

# SHAPING THE TEACHER'S ROLE: NAVIGATING DIVERSE RESPONSES TO DIGITAL TRANSFORMATION IN AUSTRIAN MIDDLE SCHOOLS

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## Abstract

In recent years, digital collaboration and communication have significantly impacted the educational sector in Austria. This study focuses on how teachers integrate digital tools with traditional teaching, affecting lesson preparation, classroom dynamics, and communication. Interviews with ten Austrian middle-school teachers revealed a positive attitude towards digitalization, emphasizing the need for well-equipped infrastructure and continuous professional development. The findings suggest that the benefits of digitalization in education outweigh the risks, advocating for ongoing teacher training in digital competencies.

**Keywords:** *Digital transformation, middle school education, teacher adaptation, educational technology, Austrian schools.*

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## 1. Introduction

For over two years, the COVID-19 pandemic has dramatically altered our daily lives, impacting sectors globally, including education. The crisis necessitated rapid and significant shifts to digital platforms in various domains. Schools and universities transitioned to remote learning, revealing both deficiencies and potential in digital education (Eickelmann, 2018; Goudz & Erdogan, 2021).

The move towards digitalization in education, already underway since the early 2000s, accelerated during the pandemic. This shift highlighted the expanding role of digital media in teaching, emphasizing the need for adaptation among educators (Brandhofer, 2012; Heimlich, 2007). While much focus has been on students' learning outcomes and evolving learning structures, the experiences and adaptations of teachers have often been overlooked.

This paper aims to provide an in-depth analysis of how middle school teachers in Austria have adapted to this digital transformation. It explores the balance between traditional teaching methods and a broad spectrum of digital tools, examining the impact on lesson preparation, teaching methods, and communication with students and parents. The study employs qualitative research methods to investigate the opportunities and challenges teachers face due to digital media integration, aiming to answer the question: "What are the opportunities and risks associated with the use of digital media for middle school teachers in Austria?"

## 2. Theoretical background

The advent of digital media, encompassing advanced technologies like computers, laptops, and smartphones, has catalyzed a transformative shift in educational methodologies. This shift is evident in Austria's "School 4.0" initiative, which integrates digital literacy into school curricula, focusing on both infrastructure enhancement and digital competency among teachers and students. The program underscores the importance of teachers' proficiency in digital tools for effective education delivery, a need highlighted by the mismatch between teachers' perceived and actual digital skills in studies like TALIS 2018 (Brandhofer, 2017; Huber et al., 2020; Manovich, 2002; Winter et al., 2019).

Austria's educational strategy includes significant investments in teacher training for digital competence, as evidenced by the 8-Point Plan and partnerships with institutions like the Virtual Pedagogical University. These initiatives are underpinned by theoretical models such as TPACK (Mishra & Koehler, 2006) and DigCompEdu, which provide frameworks for understanding the necessary digital competencies for teachers in the evolving educational landscape.

The rise of digital tools has introduced innovative teaching methods, notably the Flipped Classroom, which aligns with modern pedagogical approaches by fostering interactive, student-centered learning. Cooperative and collaborative learning methods, enhanced by digital tools, are gaining traction, promoting greater student interaction and engagement. This shift necessitates a strong focus on teacher motivation for adopting digital tools effectively, as outlined in the Will-Skill-Tool-Model (Brandhofer & Großböck, 2014; Knezek et al., 2000; Konrad & Traub, 1999).

The educational landscape has seen a shift toward digital platforms like Moodle and Google Classroom, enhancing the dynamic and accessibility of educational experiences. With this digital integration comes the increased importance of data protection and internet safety, making it essential for teachers to be well-versed in these areas to maintain a secure digital learning environment (Grogorick & Robra-Bissantz, 2021; Iftakhar, 2016; Köppl-Turyna & Lorenz, 2020).

### 3. Methodology

The study at hand utilized qualitative empirical social research through expert interviews with teachers from various Austrian middle schools. These teachers were selected for their expertise in the field of digitalization in education.

A structured interview guide, consisting of ten main and several follow-up questions, was developed based on theoretical considerations and prior research. Ten teachers, considered experts in digitalization, were interviewed. The questions focused on school infrastructure, digital competence development among teachers, and the impact of digitalization on lesson preparation and teaching methods.

The sample included teachers from both urban and rural schools across Austria's western federal states, offering a broad perspective of the digitalization in education across different environments. Interviews were recorded, transcribed, and analyzed using Mayring's structured content analysis method, focusing on categorizing and assessing content based on in-depth interviews (Mayring, 1994, 2015).

To ensure the anonymity of participants and representativeness of the study, demographic data was omitted unless necessary. The findings provide insights into the digitalization process in Austrian middle schools, reflecting the experiences and perspectives of the interviewed teachers.

### 4. Results

The results of the study show a significant transformation in Austrian middle schools due to digitalization. Teachers are increasingly using multimedia tools to enhance lessons, making them more interactive and engaging. For instance, one teacher used digital simulations in a science class to demonstrate complex concepts.

The infrastructure in schools has improved, with better access to technical devices and updated software. During the pandemic, teachers heavily relied on digital platforms like Microsoft Teams for remote teaching, and apps like SchoolFox replaced traditional communication methods, enabling more efficient interaction with parents.

In terms of facilities, schools reported having at least one computer room, and some are equipped with interactive whiteboards (Smartboards). However, adapting to these technologies was challenging for some teachers, as illustrated by a teacher who struggled with the lack of training on Smartboard usage.

The Ministry of Education's 8-Point Plan, which provides digital learning devices like tablets, was generally well-received. Teachers acknowledged its benefits but also mentioned delays in device distribution, which hindered the integration of digital tools in some schools.

The shift to digital textbooks has been a significant change. One teacher noted how eBooks not only lightened students' physical loads but also offered interactive content, enhancing learning experiences. Despite these advancements, teachers emphasized maintaining traditional teaching methods. For instance, in a math class, while digital tools were used for illustrative purposes, basic calculations were still done manually to strengthen students' arithmetic skills.

Digital education's integration varies across subjects. In language classes, tools like Quizlet for vocabulary learning have become popular. In contrast, the use of digital media in physical education was more limited, with some teachers using it for recording sports performances for analysis.

Overall, the study indicates a positive trend towards digitalization in Austrian middle schools, with a balanced approach between embracing new technologies and retaining essential traditional teaching methodologies.

## 5. Discussion and reflection of results

Digital media, as per the experts, plays a crucial role in our society, evident in private, educational, and professional realms. It's increasingly important to be aware of both the opportunities and risks associated with digital progress.

The technical infrastructure in Austrian schools has greatly improved, enabling the effective use of digital media in teaching. The majority of teachers have embraced digitalization as a tool for teaching and learning. The device initiative by the Ministry has been particularly influential, providing students with personal devices for use both in and outside the classroom. This advancement has opened up new perspectives, preparation methods, teaching methods, and learning formats. Distance learning, hybrid teaching, and blended learning have become integral parts of school life. Communication between students, teachers, and parents has also been enhanced through apps and platforms like SchoolFox or WebUntis. Classrooms are now well-equipped with teacher computers, laptops connected to projectors, and interactive whiteboards, making teaching more dynamic and engaging. The digital approach, when properly implemented, offers numerous opportunities for both teachers and students, assuming both parties are open to it.

Despite the enthusiasm for digital media in education, it's acknowledged that there's a flip side. Some teachers are reluctant to adopt digital tools, either due to the initial increased workload or satisfaction with existing methods. The delayed delivery of Windows Tablets under the Ministry's initiative caused frustration and impeded planned digital integrations. Inadequate maintenance and support for digital infrastructure can also pose significant challenges. The ambivalence toward digital media is particularly evident among teachers who are either technologically inexperienced or nearing retirement.

## 6. Conclusion

The study's findings align with previous research, such as Drossel et al. (2019), which highlighted the negative impact of unreflective use of digital media on teaching quality. Contrary to Winter et al. (2019) in the OECD TALIS study, our experts believe that teachers are quite competent in handling digitalization and can identify areas needing further training. This study found that teachers generally view their and their colleagues' attitudes towards digital opportunities and the need for ongoing training more positively than depicted in many studies.

In conclusion, while digital media in education brings numerous benefits and opportunities, its effective and meaningful integration requires careful consideration, adequate training, and support. The successful implementation of digital tools not only enhances teaching and learning experiences but also prepares students for a digitally-driven future.

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