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Technological Convenience: The Shift and Dissolution of Educational Responsibilities

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Abstract:

In recent years, the advancement of technology and online education, along with the appropriate application of artificial intelligence in education and its resulting impacts, have garnered significant attention. However, research on the relationship between technological development and educational responsibility remains notably insufficient. This paper aims to conduct an in-depth analysis of the impact of technological development on the educational field, as well as the phenomenon of shifting and diminishing educational responsibilities during this process. Through this research, it is essential for various educational stakeholders to clearly recognize that while technology can serve as a powerful auxiliary tool, it does not inherently bear any educational responsibilities. The responsibilities of teachers, parents, and other educational professionals cannot be simply transferred to technology, nor should they become blurred due to technological intervention. Based on these analyses and conclusions, this paper proposes several recommendations. First, it is essential to clearly define the boundaries and allocation of responsibilities among different educational stakeholders. Second, efforts must be made to enhance the quality of educational stakeholders through various means, focusing on competency development. Finally, the formulation and implementation of relevant policies play a crucial role in ensuring the proper functioning of educational responsibilities.

Keywords: Technological Advancement; Educational Responsibility; Responsibility Allocation; Responsibility Assumption

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1. Introduction

People's work and daily lives are becoming increasingly reliant on electronic information generated and exchanged through computer systems, as human society gradually transitions into an information-based society [1]. Technological development has permeated every aspect of life. During the pandemic, the application of online education garnered significant attention. Post-pandemic, the widespread adoption of online education has expanded further, alongside the development of various AI-assisted tools such as ChatGPT and DeepSeek. Traditional offline education has faced significant disruption. Increasingly, educators utilize diverse online platforms to supplement instruction and monitor student task completion. Particularly in basic education, parental involvement has notably intensified.

Education serves as a vital foundation for national development and is crucial for cultivating talent for the nation. As technology and education continue to converge, growing skepticism toward new technologies has emerged. Qu Jianmin focuses on the impact of technological advancement on higher education, advocating for leveraging technology to propel higher education and enhance the quality of university talent [2]. Tian Xiang emphasizes the influence of AI on educational development, stressing the importance of family education in the AI era [3]. Similarly, Zhang Yun and Wang Xiaofan's work explores whether this traditionally human-centered field will ultimately be replaced by artificial intelligence [4]. Most research focuses on the functional role of technology in educational development, but few articles examine the intersection of technology and education. Discussions on their combined impact predominantly center on higher education, such as university settings. Limited attention is directed toward basic education and educational responsibility. While discussions on educational responsibility are not novel, existing literature predominantly focuses on the allocation of responsibilities and the distinct roles parents and schools should assume throughout the educational process.

Education encompasses both teaching and nurturing—neither can be neglected. While classroom learning is crucial, the distribution of educational responsibilities among various stakeholders outside the classroom holds paramount importance, exerting a profound, subtle influence on students. Building upon existing literature and considering multiple factors, this paper examines whether the allocation of educational responsibilities has shifted in the post-pandemic era as technology increasingly permeates the education sector. It explores whether such changes bring more benefits or drawbacks to student learning and development, and identifies overlooked issues in this context.

2. The Advancement of Education Through Technological Development

2.1 The Abundance of Educational Resources

Modern technological innovations have provided students with unprecedented access to rich educational resources and learning materials, such as online courses, digital books, and educational applications. Especially following the pandemic, online education has experienced rapid growth. These online resources are presented in open and flexible formats, offering students a wide range of choices [2]. The development and application of artificial intelligence have also significantly enhanced students' data analysis and retrieval capabilities. This enables students to fully mobilize relevant information within a limited time and scope, effectively integrate and analyze it, thereby aiding their studies and research. For instance, schools can establish AI laboratories equipped with intelligent programming systems. Students can join AI interest groups to explore the mysteries of the digital realm using laboratory resources, or participate in programming competitions to challenge themselves and enhance their skills alongside peers. The integration of AI not only broadens students' knowledge horizons but also substantially elevates their information literacy, innovative thinking, and practical problem-solving abilities [5]. The connectivity and establishment of online platforms also enable students to conveniently submit assignments through digital learning portals, while teachers can achieve rapid grading. Simultaneously, the sharing and exchange of learning resources become more accessible, allowing students to access rich platform resources anytime, anywhere for self-directed learning and interactive collaboration.

2.2 Enhancing the Learning Experience

Academic research and practical experience have amassed substantial evidence demonstrating that informational teaching not only significantly enhances the efficiency and quality of science and technology education for adolescents, but more importantly, it brings unprecedented learning experiences to students. The model combining online and offline learning effectively integrates various resources and optimizes teaching methods [5]. This change has further propelled the deepening and development of personalized learning models. Personalized learning refers to utilizing big data and relevant learning algorithms to provide students with customized learning paths. The development of online learning environments has provided

students with more opportunities for autonomous learning, encouraging them to actively explore knowledge and customize their learning paths according to their personal needs. The implementation of personalized learning has increased students' motivation and participation, adjusted teaching content and methods according to students' needs, and facilitated deeper learning. This approach emphasizes students' unique needs and learning styles, helping to improve their academic performance. Personalized learning also emphasizes student participation and motivation, encouraging students to engage more deeply in the learning process through personalized feedback and tasks, thereby enhancing their learning experience and academic achievements [2].

3. The Shift and Dissolution of Educational Responsibility

3.1 The Shift of Educational Responsibility: From Traditional Roles to Technology Platforms

In the context of technological development, there has been a shift in educational responsibilities. In the past, the main body of educational responsibility was generally assumed to be schools, teachers, and parents. Schools, on the one hand, need to arrange students' time and learning environment reasonably, and on the other hand, they also need to evaluate and screen teachers' teaching abilities. Teachers need to convey correct values and play a professional role in the teaching process. Parents, on the other hand, need to set an example for their children in daily life and cooperate with schools and teachers in their work [6]. However, due to the popularity of online education and the increase in children's learning channels, some technology platforms have also taken on part of the educational responsibility, such as filtering platform information. They push appropriate learning information and resources to students of suitable ages to avoid poor information matching that may reduce children's learning efficiency [7]. Timely feedback on children's learning situation is also important. Technology platforms have the ability to collect information and analyze behavior, so part of the supervision responsibility has shifted to technology platforms.

3.2 The Erosion of Educational Responsibility: Blurred Boundaries and Diluted Accountability

As discussed above, technological advancements have played a positive role in student learning and educational development. When examining the aspect of educational responsibility, however, the convenience brought by technological progress manifests as a double-edged sword. On one hand, the development of technology platforms has provided new approaches and methods for traditional educational stakeholders—such as teachers and parents—to fulfill their responsibilities. These platforms can be utilized to communicate promptly about relevant issues and monitor children's daily learning progress and status. The emergence of new entities like technology platforms has reshaped the division of educational responsibilities [8]. Platforms themselves implicitly bear a portion of educational responsibility. Conversely, technological development has also blurred the boundaries of responsibility for some stakeholders, leading to a failure to fulfill corresponding educational duties. A practical and intuitive example is the widespread use of WeChat communication groups in primary and secondary education. School-parent WeChat groups facilitate the "shifting" of teaching tasks to parents. Most commonly, teachers assign homework through these groups, requiring parents to accompany and supervise students in completing assignments, then check, grade, and provide feedback. Many parents express dissatisfaction, believing teachers are shifting their own responsibilities onto parents, turning parents into "half-teachers" [9]. Certain technology platforms focused on education also lack professional rule-making and restrictions. When they should be assuming some oversight and filtering responsibilities, they choose to remain invisible, mechanically providing resources while neglecting the importance of bearing teaching responsibilities.

Educational responsibility is also being eroded in the current environment. Traditionally, responsibility was relatively clear-cut, with schools, teachers, and parents collaborating to advance children's education. However, as technology, society, and educational philosophies evolve, these boundaries are rapidly blurring. On one hand, this blurring manifests as the breakdown of traditional divisions between family, school, and society. Society now expects schools to shoulder more "nurturing" and even "parenting" functions, while families are required to deeply engage in 'supervising' and "tutoring". Simultaneously, emerging forces like digital platforms and social media have entered the fray. Yet, due to their commercial nature and virtual characteristics, they prove difficult to integrate into traditional responsibility frameworks. The intertwining of various entities and the responsibilities they trigger has led to increasingly unclear boundaries regarding "who should be responsible and for what" [10]. On the other hand, these blurred boundaries directly trigger responsibility dilution. When multiple actors share unclear responsibilities, the "bystander effect" easily emerges--each party may assume others bear primary accountability, leading

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to mutual deflection that quietly erodes individual sense of duty and initiative [8]. Ultimately, while responsibility appears shared by all, no one truly takes charge, and education's core accountability quietly dissipates amid silence and evasion.

4. Redefining Responsibility Boundaries: Safeguarding Education's Essence Amid Technological Convenience

4.1 Clarifying Core Responsibilities of Each Educational Stakeholder

Defining the core responsibilities of each educational stakeholder is a prerequisite for effective implementation of accountability. For schools, as specialized social organizations dedicated to education, they play a leading role in fulfilling their mission of nurturing students. Through purposeful, planned, and systematic educational activities, they impart scientific and cultural knowledge to students while cultivating sound values [9]. From the perspectives of teachers and parents, their fundamental objectives align—both aim for students' wholesome development. However, due to their distinct roles, they fulfill different responsibilities in the educational process and cannot replace one another. Teachers and parents are two equally positioned entities. Teachers primarily serve as educational guides, while parents are a crucial link in fostering and facilitating education. Their relationship should be characterized by equal dialogue, mutual support, and close collaboration. Teachers' responsibilities primarily manifest as educational guidance, helping parents adhere to modern educational concepts and master appropriate teaching methods. Parents' responsibilities primarily involve playing a vital role at home. On one hand, they assist teachers in ensuring students complete their academic tasks and fulfill their duties in family education [9]. On the other hand, they must lead by example in daily life, setting a model for their children while focusing on cultivating their values, outlook on life, and worldview. It must be clearly understood that technology is merely an auxiliary tool and does not inherently carry educational responsibilities. Teachers and parents cannot shift their own responsibilities to technology, nor can they evade their educational duties by blurring these lines.

4.2 Enhancing the Competence of Educational Stakeholders and Cultivating Professional Competency

Enhancing the competence of educational stakeholders and improving professional competency are pivotal to fulfilling educational responsibilities. Both teachers and parents must positively influence children's education by elevating their own capabilities. For educators, competency development extends far beyond basic training in teaching tools [4]. It involves transforming from traditional knowledge disseminators into designers and facilitators of the learning process. This requires educators to curate and integrate high-quality digital resources, scientifically interpret learning analytics data to identify individual students' challenges and progress, and implement personalized interventions—ensuring technology serves the purpose of "teaching according to individual aptitude" [6]. Teachers must also strengthen their awareness of humanistic care, perceiving students' emotional and psychological shifts while maintaining warm teaching relationships [8]. For parents, the shift is from being mere academic supervisors to becoming guides for children's lifestyle habits and guardians of data privacy. Parents should learn to communicate with their children to establish agreements on electronic device usage, guide them to critically evaluate online information, and protect personal privacy and data security [3]. While technological advancement accelerates information flow, it often intensifies people's pursuit of speed and expediency, causing them to overlook the beauty in life's details. In this environment, parents must become particularly mindful individuals, setting an example for their children through their own attentiveness and appreciation of life. They should guide children to observe various phenomena in daily life and develop thoughtful perspectives [3].

4.3 Improving Relevant Laws, Regulations, and Ethical Frameworks

Refining legal frameworks and ethical guidelines serves as an effective safeguard for the implementation of educational responsibilities. While enhancing the quality of stakeholders represents a "soft" approach to redefining responsibility boundaries, improving laws, regulations, and ethical frameworks constitutes a "hard" constraint and assurance. In the current era of deep technological integration into education, traditional regulatory systems require forward-looking legislation and ethical frameworks. Clear legal provisions and industry standards must delineate the boundaries of acceptable behavior for all parties, safeguarding educational equity and the fundamental purpose of nurturing students [2]. First, at the legal level, the boundaries of data ownership and privacy protection must be explicitly defined. Specific implementation rules for data security laws tailored to educational contexts need to be enacted. The principle that "student data ownership belongs to students and their families, with schools and

enterprises holding only authorized usage rights" must be established, strictly prohibiting any form of data misuse. Concurrently, corresponding penalty mechanisms should be established to clearly define the legal liabilities of development enterprises, operating schools, or relevant platforms, ensuring violators face severe consequences [7]. Second, a multi-tiered ethical framework must be constructed as an effective supplement to the law. National education authorities should spearhead the formulation of relevant laws and regulations. Industry organizations should establish self-regulatory conventions, clarifying core principles such as "people-centeredness, fairness and inclusivity, transparency and controllability, and privacy protection". Each school should also establish a review committee when introducing technological products to assess their educational value, data ethics, and potential risks, thereby prioritizing ethical considerations upfront [10].

5. Conclusion

The penetration of technological convenience into the field of education has become an irreversible trend of the times, profoundly reshaping the pattern of educational responsibilities. The analysis in this article shows that while this convenience enhances educational efficiency and promotes personalized learning, it also triggers the shift of educational responsibilities from traditional subjects (teachers, parents) to technological intermediaries, and potentially leads to the elimination effect of blurred responsibility attribution and diluted core values. The challenge is how to be vigilant and prevent the emergence of an overly dependent mindset in the process of technology application, so that the fundamental responsibilities of education--cultivating moral character, emotional care, and critical thinking--are subtly deconstructed in the tool rationality of efficiency supremacy.

Looking ahead, the development of education is by no means a rejection of technology; rather, it seeks a dynamic balance between embracing convenience and adhering to the essence. This requires to build a community of educational responsibility with clear rights and responsibilities and a human-centered orientation. Teachers need to become masters of technology rather than mere followers, returning to their core role of guiding and enlightening; parents need to transcend the convenient dependence on "electronic nannies" and return to deep companionship and character shaping; technology developers, on the other hand, need to shoulder ethical responsibilities, making algorithms transparent and inclusive. Ultimately, the ultimate goal of education is not to cultivate skilled users of technology, but to shape future citizens with sound personality and independent thinking abilities. Technology should be a powerful aid in achieving this goal.

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