

# Research on the Path Selection and Implementation Strategy of Community Education Transformation and Development in the Context of Digitalization

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**Abstract:** Community education plays a pivotal role in enhancing digital literacy, promoting social equity, bridging the digital divide, and fostering a learning society. This study examines the transformation of community education in the digital era, identifies key challenges, and proposes actionable strategies. These include establishing open, shared online learning platforms, developing intelligent personalized teaching tools, creating a collaborative ecosystem with government guidance, market mechanisms, and social participation, innovating curriculum resources to meet diverse needs, and cultivating digital literacy professionals to enhance service capabilities. The research aims to provide theoretical foundations and practical guidance for advancing high-quality community education in China, empowering citizens to thrive in the digital age.

**Keywords:** Community education; Digital transformation; Path selection

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## 1. Introduction

As a vital component of modern education systems, community education harnesses local resources, including educational and cultural assets, to deliver tailored learning opportunities and services for all residents, grounded in community realities. Its growth reflects society's pursuit of educational equity and personalized learning, while fulfilling a contemporary mission: strengthening community bonds, fostering innovative governance, and building a learning society. By integrating both internal and external resources to create learning platforms, it seamlessly integrates education into daily life, becoming a driving force for social progress and holistic personal development.

## 2. The significance of community education

Community education encompasses a wide range of content, including vocational skills training, cultural and artistic cultivation, health guidance, digital literacy enhancement, and civic moral education, serving all age groups from preschoolers to the elderly. As a cornerstone for promoting individual comprehensive development, fostering group equity and harmony, driving regional economic and cultural prosperity, and realizing the vision of a learning society, community

education plays a vital role. At the individual level, it empowers citizens to continuously update their knowledge structures, acquire new skills adapted to changing times, and enhance their ability to survive and thrive in complex environments. Through courses on psychological adjustment and interpersonal communication, it enriches learners' mental well-being and personality development, promoting physical and mental health while strengthening a sense of belonging. At the community level, it provides second-chance learning opportunities for those who missed formal education due to various reasons, promotes equitable distribution of educational resources, and enhances fairness and inclusivity within communities. By encouraging residents of different backgrounds and ages to engage in knowledge exchange and skill improvement, community education strengthens internal cohesion, cultivates civic responsibility and participation awareness, and aims to build harmonious and stable community environments. In supporting regional development, it delivers qualified talents for local industrial transformation through targeted vocational training, directly contributes to sustained economic growth, actively preserves and promotes local cultural characteristics, organizes diverse cultural activities to enrich residents' spiritual lives, and injects momentum into regional cultural innovation and development to shape unique community cultural brands<sup>[1]</sup>.

### **3. Problems in the development of community education**

#### **3.1. Uneven resource allocation**

China's community education system currently faces significant resource allocation imbalances. Many rural and underdeveloped areas suffer from inadequate funding, a shortage of qualified teachers, outdated teaching facilities, and slow equipment upgrades, creating a stark contrast with the well-equipped urban centers. In some regions, limited internet coverage and low digital resource adoption hinder access to quality online learning resources, restricting the potential of digital technology to enhance educational outcomes. Meanwhile, economically developed urban areas benefit from substantial educational budgets and advanced infrastructure, enabling them to deliver more diverse, technologically sophisticated learning programs. This uneven distribution of resources has created a substantial gap in both the quality and accessibility of community education services, leaving certain resident groups unable to access equally high-quality educational resources and undermining the principles of educational inclusivity and equity.

#### **3.2. Insufficient digitalization development and application**

Many community learning spaces face challenges in supporting efficient online learning due to inadequate digital hardware infrastructure and insufficient smart terminal configurations, resulting in slow progress in digital platform development. Existing platforms lack comprehensive learning management and interactive support, with insufficient high-quality, engaging digital learning content. Many so-called digital resources merely digitize traditional textbooks without innovation or appeal, failing to effectively motivate learners. At the application level, digital tools and platforms are underutilized, as community educators and learners have not fully integrated them into daily teaching practices. Digital technologies have not fulfilled their intended role in supporting and empowering learning. Some digital resources lag behind societal development in content updates, exhibit slow knowledge iteration, and provide outdated information, making it difficult to meet learners' needs for cutting-edge knowledge and skills.

#### **3.3. Single development model with insufficient participation of social forces**

Community education, a non-degree educational model rooted in local communities and serving all residents, is characterized by its inclusive nature, public welfare orientation, and practical relevance to daily life. Currently, such programs in various regions are primarily led by public institutions like government departments, sub-district offices, neighborhood committees, or village committees, which often underutilize social resources. The professional knowledge, innovative ideas, and practical experience of diverse stakeholders, including educational technology companies, specialized training institutions, non-profit organizations, and even local experts, scholars, and enthusiastic residents, remain

underexplored and unintegrated. Channels for social capital and market mechanisms to participate in community education remain limited, with a lack of effective incentive policies and collaborative platforms. As a result, these promising forces struggle to deeply engage in the supply-side reform of community education, leading to homogenized curriculum content and teaching methods that fail to meet residents' diverse and personalized learning needs <sup>[2]</sup>.

### **3.4. Lack of innovation in the curriculum system**

The current community education curriculum system lacks innovation, with many educational content and formats failing to meet the evolving demands of social development and diverse public needs. Many course design concepts and knowledge structures remain confined to traditional education frameworks, failing to fully integrate critical skills such as digital literacy, artificial intelligence applications, and big data analysis. As a result, learners acquire knowledge disconnected from real-world contexts, making it difficult to adapt to rapidly changing professional environments. The rigid curriculum supply model, characterized by excessive standardization and homogenization, lacks customized options tailored to different age groups, cultural backgrounds, and learning interests, thereby reducing learner engagement and learning outcomes. In terms of teaching methods, there is insufficient emphasis on interactivity, experiential learning, and practical application. The system fails to effectively leverage the immersive and collaborative learning advantages enabled by digital technologies, hindering the cultivation of learners' proactive exploration spirit and innovative thinking.

## **4. Path selection and implementation strategies for the transformation and development of community education under the background of digitalization**

### **4.1. Building an open and shared comprehensive online learning platform**

The community education system should establish an open, shared, and comprehensive online learning platform serving as both a regional "resource integration hub" and "management service center" for community education. This platform must fully cover all functions, including "learning, management, evaluation, and delivery". It should provide learners with one-stop services ranging from precise course search, one-click registration, and live video document streaming to post-class quizzes and certificate acquisition. For administrators, the platform should offer backend tools for course publishing, learner data statistics, and teaching effectiveness evaluation to enhance management precision. Technically, a cloud-native and microservices architecture should be adopted to ensure elastic response to traffic peaks, support independent development and rapid iteration of functional modules, and guarantee long-term stable operation. To effectively aggregate high-quality content, unified data standards and interface protocols should be established to integrate diverse resources such as academic micro-courses from higher education institutions, vocational training modules from vocational schools, digital library materials, and virtual museum exhibitions. Incentives like "resource exchange", "project subsidies", or "credit certification" should be implemented to motivate partner institutions to continuously provide distinctive content. Simultaneously, user feedback channels and learning behavior data analysis models should be established to dynamically optimize course recommendations and content supply. The platform design should adhere to inclusive principles, simplifying interfaces through "senior-friendly mode", providing voice navigation and large-text versions, and equipping offline community service centers with volunteers for access guidance to reduce digital accessibility barriers for elderly groups and other demographics <sup>[3]</sup>.

### **4.2. Development and promotion of intelligent and personalized teaching tools**

Community education must transition from standardized offerings to personalized services. This requires developing and deploying intelligent teaching tools integrated into community online platforms. By leveraging generative AI technology, these systems can provide 24/7 automated Q&A support, homework grading, and study reminders to lower learning barriers. An adaptive learning engine should analyze students' answer records, dwell time, and error patterns to dynamically assess knowledge mastery and interest preferences. It automatically recommends tailored micro-lectures,

reading materials, or practice questions while planning phased learning paths, achieving “one-person-one-strategy” customization. For skill training, virtual reality simulation modules can be developed for common community courses like health care, appliance repair, and handicrafts. These allow students to safely practice operational steps in immersive environments while receiving real-time feedback on movement accuracy and completion quality. Learning behavior data generated by these tools is synchronized in real-time to the platform’s data center, creating continuously updated digital student profiles that inform instructional adjustments. When the system detects repeated errors or prolonged stagnation, it can automatically trigger alerts to instructors or recommend study partners to form online support groups. To maximize the tools’ effectiveness, community teachers require specialized training focusing on interpreting learning data reports, using AI tools to generate personalized learning task lists, and serving as guides in virtual training sessions. Furthermore, AI-powered tools can be leveraged to swiftly customize or create multimedia courseware, such as infographics and short videos, tailored to local learners’ educational backgrounds and language preferences. Additionally, project-based learning kits addressing community-specific challenges can be designed to guide learners in developing comprehensive competencies through hands-on exploration.

### **4.3. Construct a multi-party collaborative ecosystem of “government guidance, market operation, and social participation”**

Community education should establish a collaborative ecosystem featuring “government guidance, market-driven operations, and social participation”. The government plays a central role in top-level design and policy incentives, encouraging social investment through tax breaks and direct service procurement. For instance, establishing a “Community Digital Education Innovation Fund” to publicly solicit project proposals, funding pilot programs for high-quality course development and smart learning tools; leading the creation of regional “digital education resource libraries” with unified standards for resource integration and sharing; consolidating scattered courses and software tools from enterprises and universities onto public platforms to avoid redundant development. Market forces serve as engines for innovation and professional services: tech companies handle technical maintenance of learning platforms, develop age-friendly smart teaching assistants or big data learning analytics tools, while educational institutions provide specialized courses in vocational skills and family education. Universities and vocational colleges actively participate, with teacher-training colleges assisting in curriculum design and providing “digital learning mentors” training for community workers, while vocational colleges open practical resources like virtual simulation courses to communities and participate in developing certification standards for micro-certificates. Community neighborhood committees and volunteer teams accurately identify residents’ needs, organize offline learning salons, and conduct “digital back-to-community” initiatives to address implementation challenges. They also encourage residents with expertise to become “community instructors” sharing digital life skills, fostering an “open teaching” culture. The operational model explores a “public welfare-based foundational services + market-oriented personalized value-added services” approach, charging reasonable fees for specific vocational skill certifications to attract social capital participation <sup>[4]</sup>.

### **4.4. Innovate the supply of curriculum resources to meet diverse needs**

In the digital era, community education must fundamentally shift its resource allocation model from “teaching whatever is available” to “building what is needed.” This requires conducting targeted needs assessments for new employment groups within the jurisdiction, such as unemployed individuals, food delivery workers, ride-hailing drivers, as well as adolescents and seniors, to understand their educational requirements. Based on these findings, dynamic “digital learner profiles” should be created for different demographics, with platform data enabling automated course recommendations. Building on this foundation, community education must break down barriers and collaborate with diverse professional forces to co-create resources. For instance, partnerships with vocational colleges could develop systematic training packages for unemployed individuals in fields like “Electrical Work” and “Childcare Services.” Collaboration with community health centers could produce serialized short videos on “Dietary Management for Hypertension” and “Cervical Health

Exercises.” Joint efforts with judicial authorities and fire departments could feature live-streamed sessions on “Civil Code Case Analysis” and “Home Fire Escape Planning,” while partnering with family education guidance centers to create online workshops on “Parent-Child Communication Skills.” In terms of resource formats, innovative approaches like short videos, animations, and VR should be widely adopted. For example, CPR procedures could be transformed into interactive virtual simulation exercises, or “Neighborhood Dispute Mediation” cases could be adapted into engaging situational dramas to enhance learning appeal and effectiveness. Additionally, regions should explore local characteristics to develop “down-to-earth” regional courses. Cultural courses, for example, could invite local intangible cultural heritage inheritors of “Paper Cutting” or “Local Opera” to conduct live-streamed teaching, complemented by the development of digital cultural maps<sup>[5]</sup>.

#### **4.5. Cultivate digital faculty and enhance service capabilities**

In community education, it is crucial to cultivate a digital-ready teaching workforce and enhance overall service capabilities. Tailored development pathways should be designed for educators at different levels: For newcomers to digital fields, provide foundational digital literacy training covering online platform operations, digital resource retrieval, and basic content creation. For experienced core teachers, focus on advanced skill development including blended learning activity design, interactive courseware development, and data-driven learning analytics. For innovative seed teachers and administrators, emphasize cultivating expertise in cutting-edge tools like AI and VR, as well as building digital curriculum systems and managing online learning communities. For example, establish master teacher workshops or innovation labs to encourage cutting-edge practices and research. The training content should transcend technical operations, focusing on pedagogical innovation in digital environments. Key modules include digital instructional design, in-depth application of smart teaching tools, data literacy and learning assessment, as well as online community maintenance and student support. Training methods should prioritize hands-on experience over theoretical lectures, widely adopting formats such as workshops, practical exercises, teaching observations, and case studies. For instance, organize teacher teams to collaboratively design micro-courses and conduct simulated teaching sessions, enhancing practical skills through “learning by doing.” To establish a multi-stakeholder collaborative training mechanism involving government, schools, communities, and enterprises, we will collaborate with local authorities and higher education institutions to conduct targeted digital talent development programs. A two-way exchange mechanism will be established to ensure talent reserves and knowledge updates. The government will introduce professional instructors from educational technology companies and social training institutions through service procurement or project partnerships, bringing cutting-edge technologies and market-oriented service concepts.

### **5. Conclusion**

Developing community education serves as a vital tool to enhance citizens’ digital literacy and foster holistic personal growth, while also providing strategic support for building a learning society and addressing future challenges. To drive the digital transformation of community education, it requires macro-level government guidance, efficient market mechanisms, and broad societal participation. By establishing an open and shared digital learning ecosystem, innovating educational delivery models, and cultivating high-quality teaching teams, we can better adapt to the evolving times. This approach will deliver more inclusive, personalized, and intelligent learning experiences for residents, ultimately achieving high-quality development in the digital era and injecting lasting learning momentum into social progress.

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## Disclosure statement

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