10. Oshima, A., & Hogue, A. (2014). *Writing academic English (5th ed.)*. Pearson.