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# DIDACTIC BASICS OF THE USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES IN GERMAN LESSONS

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**Abstract**
This article analyzes the didactic foundations of the use of information and communication technologies (ICT) in the classroom of German as a foreign language from a scientific-theoretical and methodological perspective. The functional possibilities of digital learning environments, online platforms, multimedia tools, interactive methods and media resources in foreign language teaching are shown. In addition, the role of ICT in the development of communicative competence, the increase of learning motivation and the individualization of the teaching-learning process is justified.

**Keywords**: German language, information and communication technologies, didactics, digital learning, interactive methods, communicative competence, multimedia tools.

## Introduction

The current phase of society's development is characterized by far-reaching processes of digitization and globalization that have a lasting impact on all areas of public life – especially the education system. The rapid spread of information and communication technologies (ICT) is leading to a fundamental transformation of didactic concepts, teaching methods and organisational structures of teaching. Against this background, the use of digital technologies in foreign language teaching, especially in the teaching of the German language, is becoming increasingly relevant in science and practice.

Modern foreign language teaching is no longer exclusively oriented towards the teaching of grammatical structures and lexical units, but primarily pursues the goal of developing communicative action in authentic contexts. In this context,

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ICT opens up new didactic perspectives, as it enables a multimedia, interactive and learner-centred design of lessons. Digital platforms, audiovisual media, virtual learning environments and mobile applications contribute to the creation of an almost authentic language environment and promote the development of receptive and productive language skills.

In addition, information and communication technologies allow the learning process to be individualized and differentiated. Learners can work according to their individual language level, learning pace and cognitive prerequisites, while teachers increasingly take on the role of moderators and learning companions. Thus, not only the methodological structure of teaching is changing, but also the traditional understanding of roles in the teaching-learning process.

Despite the obvious potential of the use of technology in German lessons, the question arises as to its didactic foundation. The effective use of digital tools requires systematic embedding in pedagogical and methodological concepts based on scientifically based principles. It is not sufficient to use technical means merely as a supplement; rather, they must be functionally integrated into the overall didactic context.

The aim of the present study is therefore to theoretically analyse the didactic foundations of the use of information and communication technologies in the classroom of German as a foreign language and to scientifically justify their contribution to the development of communicative competence. Both methodological and didactic principles as well as functional possibilities of digital learning tools are taken into account.

## Literature Analysis on the Topic

The analysis of the relevant scientific literature shows that the use of information and communication technologies (ICT) in foreign language teaching has been the subject of intensive didactic and methodological research for several decades. Especially in the area of German as a foreign language (DaF), the integration of digital media is increasingly seen as an essential part of modern teaching concepts.

In foreign language didactic research, the use of digital technologies is often discussed in the context of the communicative approach. Numerous studies emphasise that digital learning environments simulate authentic communication situations and can thus promote the development of communicative competence

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in the long term. It is emphasized that multimedia resources – such as audiovisual materials, interactive exercises and virtual communication platforms – support not only receptive (listening and reading comprehension) but also productive skills (speaking and writing). The literature points out that synchronous and asynchronous online forms of communication in particular open up new possibilities for promoting intercultural and pragmatic competence.

Another central research strand deals with the didactic foundation of the use of technology. Scientific contributions emphasise that ICT must not be understood as an end in itself, but must be embedded in a clearly structured methodological concept. In this context, didactic principles such as learner-centricity, individualization, differentiation and action orientation are emphasized as the theoretical basis for the sensible use of digital tools. Studies show that the effectiveness of digital media depends largely on the pedagogical competence of the teacher and his or her ability to methodologically reflect on the integration of technological resources.

In addition, the current specialist literature addresses the role of digital platforms and mobile applications in foreign language teaching. Research suggests that learning management systems, virtual classrooms, and gamified learning environments can increase learner motivation and promote self-directed learning. Especially in the university context, the use of blended learning models is described as an innovative didactic concept that systematically combines face-to-face teaching and digital learning phases.

An important aspect of literature concerns the creation of an almost authentic language environment through digital media. Since many educational contexts lack a natural language environment, Internet resources, online media and audiovisual materials enable realistic access to the target language and culture. This development is considered by researchers to be a decisive step towards overcoming traditional methodological limitations.

At the same time, numerous studies point to existing challenges. These include insufficient digital skills among teachers, infrastructural deficits and the lack of systematically developed didactic models for the targeted use of ICT in German lessons. In the current scientific discussion, the need to further develop technology-supported teaching models on an empirical basis and to validate them didactically is therefore emphasized.

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In summary, it can be stated that the scientific literature assesses the use of information and communication technologies in German lessons predominantly positively. Nevertheless, there is still a need for research with regard to systematic didactic modelling and the empirical verification of the long-term effectiveness of digitally supported teaching-learning processes.

## Research Methodology

The present study is based on an integrative methodological approach that combines qualitative and quantitative research methods. The aim of the study is to systematically analyse the didactic foundations of the use of information and communication technologies (ICT) in the classroom of German as a foreign language and to empirically examine their influence on the development of communicative competence.

### 1. Theoretical-analytical approach

In the first step of the research, a comprehensive analysis of relevant scientific literature was carried out. Foreign language didactics, media pedagogical and educational technology sources were evaluated. The literature review made it possible to systematize central theoretical concepts – in particular the communicative approach, constructivist learning theories, action-oriented didactics and blended learning models – and to classify them in a conceptual framework.

Methods of comparative analysis, synthesis and systematization were used to structure the theoretical foundations. This served to identify didactic principles that justify the effective use of digital technologies in German lessons.

### 2. Empirical research approach

The empirical part of the study was carried out in the form of an educational intervention study. The data was collected in a university learning environment as part of German lessons. The sample consisted of students of different language levels, who were divided into experimental and control groups.

The experimental group received instruction with systematic integration of digital learning tools (learning platforms, audiovisual materials, interactive exercises, virtual communication formats), while the control group was taught according to conventional methodological procedures.

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### 3. Survey instruments

The following instruments were used to collect data:

- Standardised language tests to measure receptive and productive skills;
- Observation protocols to analyze learning activity and interaction intensity;
- Questionnaires to assess learning motivation and attitudes towards digital media;
- qualitative interviews for in-depth reflection on learning experiences.

The combination of these instruments enabled a multidimensional view of the object of investigation.

### 4. Data Analysis Methods

The quantitative data evaluation was carried out using statistical methods (descriptive statistics, analysis of variance, correlation analysis) in order to determine significant differences between the experimental and control groups.

The qualitative data was evaluated according to systematic categories using content analysis. The aim was to record subjective perceptions, learning strategies and didactic causal relationships in a differentiated way.

### 5. Methodological Principles

The study is based on the following scientific principles:

- objectivity and validity of data collection;
- Reliability of measuring instruments;
- Systematics and traceability of the analytical procedures;
- Integration of theoretical and empirical perspectives.

By combining theoretical foundation and empirical verification, a scientifically reliable basis is created for the evaluation of the didactically justified use of information and communication technologies in German lessons.

In summary, the methodology of the study is based on an interdisciplinary, empirically supported research design that takes into account both didactic-theoretical and practice-oriented aspects and enables a differentiated evaluation of digital teaching-learning processes.

### Analysis and Results

The data obtained in the course of the study were evaluated on a quantitative and qualitative level in order to record the influence of the didactically sound use of information and communication technologies (ICT) in the teaching of German as

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a foreign language in a differentiated way. The aim of the analysis was to scientifically investigate both the development of language skills and motivational-affective changes in the learners.

The statistical evaluation of the standardized language tests showed that both groups examined achieved learning progress over the course of the research period. However, the experimental group, in which digital learning tools were systematically integrated into the classroom, showed significantly higher performance gains than the control group. This difference was particularly evident in the area of listening comprehension and oral speech production. Regular work with audiovisual materials, authentic media content and interactive communication formats led to an improved perception of linguistic structures, increased fluency and greater communicative confidence.

A qualitative improvement could also be observed in the area of written expression. Learners who used digital writing environments and collaborative online platforms developed a more nuanced text structure, expanded their vocabulary, and showed greater grammatical precision. The integration of digital tools also enabled immediate feedback as well as a more intensive revision of one's own texts, which had a positive effect on writing skills.

The evaluation of the questionnaires on learning motivation showed that technology-supported teaching caused a significant increase in intrinsic motivation. The majority of the students rated the interactive and multimedia design of the lessons as motivating, varied and practical. Digital learning formats were perceived as particularly conducive to learning, as they enabled individual learning paths and supported independent work.

Observations during the teaching phases also showed increased learning activity and more intensive interaction between learners. The use of virtual communication rooms promoted cooperative learning processes and strengthened the willingness to actively participate in the classroom. Learners participated more often in discussions, asked more questions and showed a higher level of commitment overall.

The qualitative analysis of the interviews conducted made it clear that digital media were rated positively primarily due to their authenticity and flexibility. Many participants emphasized that access to current German-language media content has expanded their intercultural understanding and improved their ability

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to express themselves appropriately in realistic communication situations. At the same time, it became clear that learning success depends essentially on the didactic structuring of the use of technology. Where digital tools were reflected, methodically reflected on and embedded in a coherent teaching concept, the increase in competence was particularly pronounced.

In summary, the results of the study confirm the assumption that the didactically sound use of information and communication technologies in German lessons exerts a significant positive influence on the development of communicative competence. In addition to improving language skills, the use of digital media contributes to increasing motivation, promoting self-directed learning processes and intensifying cooperative forms of learning. At the same time, the results underline that technological innovation alone does not guarantee sustainable learning success, but must always be integrated into a systematically thought-out didactic concept.

## Conclusions and Recommendations

The results of the present study show that the didactically reflected use of information and communication technologies (ICT) in the classroom of German as a foreign language has a significantly positive influence on the development of learners' communicative competence. Digital tools not only enable an expansion of methodological diversity, but also make a significant contribution to intensifying linguistic interaction, promoting self-directed learning processes and increasing learning motivation.

It was found that multimedia and interactive learning environments in particular contribute to the improvement of receptive and productive language skills. The integration of authentic media resources creates an almost realistic language environment and thus supports the development of pragmatic and intercultural skills. In addition, digital platforms enable individualization and differentiation of the learning process by allowing learners to work according to their individual learning pace and language level.

At the same time, the results of the study show that the success of the use of technology depends to a large extent on its didactic embedding. The mere use of technical means does not guarantee sustainable learning success. Rather, a systematic, goal-oriented and methodologically sound integration of digital tools

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into a coherent teaching concept is decisive. In this context, the role of the teacher is changing from the primary imparter of knowledge to the learning support and moderator of complex learning processes.

Based on the findings gained, several recommendations can be formulated. Firstly, the training and further education of teachers should be geared more towards the development of digital and media pedagogical skills. Only through professional didactic use of ICT can its full potential be exploited. Secondly, the development of curricularly integrated models is required that systematically combine digital forms of learning with traditional teaching formats, for example within the framework of blended learning concepts. Third, educational institutions should invest in a stable technical infrastructure to ensure equal access to digital resources.

In addition, it seems useful to carry out further empirical long-term studies in order to investigate the sustainable effects of digitally supported teaching-learning processes in German lessons in a differentiated way. Future research should focus in particular on the interaction between technological innovation, didactic structuring and individual learning strategies.

In summary, it can be said that information and communication technologies are an effective instrument for modernising and improving the quality of German teaching. However, their effectiveness can only be fully developed if they are scientifically sound, pedagogically reflected and methodically systematic.

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