Practical Mode and Influence of Educational Technology on the Expansion of Learning Opportunities for Socially Disadvantaged Groups

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Abstract: This article discusses how educational technology can effectively expand the learning opportunities of social vulnerable groups, and deeply analyzes the application status, practice mode and influence mechanism of educational technology in this field. The introduction expounds the universality of educational unfairness, especially the obstacles faced by social vulnerable groups in learning opportunities, and then puts forward the research topic of promoting educational fairness and enhancing the learning opportunities of vulnerable groups by using educational technology. Starting from the definition and classification of educational technology, the main part of the article describes in detail how online learning platform, distance education, intelligent tutoring system and community education provide flexible and diverse learning resources, personalized learning paths and barrier-free learning environment for vulnerable groups. Through the implementation of these models, educational technology can improve the learning achievements of vulnerable groups, change their learning motivation and attitude, and promote social integration and self-development. Research shows that educational technology, with its unique advantages, has played an irreplaceable role in expanding the learning opportunities of socially disadvantaged groups and provided a strong support for the realization of educational equity.

1. Introduction

Educational technology is the product of the deep integration of information technology and educational practice [1]. Since the end of the 20th century, it has undergone profound changes from simple auxiliary teaching tools to comprehensive integration into the educational ecosystem [2]. From the initial slides and tapes to today's online learning platform and intelligent tutoring system, the development of educational technology has enriched the teaching methods and profoundly changed the ways and means for people to acquire knowledge [3]. Under the double promotion of globalization and informatization, educational technology has become a key force to promote educational equity and improve educational quality [4]. However, while enjoying the convenience and opportunities brought by educational technology, we should also pay attention to the vulnerable groups in society. They face many challenges in learning opportunities because of economic, geographical, physical conditions or cultural background [5]. These groups include children in remote areas, students from economically disadvantaged families, disabled people and ethnic minorities. They are eager for knowledge, but it is difficult to obtain high-quality education because of limited resources [6]. Based on this, studying how educational technology can effectively expand the learning opportunities of these groups is related to the realization of educational equity and an important measure to promote the overall progress and harmony of society.

The purpose of this study is to explore how educational technology can become an effective tool to solve the learning difficulties of the disadvantaged groups in society, and to reveal the mechanism and effect behind it through the analysis of specific practice patterns. The core purpose of the research is to explore and summarize which educational technology practice modes are most suitable for the disadvantaged groups, which can stimulate their learning potential to the maximum extent and narrow the educational gap with the mainstream groups. Through in-depth analysis of

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related issues, this study hopes to provide scientific basis and practical guidance for the application of educational technology in the education of socially disadvantaged groups, and contribute to promoting educational equity and realizing social inclusive development.

2. Educational technology and learning opportunities of socially disadvantaged groups

Educational technology refers to a series of methods, tools and strategies that combine modern information technology with educational theory to optimize the teaching process and improve the teaching effect [7]. It covers multimedia teaching and network teaching in the traditional sense, and also includes frontier fields such as artificial intelligence-assisted teaching, virtual reality learning environment, and the application of big data analysis in education management. According to the different application scenarios and purposes, the classification of educational technology is shown in Figure 1:

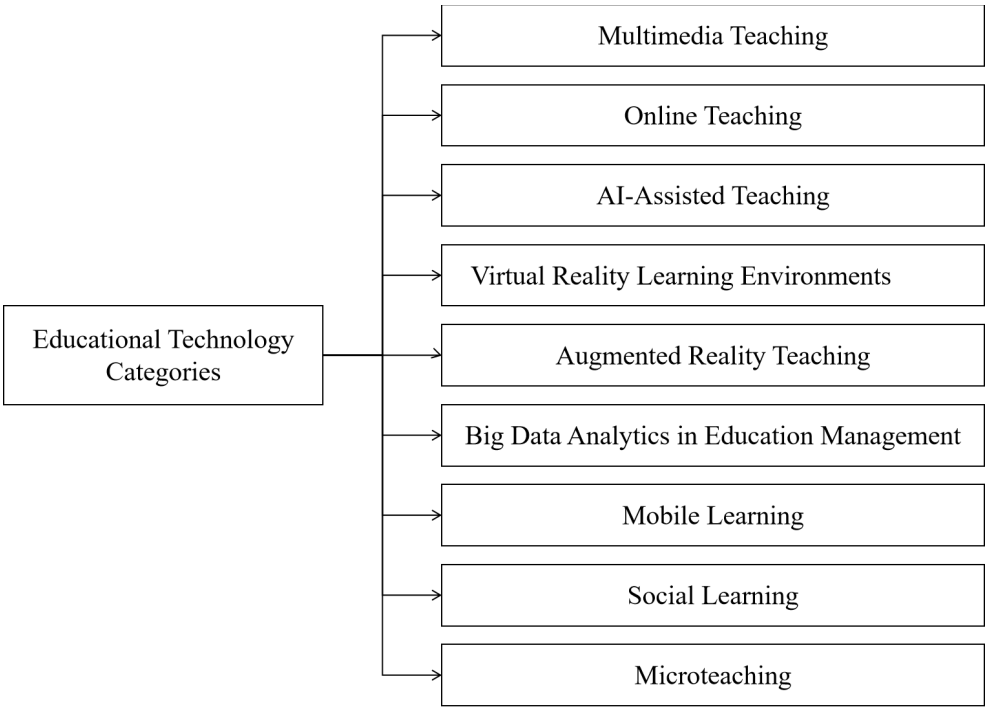

Figure 1 Educational Technology Categories

The disadvantage of socially disadvantaged groups in learning opportunities stems from the interweaving of many factors. Economically, it is difficult for children from poor families to participate in online learning because of the lack of necessary learning equipment and network access conditions [8]. Geographically, students in remote areas are limited by the lack of teachers and educational resources, and the quality of education is difficult to guarantee. Physically, students with disabilities face the barrier-free problem of physical environment or learning materials. Culturally, children of ethnic minorities or immigrant families find it difficult to learn mainstream curriculum content because of language barriers or cultural differences [9]. These factors together constitute many obstacles on the learning path of the disadvantaged groups, which leads to the gap between them and their peers at the starting point, and then affects their future career development and social integration.

3. Practical mode of educational technology to expand the learning opportunities of social vulnerable groups

3.1. Online learning platforms and resources

Online learning platform is an important part of educational technology. It opens the door to the knowledge world for the socially disadvantaged groups. These platforms usually integrate the

functions of course videos, electronic textbooks, online tests, discussion forums and so on, and provide flexible and diverse learning resources for learners. For students in remote areas, they are no longer limited by geographical isolation. They can access the open courses of top international universities through the Internet and enjoy high-quality educational resources. Children from economically disadvantaged families can also make up for the lack of school education, broaden their horizons and improve themselves through free or low-cost online courses. Many platforms also provide special courses for specific groups, such as barrier-free learning modules designed for the disabled and language and cultural adaptation courses for ethnic minorities. This further meets the special learning needs of vulnerable groups.

3.2. Distance education and blended learning

Distance education uses modern information technology to realize the separation of time and space between teaching and learning, which provides great convenience for the disadvantaged groups who cannot go to school to study. Through video conferencing, live lectures, online discussions and other forms, students can participate in learning at home or other suitable places, reducing transportation and time costs.

Blended learning mode is a combination of online learning and offline tutoring, which not only retains the advantages of face-to-face communication in traditional teaching, but also exerts the flexibility of online educational resources. This model is especially suitable for those disadvantaged students who need personalized guidance and supervision. They can learn the basic knowledge online, and deepen their understanding and improve their application ability offline through group discussion and teacher counseling. The combination of distance education and blended learning broadens the boundaries of learning and enhances the depth and breadth of learning.

3.3. Intelligent tutoring system and personalized learning

Intelligent tutoring system uses artificial intelligence and big data analysis technology to provide learners with personalized learning paths and instant feedback. This kind of system can intelligently recommend suitable learning resources and exercises according to students' learning progress, ability level and interest preference, effectively avoiding the "one size fits all" teaching mode.

For learners in vulnerable groups, especially those who are easily overlooked or misunderstood in traditional education, intelligent tutoring system can accurately identify their learning difficulties and provide targeted counseling and exercises. At the same time, it can help them overcome learning obstacles and build self-confidence. Personalized learning improves learning efficiency, promotes the cultivation of students' autonomous learning ability, and lays a solid foundation for their future lifelong learning.

3.4. Community education and technical support

As another practical mode of educational technology, community education emphasizes providing educational services and support at the community level, especially for those vulnerable groups who are difficult to integrate into the mainstream education system. Through the establishment of community learning centers, public lectures and interest groups, community education has created a warm and inclusive learning environment for vulnerable groups, as shown in Table 1.

Technical support plays a vital role here. Whether using digital library to expand reading resources or promoting learning communication through social media, technology has greatly enriched the connotation and form of community education. Community education has also promoted mutual assistance and cooperation among community members, formed a positive learning atmosphere, and made the disadvantaged groups feel the warmth and support of society and more actively participate in learning. Through these practical modes, educational technology provides opportunities for disadvantaged groups to learn, stimulates their motivation to learn and promotes the overall progress and harmony of society.

Table 1 Community Education Practice Modes

Practice Mode	Description	Specific Contents/Objectives
Establishing Community Learning Centers	Providing fixed learning spaces equipped with educational resources and facilities for vulnerable groups	Offering books, computers, and other learning resources; Setting up study rooms and discussion areas; Regularly updating educational content
Conducting Public Welfare Lectures	Inviting experts or volunteers to give free lectures on specific topics, enhancing residents' knowledge and skills	Covering multiple fields such as education, health, law, etc.; Targeting residents of different age groups; Encouraging residents to ask questions and interact
Organizing Interest Groups	Forming groups based on residents' interests and hobbies to promote exchange, learning, and community cohesion	Groups for crafts, painting, music, etc.; Regularly organizing activities and sharing sessions; Encouraging residents to showcase their achievements
Providing Tutoring and Support	Offering one-on-one or group tutoring for residents facing learning difficulties to help them overcome obstacles	After-school tutoring for school-aged children; Support for adult continuing education; Guidance on psychology and learning strategies

4. Analysis of the influence of educational technology on the learning opportunities of socially disadvantaged groups

The application of educational technology has significantly improved the learning achievements of socially disadvantaged groups. Through online learning platform and intelligent tutoring system, these groups can be exposed to more abundant and diverse learning resources. These resources are generally customized according to the actual situation of learners, which greatly improves the learning efficiency. Distance education and mixed learning mode make learning no longer limited by region and time, and disadvantaged students can flexibly arrange their study time, watch teaching videos repeatedly and deepen their understanding of knowledge points. The intelligent evaluation system can give immediate feedback on the learning effect, help students to check and fill the gaps in time, and consolidate the learning results. The comprehensive application of these technologies has improved the academic performance, skills mastery and comprehensive quality of the disadvantaged groups, and narrowed the gap with the mainstream education groups.

Educational technology improves the learning achievement, but also profoundly affects the learning motivation and attitude of the disadvantaged groups. Under the traditional education mode, the disadvantaged groups may lose their motivation to learn because of lack of attention, lack of self-confidence or frustration in learning. Educational technology stimulates their learning interest and enthusiasm by providing personalized learning paths, instant positive feedback and rich interactive experience. The establishment of online learning community enables vulnerable groups to share their learning experiences with others and encourage each other, thus forming a positive learning atmosphere. This change is reflected in the increase of learning time and the active completion of learning tasks, and more importantly, their attitude towards learning itself has changed from passive acceptance to active exploration, from "asking me to learn" to "I want to learn".

The popularization of educational technology has also promoted the social integration and self-development of vulnerable groups. Through the online learning platform, they can cross geographical boundaries, communicate and interact with learners from different backgrounds, broaden their horizons and enhance their social skills. For the disabled, ethnic minorities and other specific groups, educational technology provides a barrier-free learning environment, enabling them to participate in social activities on an equal footing and improve social participation. The personalized learning path and rich curriculum resources of educational technology provide opportunities for the disadvantaged groups to explore themselves and plan their careers, help them discover their interests and potentials, and lay a foundation for their future career development. This

opportunity for self-development has improved their quality of life and enhanced the diversity and inclusiveness of society.

5. Conclusions

Through the in-depth discussion of educational technology and learning opportunities of socially disadvantaged groups, this study draws several core conclusions. ① With its unique advantages, such as the richness of resources, the flexibility of learning and the ability of personalized customization, educational technology has significantly improved the learning achievements of socially disadvantaged groups. It improves their academic performance and stimulates their interest and motivation in learning. ② The application of educational technology has promoted the positive change of the learning attitude of the disadvantaged groups, from passive acceptance of knowledge to active exploration, and enhanced their self-learning ability and confidence. ③ Educational technology provides a broader space for social interaction and self-development for the disadvantaged groups, which helps them to better integrate into society and realize their personal values. These conclusions jointly prove the important role and great potential of educational technology in expanding the learning opportunities of socially disadvantaged groups.

Educational technology is an important promoter of educational modernization, and it is also a key tool to realize educational equity and promote social inclusive development. For the disadvantaged groups, educational technology provides a new way to acquire knowledge, and it is also an important means to break down regional, economic and cultural barriers and realize self-growth and development. Therefore, continuously promoting the innovation and application of educational technology is of far-reaching significance for narrowing the education gap and improving the level of education for all.

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