

The Impact of Technostress on Teaching Creativity of Chinese University Teachers under the Digital Transformation

Junlan Ma^{1*}

¹ Rattanakosin International College of Creative Entrepreneurship, Rajamangala University of Technology Rattanakosi, Salaya, Thailand

Email Address

majunlan777@163.com (Junlan Ma)

*Correspondence: majunlan777@163.com

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Abstract:

Digital transformation has become a major trend in education worldwide. In this context, the application of information technology in teaching has become more and more widespread, and the technostress faced by teachers in the teaching process has increased. This study analyzes the impact of digital transformation on the teaching creativity of university teachers, explores the dual role of technostress on teachers' career development, and puts forward corresponding countermeasure suggestions. Research shows that technostress can stimulate teachers' innovative potential, but excessive pressure may inhibit creativity. Therefore, universities should help teachers effectively deal with technostress and enhance teaching creativity through systematic training, resource support and psychological counseling.

Keywords:

Digital Transformation, Technostress, Teaching Creativity, University Teachers

1. Introduction

With the rapid development and popularization of information technology, digital transformation has become an important trend in the global education sector [12]. In the field of education, digital transformation includes the application of online learning platforms, the use of digital resources, and the development of intelligent teaching tools [14]. As the backbone of education, university teachers have assumed an important role in this transformation process. However, digital transformation has not only brought about innovations in teaching modes and methods, but also increased teachers' technostress. Technostress mainly refers to the pressure and challenges teachers feel when using new technologies, which may stem from unfamiliarity with new technologies, frequent technical problems, and unstable technical environments [4]. For teachers, the sources of technostress mainly include the following: teachers need to continuously learn and master new technological tools and platforms, which is a great challenge for some teachers with a weak technological foundation. In teaching, teachers need to apply a variety of digital tools and resources, which requires a lot of time and effort. Digital devices and platforms may have various faults and problems

in the process of using them, and teachers need to have the ability to solve these problems. Digital transformation requires teachers to continuously adjust and adapt to new teaching modes and methods, which is an important test for some teachers who are used to traditional teaching methods [16]. These stresses may have a profound effect on teachers' creativity in teaching, thus affecting the quality of teaching and student learning.

Ford [8] defines creativity at the individual level as an individual's psychological involvement in a creative activity [8]. From the current theoretical studies, the definition of creativity is highly controversial, and a standard has not yet been agreed upon in the theoretical community [5]. Based on the object of this research, this study considers creativity as the ability to generate new ideas and create new things, and the process of forming novel ideas or unique and innovative solutions to existing problems. Digital teaching creativity is then defined as the novel and used ideas; creativity generated by teachers using digital teaching tools.

The insufficient teaching creativity of university teachers leads to various issues, significantly impacting the quality and effectiveness of higher education [6]. Firstly, a decline in teaching quality is a direct consequence. The lack of innovative teaching methods results in monotonous and dull classroom instruction, failing to stimulate students' interest and initiative in learning. The traditional "cramming" teaching model not only hinders students from truly mastering knowledge but also affects their development of critical thinking and creativity. Reduced student engagement and interaction further diminish the effectiveness of classroom teaching. Secondly, the comprehensive development of students' abilities is limited. Teaching that lacks creativity fails to integrate the cultivation of critical thinking, problem-solving skills, and creative thinking, leading to insufficient development in these areas. Additionally, the content of instruction often focuses on theoretical knowledge, lacking practical components, which means students do not get enough hands-on experience and practical skills training, adversely affecting their future performance in real-world jobs [17]. Moreover, the teaching content becomes outdated and disconnected from the times. Without innovation, teachers struggle to incorporate the latest technological and industry developments into their teaching, resulting in outdated content. This makes it difficult for graduates to adapt to the rapidly changing social and professional environment. The lack of interdisciplinary teaching designs also limits students' breadth of knowledge and their ability to apply it comprehensively [20].

The advancement of teaching reforms and innovations is also hindered. The insufficient innovation capability of teachers makes it difficult to implement effective teaching reforms and innovations. New teaching technologies and methods are challenging to apply in classrooms, affecting the outcomes of teaching reforms. Meanwhile, the existing teaching evaluation system lags behind, making it hard to fully reflect the effectiveness of teaching and student development [21]. Teacher-student relationships are impacted as well. A lack of interactive and communicative classroom environments leads to indifferent teacher-student relationships, reducing students' recognition and trust in teachers, which further affects teaching effectiveness. Teachers' own development is also constrained, as insufficient creativity can lead to professional burnout, affecting their career progression and personal sense of achievement [18].

In summary, the insufficient teaching creativity of university teachers leads to a decline in teaching quality, limited student ability development, outdated teaching

content, obstructed teaching reforms, indifferent teacher-student relationships, and restricted professional development for teachers. These issues urgently need to be addressed through teacher training, policy support, and technological assistance to enhance the level and quality of higher education. The purpose of this study is to explore the impact of technostress on the digital teaching creativity of Chinese university teachers under the digital transformation and to propose suggestions.

2. The Impact of Technostress on Teachers' Teaching Creativity

The research of university teachers' creativity involves three levels: individual, team, and organization; the influencing factors of creativity can be divided into individual factors and organizational factors [2]. Individual factors affecting the creativity of university teachers include motivation, emotion and sentiment, innovation self-efficacy, goal orientation, psychological capital and possessed knowledge, etc. Organizational factors include organizational culture, resources, compensation, technology, structure and strategy, environment and other organizational characteristics, as well as organizational leadership styles, personal attributes of leaders, leader-subordinate exchange relations, support for innovation, knowledge sharing, etc. support, knowledge sharing [10].

Based on the above explanations, the following is a compilation of the many factors affecting the creativity of university teachers in terms of the subject of creativity - university teachers, the object - task or work, and the environment. Relevant research focuses on the personal traits affecting university teachers' creativity, including personality traits, motivation, emotion, cognition [15]; the factors affecting university teachers' creativity in terms of task or work include work autonomy, work diversity, work challenge and work exception [22]; the environmental factors affecting university teachers' creativity are divided into organizational level and team level factors: organizational level factors include interpersonal level factors and team level factors. Organizational-level factors include interpersonal context (e.g., leadership behavior), organizational structure, and cultural context, while team-level factors include team characteristics, team processes, and immediate team status [11].

However, at present, in the context of digital transformation, technostress has an impact on teachers' digital teaching, however, there is insufficient research on teachers' digital teaching creativity, therefore, this study explores the impact of technostress on university teachers' teaching creativity in the context of digitalization.

Research has shown that technostress can stimulate teachers' innovative thinking [7]. In the face of technological challenges, teachers need to constantly explore and experiment with new teaching methods and tools, thus promoting innovation in the content and form of teaching. For example, the TPACK (Technological Pedagogical Content Knowledge) model proposed by Mishra and Koehler [13] points out that the effective integration of technology, pedagogy, and subject matter content can enhance teachers' teaching creativity [13]. Technostress motivates teachers to continuously improve their professional skills and technological literacy. To cope with the challenges brought about by digital transformation, teachers need to attend various trainings and seminars to learn new educational technologies and tools to enhance their professional competence. This continuous learning and self-improvement help teachers to make better use of technology in teaching and improve teaching effectiveness [9].

On the other hand, research has shown that excessive technostress increases teachers' workload. The introduction of new technology is often accompanied by a great deal of preparation and technical problem solving, which makes teachers spend a lot of time and energy to adapt and master the new technology in addition to their daily teaching [1]. The long hours of intense work can lead to physical and mental exhaustion and affect teachers' creativity and enthusiasm for teaching. Technostress may also lead to greater psychological stress and anxiety among teachers. Especially for teachers who are less adaptable to technology, the rapid development and updating of new technologies can be overwhelming [19]. This constant psychological stress affects teachers' mood and working condition, which in turn affects their teaching quality and creativity. With excessive technostress, teachers may have difficulty devoting their full attention to the content and student interactions, thus affecting the effectiveness of their teaching. Frequent technological problems and unstable technological environments can also disrupt the classes and reduce student learning, which in turn affects teachers' teaching creativity [3].

In summary, technostress has a dual impact on the teaching creativity of university teachers. Moderate technostress can stimulate teachers' innovative thinking and professional development and promote them to utilize new technologies and methods in teaching, so as to enhance their teaching effect. However, excessive technostress increases teachers' workload, creates psychological pressure, and affects their teaching effectiveness. Therefore, colleges and universities should provide more technical support and training and optimize the technological environment in the process of promoting digital transformation to help teachers better cope with technostress, thus giving full play to their teaching creativity.

3. Strategies and Recommendations for Coping with Technostress

Firstly, universities should establish a comprehensive technical support system to provide teachers with timely technical help and support. This includes the establishment of a specialized technical support department to provide round-the-clock technical services and advice to help teachers solve technical problems and reduce technostress. Universities should conduct regular technology training and seminars to help teachers understand and master the latest educational technologies and tools. Through training, teachers can not only improve their technology skills, but also exchange experiences and share innovative teaching methods, thus stimulating teaching creativity. Universities should provide a stable technological equipment and network environment to ensure that teachers are not disturbed by equipment failures or network problems during the teaching process. This includes configuring high-performance computers, projection equipment, smart whiteboards, etc., as well as ensuring a high-speed and stable campus network.

Secondly, teachers should actively learn and master new technologies, take the initiative to adapt to the changes brought about by digital transformation, and improve their technological literacy and adaptability. Teachers should rationalize their working time and energy to avoid excessive fatigue and anxiety caused by technostress. Teachers can discuss and share their experiences and methods of teaching innovation through cooperation and communication and learn from and from each other. Teachers can exchange experiences and problems with technology applications and share resources and solutions with colleagues and experts by establishing and participating in professional learning communities. A supportive professional network

can effectively reduce technostress and promote teacher innovation in digital teaching and learning.

Thirdly, the government should formulate policies to support digital teaching in colleges and universities, including financial support, technological infrastructure construction, and teacher training programs. Through policy support, the development of digital teaching in colleges and universities can be promoted and the technostress of teachers can be reduced. The government should promote the standardization of educational technology and develop unified technical standards and norms to reduce teachers' learning costs and technostress of adaptation when switching between different platforms and tools. This will help teachers utilize technological resources more efficiently for pedagogical innovation. The government should set up a special research and development fund to support colleges and universities and research institutes to carry out research and application of digital teaching technologies and methods. Through subsidizing research projects, it will promote the deep integration of technology and teaching and enhance the overall teaching level. The government should actively participate in international cooperation and exchanges on education technology, introduce advanced technology and teaching methods, and draw on international experience to improve the digital teaching level of domestic universities. Through international cooperation, the vision of teachers will be broadened, and their innovation ability will be enhanced.

4. Conclusions

Digital transformation is both an opportunity and a challenge to the teaching creativity of Chinese university teachers. Technostress can stimulate teachers' creative potential and promote teaching quality. However, excessive pressure may inhibit teachers' creativity and affect their work efficiency and psychological health. Therefore, colleges and universities should help teachers effectively cope with technostress by providing systematic training, resource support, psychological counseling and other measures to enhance teaching creativity and promote the innovative development of education. In the digital era, university teachers must adapt to the new teaching environment and technological requirements, find opportunities in the midst of pressure, and realize breakthroughs in the midst of challenges.

To cope with technostress, schools, teachers and the government should work together to help teachers reduce technostress and enhance teaching creativity by providing technological training, establishing technological support teams and encouraging innovative practices. Only in this way can we better promote the digital transformation of education and achieve modernization and high-quality development of education. Future research should also further explore the differences and strategies of teachers' coping with technostress in different cultural contexts, so as to provide more lessons and references for the digital transformation of global education.

Conflicts of Interest

The author declares that there is no conflict of interest regarding the publication of this article.

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