Teacher Education and Curriculum Studies
2025, Vol. 10, No. 2, pp. 55-68
https://doi.org/10.11648/j.tecs.20251002.13

Research Article

Digital Natives and Chinese Language Education: Behavioral Insights and Pedagogical Strategies

Xiaolong Lou*, **Xuanbai Song**

School of Humanity, Art & Digital Media, Hangzhou Dianzi University, Hangzhou, China

Abstract

In the context of rapidly evolving information technology, the widespread penetration of the internet has given rise to a new generation known as the "Net Generation." The behavioral patterns and psychological characteristics of this generation distinctly reflect the transformation of contemporary social lifestyles. Drawing upon existing literature and research data, this paper provides an in-depth analysis of the behavioral and psychological traits of the "Net Generation," highlighting their uniqueness in areas such as information acquisition, social interaction, and value systems. Furthermore, it thoroughly explores the challenges and opportunities these characteristics present to the field of Chinese language and cultural education, aiming to offer valuable insights for educators and policymakers. This paper aims to provide theoretical foundations and practical guidance for cultivating versatile talents equipped with new-era internet cultural literacy and cross-cultural communication abilities, as well as for promoting reform and innovation in Chinese language and cultural education.

Keywords

Behavioral Characteristics, Chinese Language and Culture Education, "Internet Generation," Psychological Characteristics

1. Introduction

1.1. Research Background and Purpose

With the rapid advancement of technology and the continuous evolution of social culture, the "Internet Generation" has gradually emerged as a focal point of interest across various sectors of society. Born in the 21st century and raised in an era characterized by an information explosion and rapidly changing technology, they are quintessential "digital natives" [1]. This generation has not only witnessed the popularization of the internet and the rise of mobile internet but has also grown up alongside cutting-edge technologies such as artificial intelligence, big data, and cloud computing. Their lifestyle, thought processes, modes of communication, and even values are significantly different from those of previous generations [2].

As a vital medium for cultural heritage and educational cultivation, Chinese language and culture education bears the significant responsibility of shaping the national spiritual outlook, promoting the excellent traditional culture of the Chinese nation, and cultivating versatile talents with international perspectives and cross-cultural communication abilities. The rise of the "Internet Generation" presents both a novel challenge and an unprecedented opportunity for the field of Chinese language and culture education. With the acceleration of globalization, the "Internet Generation" is confronted with a more diverse cultural environment [2-4]. They are not

*Corresponding author: xlou@hdu.edu.cn (Xiaolong Lou)

Received: 29 March 2025; **Accepted:** 8 April 2025; **Published:** 5 May 2025

only exposed to and learning traditional Chinese culture but also widely encountering cultural elements from around the globe, which broadens their cultural horizons while potentially causing confusion regarding their cultural identity. In the context of multiculturalism, strengthening the inheritance and innovation of Chinese language and culture, as well as enhancing the cultural confidence of the "Internet Generation," has become an urgent issue that needs to be addressed. Conducting in-depth research into the behavioral and psychological characteristics of the "Internet Generation" and exploring their impact on the education of Chinese language and culture not only aids in better understanding the growth background and psychological needs of this generation but also provides important insights for the innovation of educational models, the optimization of teaching content, and the enhancement of teaching methods. This paper aims to comprehensively analyze the generational characteristics of the "Internet Generation," discuss the challenges and opportunities they present to the education of Chinese language and culture, and subsequently propose targeted suggestions and strategies, thereby contributing to the sustainable development of Chinese language and culture education.

1.2. Research Gap Analysis

In their research on the behavioral characteristics of the "Net Generation," Kilian et al [5]. examined the media usage behaviors of this cohort, noting their propensity to acquire information and engage in social interactions via social media and online platforms. However, the study was primarily based on the early internet environment and did not consider the profound impact of the rapid changes in the digital landscape in recent years on adolescent behavior. Wang et al. [6] explored the "seeking divine blessings" behavior of China's Generation Z on social media, revealing their cultural identity and psychological needs within virtual spaces. Although this study provided insights into the cultural behaviors of adolescents, it did not thoroughly investigate the specific impacts of the "Net Generation" on language and cultural education.

In the context of Chinese language and cultural education, Fan [7] emphasized the significance of Chinese literature studies in preserving cultural heritage, advocating for education that cultivates adolescents' cross-cultural communication skills and cultural confidence. Nonetheless, the study did not address how the digital environment alters adolescents' learning methods and cultural identity. Huda and Hashim [8] discussed the importance of media literacy education but primarily focused on educational strategies within traditional media environments.

In the digital era, the "Internet generation" faces not only the filtering of media information but also challenges related to cultural identity and value formation in their interactions with digital technology. Existing research provides significant insights into the behavioral and psychological characteristics of the "Internet generation" within the digital environment; however, most studies primarily focus on the early contexts of internet and mobile technologies.

1.2.1. Research Gaps

Behavioral impact: Current research lacks a systematic analysis of the behavioral characteristics of the "Internet generation" in today's digital landscape, particularly in the specific applications related to language and cultural education.

Cultural dynamics: The ways in which the "Internet generation" shapes and expresses its cultural identity through digital technologies in a multicultural context remain underexplored.

Pedagogical innovation: There is a significant gap regarding how to effectively integrate digital technologies into Chinese language and culture education to address the learning needs of the "Internet generation."

1.2.2. Research Contributions

Comprehensiveness: As the first systematic analysis of the "Internet generation's" generational characteristics, it encompasses behavioral patterns, psychological traits, and cultural identity, thereby addressing existing research fragmentation.

Cutting-edge perspective: By focusing on contemporary digital environments, it investigates the transformative effects of emerging technologies (e.g., AI, metaverse) on adolescent behavior and the consequent challenges for Chinese language education.

The paper ultimately proposes a framework for digitally-enhanced pedagogical strategies in Chinese language and cultural education, bridging theory and practice through actionable recommendations for curriculum design and instructional delivery.

2."Digital Natives" Psychology

2.1. Research Method Description

To comprehensively understand the behavioral characteristics of the "Internet Generation" and their impact on Chinese language and cultural education, this study employs a mixed-methods research approach that integrates both qualitative and quantitative methods. This methodology enables the synthesis of various data collection and analysis techniques, thereby revealing the complexity and diversity of the research issues more thoroughly. Specifically, qualitative research methods facilitate an in-depth exploration of the psychological traits and behavioral motivations of the "Internet Generation," while quantitative research methods provide generalizable and replicable data support, validating the qualitative findings and uncovering underlying patterns.

2.1.1. Qualitative Methodology

1. In-depth Interviews: Semi-structured interviews are conducted with representative individuals of the 'Internet generation' to explore their behavioral motivations and psychological experiences in areas such as information acquisition, social interaction, and cultural identity. The content of the interviews focuses on their daily learning and life scenarios to obtain rich firsthand information.
2. Focus Group Discussions: Focus groups composed of the 'Internet generation' are organized to discuss specific topics (such as attitudes towards Chinese language learning and the impact of internet culture). This form of collective discussion stimulates interaction and the exchange of ideas among participants, revealing perspectives and issues that may be overlooked in individual interviews.
3. Case Study: Representative individuals or groups from the 'Net Generation' are selected as cases, and an in-depth analysis of their behaviors and experiences in language learning and cultural inheritance is conducted. Through detailed descriptions and analyses of these cases, the behavioral patterns and psychological characteristics of the 'Net Generation' in specific contexts are revealed.

2.1.2. Quantitative Methodology

(1)Questionnaire Survey: We design and distribute questionnaires to gather extensive behavioral data from individuals of the "Net Generation" in areas such as information acquisition, social interaction, and cultural identity. The questionnaire encompasses multiple-choice questions, scaled questions, and short-answer questions to ensure data diversity and reliability. Through statistical analysis, we aim to identify general patterns and variations in the behavioral characteristics of the "Net Generation."

(2)Data Analysis: We utilize statistical software to analyze the collected questionnaire data, employing descriptive statistical analysis, correlation analysis, and regression analysis. These analytical methods reveal the relationships between variables, validate research hypotheses, and provide data support for qualitative research.

2.1.3. Beyond Single-Method Limitations

By combining qualitative and quantitative methods, we can explore the behavioral characteristics of the "Net Generation" from multiple perspectives, thereby avoiding the potential biases associated with a singular methodological approach. Qualitative research enables an in-depth exploration of the psychological motivations and behavioral backgrounds of individuals, offering a theoretical foundation and research hypotheses for quantitative research. In contrast, quantitative research provides large-scale data support, uncovers general patterns, and validates the findings derived from qualitative research.

The two methods complement each other, thereby enhancing the credibility of the research. However, this mixed-methods approach demands additional time and resources for data collection and analysis, which increases the complexity of the research. The integration of qualitative and quantitative data requires careful management to ensure logical consistency and complementarity. By adopting a mixed-methods research approach that integrates qualitative and quantitative methods, this study achieves a more comprehensive and in-depth understanding of the behavioral characteristics of the 'Internet generation' and their impact on Chinese language and cultural education, ultimately providing more targeted recommendations and strategies for educational practice.

2.2. Information Acquisition Behaviors

2.2.1. Diversification and Fragmentation

In the study involving 1,148 participants, data collection was conducted using several methodologies:

1. Sampling: Stratified random sampling was utilized, categorizing participants by age (18–30), occupation (students and working professionals), and region (eastern, central, and western China) to ensure a representative sample.
2. Ethics: All participants provided informed consent, and the anonymized data were securely stored to protect participant confidentiality.
3. Validation: Pilot tests involving 50 participants confirmed the clarity of the questionnaire prior to its full deployment.
4. Tools: Surveys were administered using Wenjuanxing, a Chinese platform comparable to Qualtrics, which included logic checks to minimize response bias.

The analysis of the 1,148 tracking surveys revealed that the online behavior of the "Net Generation" is notably fragmented. Specifically, the average daily online learning time for working individuals aged 23–30 is 2.63 hours, with 70% of this time spent on mobile devices. In contrast, the student group averages 3.76 hours per day on online learning, dedicating 15% of this time to MOOC videos (see Figure 1a). Furthermore, peak learning periods are concentrated around midday (12:00-13:00) and in the evening (18:00-22:00) (see Figure 1b), indicating a strong reliance on fragmented time for learning. The "Internet Generation" is accustomed to obtaining information from various channels, including social media platforms (WeChat, Weibo, Douyin, etc.), online forums (such as Baidu Tieba and Douban groups), short video platforms (Douyin, Quanmin Video, etc.), and various professional information websites. This information is presented in fragmented forms, leading the "Internet Generation" to prefer quick browsing and superficial engagement when processing information. They are adept at utilizing fragmented time, consuming information anytime and anywhere through mo-

bile devices like smartphones. While this reading style is convenient, it may also result in a diminished capacity for in-depth understanding and critical thinking regarding information [5].

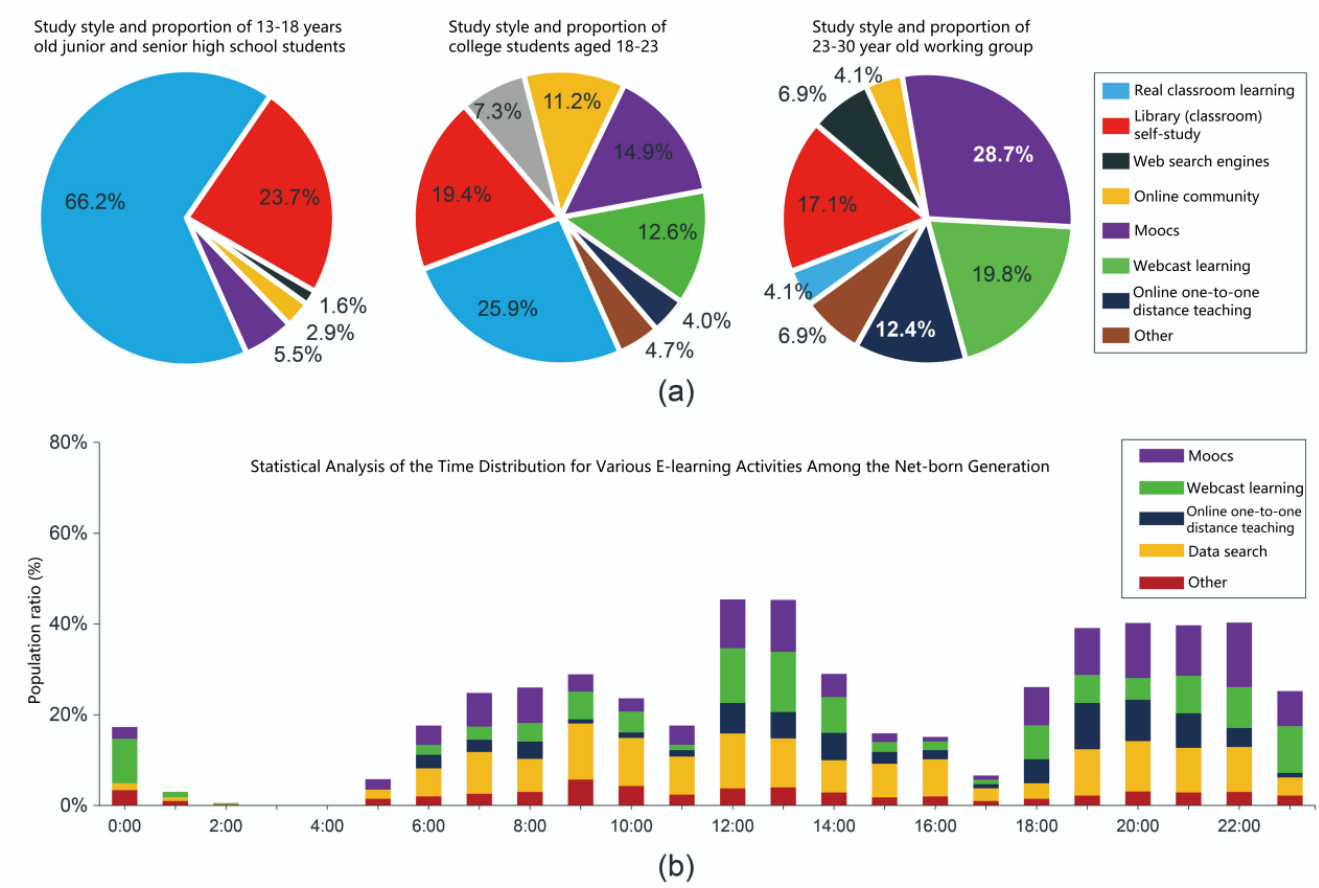

Figure 1. *Self-collected data on learning behaviors of the "Net Generation" (N=1,148): (a) Device usage by age; (b) Peak e-learning periods.*

2.2.2. Audiovisual Preference

Compared to traditional text-based reading, the "Net Generation" tends to acquire information through multimedia formats such as images, videos, and audio. This preference is evident not only in entertainment content but is also gradually permeating the realms of learning and work. For instance, online courses often utilize video lectures combined with slides, while work reports and academic papers increasingly incorporate charts and images to enhance explanations. This visual and auditory approach to presenting information aligns more closely with the reading habits of the "Net Generation," facilitating their understanding and retention. Simultaneously, this trend has spurred continuous innovation and enrichment of online content, exemplified by the rise of emerging media forms such as short videos and live streaming [6]. The findings of this study reveal that the "Net Generation" reliance on visual information is clearly reflected in their choice of tools: 70.8% of online learning occurs through mobile devices, with smartphones accounting for 43.4% (see Figure 2a). The primary reason for the "Net Generation" preference for tablets is the "viewing experience" (which accounts for 62.2% in MOOC learning scenarios), while smartphones serve as the main medium for live learning due to their portability (see Figure 2b).

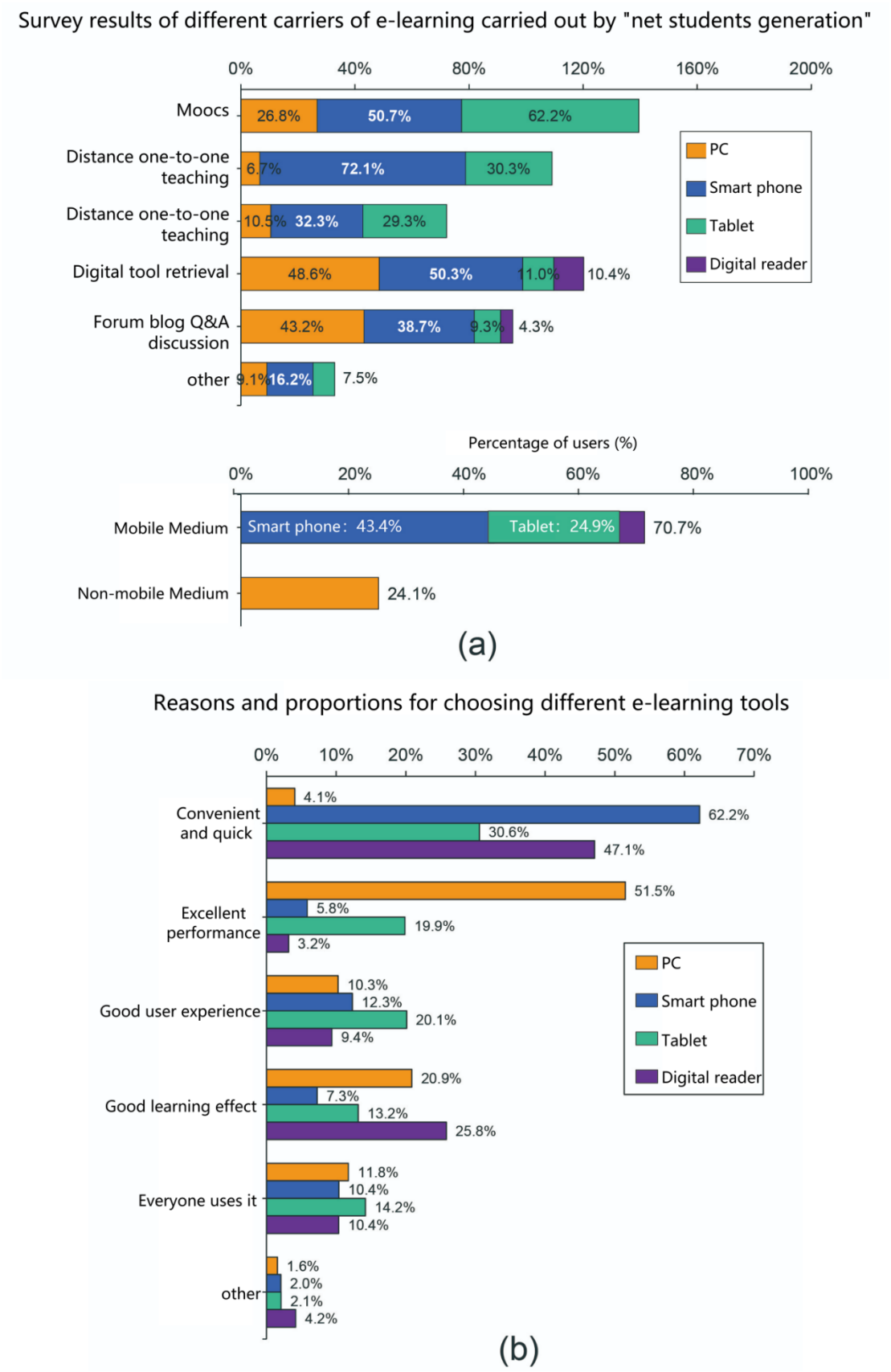

Figure 2. *Self-collected survey results on e-learning behaviors of the "Net Generation": (a) Distribution of device usage for online learning; (b) Motivations and frequency of device selection.*

2.2.3. Interactive Experience Preferences

In the information acquisition and reading behaviors of the "Internet Generation," entertainment and information gathering are often intertwined. They excel at identifying opportunities and elements for information sharing within entertainment, such as learning about history and culture through documentaries or enhancing cognitive abilities via puzzle games. Simultaneously, they express enthusiasm for presenting and sharing reading content in an engaging manner, such as by creating educational videos or participating in knowledge quizzes. This fusion of entertainment and reading not only enhances the enjoyment and interactivity of learning but also facilitates the dissemination and sharing of knowledge [1].

2.3. Social Interaction Behaviors

2.3.1. The Popularity of Online Social Networking

As digital natives, the "Net Generation" prefers to engage in social interactions through social media and online platforms rather than through traditional face-to-face communication. This mode of online socialization not only broadens their social circles but also alters their communication methods and language usage habits. The immediacy, anonymity, and cross-spatial-temporal nature of online communication enable the "Net Generation" to communicate more freely, openly, and directly [7]. The intimacy of online social interactions among the "Net Generation" is significantly higher than that of offline interactions. The survey results presented in this paper indicate that the average number of frequent online communication contacts per person is 13.7, far exceeding the offline average of 5.85. Additionally, the frequency of online interactions in this group reaches 272.7 times per week, compared to only 187.5 times per week offline. This phenomenon is related to compensatory psychology, where being an only child and academic pressures lead to a weakening of real-world social skills, prompting individuals to seek a sense of belonging through virtual communities. However, this form of online social interaction may also result in superficial interpersonal relationships. Due to the lack of face-to-face communication and in-depth understanding, they may find it challenging to establish deep emotional connections, leading to potential misunderstandings and estrangements.

The widespread adoption of online social interactions has given rise to a series of new social phenomena and trends. For instance, the formation and expansion of online communities have enabled the "Net Generation" to communicate and interact around shared interests, topics, and values through novel forms of online interaction, such as "Danmu" [8]. This community-based approach to socializing not only enhances their sense of belonging and identity but also promotes the dissemination and sharing of knowledge. However, as online social interactions continue to evolve, some negative issues have gradually emerged. Problems such as cyberbullying and privacy breaches [9, 10] have adversely affected the physical and mental health, as well as the social environment, of the "Net Generation."

2.3.2. Construction of Virtual Identity

On social media and online platforms, the "Net Generation" often constructs their virtual identities through avatars, nicknames, and personal signatures. This construction not only reflects their personalities and values but also serves as a business card in their online social interactions. By carefully selecting avatars and nicknames, they can showcase their interests, personality traits, and attitudes toward life. Simultaneously, the construction of virtual identities provides them with a platform to display themselves and express their individuality. The findings of this survey indicate that 75% of the "Net Generation" choose online social networking primarily for the motivation of seeking a sense of group belonging, followed by self-expression (36.9%) and showcasing talents (24.2%). For instance, Bilibili users construct virtual identities through danmaku culture and the ACG community, thereby strengthening their cultural identity and sense of belonging within their circles. However, the construction of virtual identities may also lead to identity confusion among the "Net Generation" in real life. Due to the anonymity and virtual nature of online interactions, they may experience ambiguity and uncertainty regarding their true identities and roles. This identity confusion not only affects their self-perception and sense of self-worth but can also have negative impacts on their real-life experiences. For instance, some members of the "Net Generation" may become overly engrossed in online socializing and the creation of virtual identities, neglecting their interpersonal relationships and responsibilities in the real world.

2.4. Social-Psychological Characteristics

2.4.1. Self-Centered Loneliness

In the process of growing up, the "Internet Generation" often receives excessive attention from both family and society. This overabundance of attention not only fosters a strong sense of self-centeredness but also makes them more prone to feelings of frustration and helplessness when facing setbacks and difficulties. They are accustomed to being self-centered, pursuing individuality and uniqueness, yet often lack the ability to understand and empathize with others. While this self-centeredness, to some extent, promotes their personal development and growth, it may also lead to problems in interpersonal relationships, such as difficulty in establishing harmonious connections and a lack of cooperative and sharing spirit. Furthermore, the "Internet Generation" may experience loneliness and a lack of belonging in real life. Although the prevalence of online socializing expands their social circles, it may also contribute to a decline in their interpersonal skills in

real-life situations [2]. They might be more adept at communicating and interacting with others online but find it challenging to establish deep emotional connections in reality. This sense of loneliness and lack of belonging not only affects their mental health and well-being but may also lead to feelings of alienation and distrust towards society.

2.4.2. Significant Anxiety and Stress

Faced with intense academic competition, employment pressure, and strained interpersonal relationships, the "Net Generation" may develop emotional disorders such as anxiety and depression. This article delineates the "self-adjustment and adaptive psychological characteristics" of the "Net Generation" from various aspects, including individuals cognitive self-assessment, self-psychological regulation abilities, the discrepancy between ideal and real selves, psychological sense of loss, as well as self-evaluation and satisfaction. Specifically, based on the following eight categories of issues, a Likert scale scoring was conducted among 1,148 members of the "Net Generation." Further analysis reveals that 62% of respondents experience anxiety due to competitive pressure; 64% of the "Internet Generation" feel a strong sense of frustration when there is a significant gap between their ideals and reality, and they generally exhibit weaker self-regulation abilities. These emotional disturbances not only affect their mental health but may also have negative impacts on their academic performance and daily life. Academic competition represents one of the significant pressures faced by the "Internet Generation." In the digital age, the speed of information acquisition and dissemination is extremely rapid, and the pace of knowledge renewal is accelerating. This necessitates that the "Internet Generation" invest more effort and time in their studies to maintain competitiveness. Employment pressure is another critical issue encountered by the "Internet Generation." With the rapid development and changes in society, competition in the job market is becoming increasingly fierce. Many members of the "Net Generation" struggle to secure their ideal jobs after graduation or face various challenges and difficulties in the workplace. Such employment pressures can lead to emotional disorders like anxiety and depression, adversely affecting their career development and quality of life.

2.5. Cultural Identity Psychology

2.5.1. Diverse Identity Psychology

The upbringing environment of the "Internet Generation" is characterized by the collision and integration of diverse cultures. The widespread adoption of internet technology has facilitated the rapid dissemination of cultural and entertainment forms from around the world, providing them with an unprecedented cultural perspective. This extensive exposure and experience have resulted in a notable diversity in the sense of identity towards Chinese language and culture among the "Internet Generation." The findings of this survey indicate that 34.5% of the respondents are more inclined to embrace foreign cultures, such as idolizing Japanese anime and American TV series. This tendency may lead to a certain level of resistance towards traditional culture, which is often perceived as outdated, conservative, and misaligned with their aesthetics and values. However, 46.1% of the "Internet Generation" still inherit local culture through the use of dialects and the innovation of internet language. This groups passion for and transmission of traditional culture not only helps preserve the uniqueness of ethnic culture but also injects new vitality into the inheritance and development of Chinese language and culture.

2.5.2. Language Use Psychology: Flexibility

The "Internet Generation" has demonstrated unprecedented flexibility and variability in their language use. They not only master standard Chinese but are also adept at employing various forms of language, including internet slang and dialects, for communication and expression. This linguistic flexibility enriches their language repertoire and creates new opportunities for the inheritance and development of Chinese language and culture. Internet language is a significant characteristic of the language use among the "Internet Generation." They are skilled at utilizing internet platforms and social media to create and disseminate a variety of novel and interesting internet terms and expressions. These internet languages not only reflect their lifestyle and way of thinking but also demonstrate their innovation and development of Chinese language and culture. Dialects, as carriers of regional culture, constitute an essential component of language usage among the "Internet Generation." By learning and using dialects, they deepen their understanding and identification with regional cultures, while also promoting the inheritance and development of these dialects. In some regions, dialects have become an important tool for communication among the "Internet Generation," enhancing their sense of belonging and cohesion.

3. "Net Generation" and Chinese Learning

The behavioral and psychological characteristics of the "Net Generation" present profound and multidimensional challenges to Chinese language and culture education. These challenges are reflected not only in the adaptability of teaching methods but also in various aspects, including cultural identity, mental health, and the online environment.

3.1. The Difficulty of Filtering Online Resources

Information Overload: The "Net Generation" exists in an era characterized by an explosion of information, where the internet is inundated with a vast array of learning resources. However, the quality of these resources varies significantly,

ranging from professional and authoritative academic materials to unverified rumors and misleading information. For the "Net Generation," which often lacks sufficient discernment, filtering out genuinely valuable content from this overwhelming information has become a significant challenge. Lack of Resource Screening Skills: Having been immersed in a sea of fragmented information for an extended period, many members of the "Net Generation" may lack the ability to effectively screen and integrate information. They may be more inclined to seek instant gratification and entertaining content, thereby neglecting the importance of in-depth learning and systematic knowledge.

3.2. Challenges to Traditional Teaching

Changes in Learning Methods: The "Internet Generation" tends to favor flexible and autonomous learning approaches. They prefer to communicate and discuss through platforms such as social media and online forums. In contrast, traditional teaching models often emphasize teacher-led instruction and passive student reception, which represents a one-way transmission method that significantly differs from the learning habits and needs of the "Internet Generation." The findings of this survey indicate that the enthusiasm of the "Internet Generation" for MOOCs and live streaming teaching (8.27 points) far exceeds that of their parents generation (5.0 points) (see Figure 3a). Additionally, 82.9% of the "Internet Generation" consider "social interaction" to be their primary motivation for choosing online learning (see Figure 3b). Reduced Classroom Engagement: Due to the lack of sufficient interactivity and appeal in traditional teaching methods, many members of the "Internet Generation" may exhibit lower levels of participation and enthusiasm in the classroom. They may be more inclined to divert their attention through electronic devices rather than focusing on the course content.

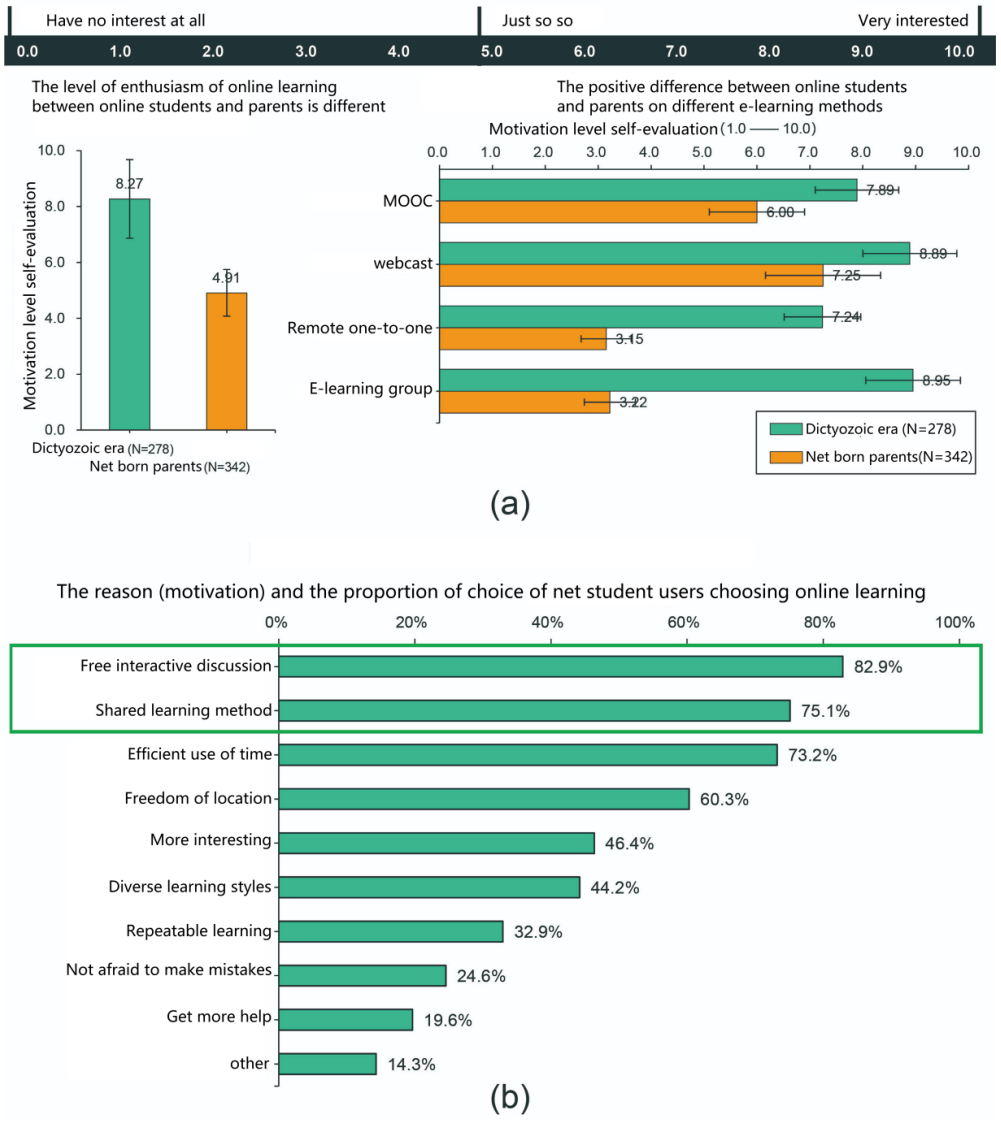

Figure 3. *(a) The difference between the "net generation" and "non-net generation" in their enthusiasm for e-learning; (b) Investigation and proportion of motivation of "net students" choosing e-learning.*

3.3. Diversion-Culture Conflict

Impact of Cultural Diversity: The "Net Generation" lives in an era of globalization, where they can access cultures and entertainment forms from around the world through the internet. While this cultural diversity enriches their perspectives, it may also lead to a weakened sense of identification with their native culture. Confusion of Cultural Values: Under the impact of multiculturalism, the "Net Generation" may face confusion and conflicts in cultural values. They might be more inclined to adopt the values and lifestyles of foreign cultures, while questioning or resisting the values of traditional culture.

3.4. Cyberculture's Negative Impacts

The challenge of linguistic standardization: Internet language, with its concise, vivid, and humorous characteristics, has gained popularity among the "Internet Generation." However, internet language often lacks standardization and accuracy, and its prolonged use may lead to a decline in their linguistic and expressive abilities. The distortion of cultural values: Internet culture contains some undesirable content such as vulgarity, violence, and materialism. These negative elements may adversely affect the values of the "Internet Generation," causing them to deviate from the right path in language use and cultural expression.3.5 Technology dependence and digital divide are significant

3.5. Digital Dependence Divide

Increased Technological Dependence: The "Internet Generation" is becoming increasingly reliant on the internet and smart devices. However, this dependence may lead to their inability to effectively learn and communicate in the absence of internet or smart devices. Widening Digital Divide: There are disparities among the "Internet Generation" from different regions and economic levels in accessing online resources and technical support. These disparities may result in gaps in learning abilities and cultural literacy, further exacerbating social inequality.

4. Motivating Chinese for Digital Natives

To address the challenges posed by the "Internet Generation" to the development of Chinese language and cultural education, we need to take the following approaches to promote the advancement of Chinese language and cultural education.

4.1. Innovative Models for Personalized Education

To address the online learning preferences of the "Internet Generation," educational institutions should actively build personalized digital teaching platforms and fully utilize big data and artificial intelligence technologies to accurately analyze learners study habits and behavioral data, thereby precisely delineating each learners learning profile and intelligently recommending learning resources and personalized learning paths that align with learners interests and competency levels. For instance, developing adaptive learning systems that dynamically adjust teaching content and difficulty based on learners real-time feedback; additionally, immersive learning experiences can be created by incorporating technologies such as Virtual Reality (VR) and Augmented Reality (AR). Through VR technology, learners can immerse themselves in exploring historical events, scientific phenomena, and even conducting virtual experiments, making abstract concepts tangible and intuitive. AR technology, on the other hand, can overlay virtual information onto the real world, providing learners with richer sensory stimulation and interactive opportunities, thereby making learning more vivid and engaging. Simultaneously, educational platforms should encourage learners to participate in course co-creation. By offering user-friendly creative tools, learners are empowered to create their own learning materials, micro-courses, or interactive games based on their understanding and interests.

4.2. Digital Integration of Chinese Education

In response to the characteristics of diversified and networked entertainment among the "Internet Generation," it is necessary to enhance the online penetration of Chinese language and culture education. Firstly, educational authorities can establish professional online education platforms, regularly host high-quality online lectures and virtual cultural exhibitions, and present the essence of Chinese language and culture in a more vivid and intuitive manner to a wide audience of netizens. Through these activities, not only can renowned scholars and cultural celebrities be invited to provide in-depth interpretations, but interactive sessions such as online Q&A and cultural quizzes can also be set up to stimulate learners enthusiasm for participation. Secondly, elements of Chinese language and culture can be integrated into popular online games, animations, and other forms to develop educational entertainment products with distinctive Chinese language and culture education features. For example, designing adventure games based on ancient Chinese poetry and idiom stories, or creating animated short films themed around traditional Chinese festivals and historical tales. These products not only make learning entertaining, allowing learners to naturally engage with Chinese language and culture through play, but also cultivate their cultural literacy and language skills, enhancing their sense of identity and pride in the excellent traditional Chinese culture. In addition, educational institutions should focus on developing students digital literacy, guiding them to use online resources correctly and ra-

tionally. This includes educating students on how to discern the authenticity of online information and how to communicate civilly and politely on the internet.

4.3. Smart Education for Enhanced Teaching

Educational informatization is a crucial driving force for the development of the education sector. To address the "Internet generation" reliance on and fondness for network technologies, it is essential to actively promote the advancement of educational informatization. By constructing smart campuses and developing digital educational resources, learners can be provided with more convenient and efficient learning methods and resources. Smart campuses, through the integration of advanced technologies such as the Internet of Things, big data, and cloud computing, can achieve intelligent campus management, digitization of learning resources, and interactive teaching processes. Students can easily access vast electronic resources in smart libraries, enjoy immersive learning experiences in smart classrooms, and even participate in online discussions and collaborative learning through mobile devices anywhere on campus. The development of digital educational resources can meet the multifaceted needs of the "Internet generation" for intelligent and proactive learning. Digital educational resources, including online courses, virtual laboratories, and digital textbooks, offer learners unprecedented flexibility through their convenience, interactivity, and personalized features. Through intelligent learning platforms, students can select learning paths that suit their interests and needs, enabling personalized learning. Simultaneously, the platform can accurately push learning resources through data analysis, thereby enhancing learning efficiency.

Hangzhou Normal University Dongcheng Middle School has optimized its Chinese language teaching and enhanced student engagement and interest by introducing a digital platform that integrates multimedia resources, online discussions, interactive tests, and personalized learning paths. Teachers enrich the teaching content using the platform's audio, video, and image resources, thereby improving students' audiovisual experience. Students regularly participate in online discussions to share insights and questions, while the platform provides personalized learning tasks based on their progress and interests. The role of teachers has shifted from mere knowledge transmitters to active learning facilitators, who engage in discussions and offer guidance. Analysis of questionnaire surveys and final exam results indicates that student classroom engagement has increased from 30% to 70%, Chinese language scores have improved by an average of 15%, and interest in traditional culture and cultural identity has significantly strengthened.

4.4. Digital Culture in Chinese Education

Faced with the profound impact of internet language and culture on Chinese language and cultural education, we must neither avoid nor blindly resist it, but actively seek ways to integrate and innovate. Integrating internet language and culture is not only an innovation in the form of Chinese language and cultural education but also a revitalization of the vitality of traditional culture. Firstly, in educational practice, inspiration can be drawn from internet catchphrases and incorporated into the content design of Chinese language and cultural education. By selecting and refining internet catchphrases with positive meanings and combining them with the essence of traditional Chinese language and culture, we can design teaching content that is both creative and relevant to the times, thereby stimulating students interest in learning. Secondly, internet cultural symbols are also important resources for innovating the forms of Chinese language and cultural education. From emojis to internet memes, from short videos to live streaming, online cultural symbols have constructed a rich online context with their unique modes of expression [11]. Educational institutions can promote the use of these symbols to design diverse teaching activities, such as online literature creation, internet language translation, and online cultural interpretation, allowing students to experience the charm of the Chinese language and enhance their cultural literacy through practice. At the same time, learners can be encouraged to use internet language and online culture for creation and expression. For instance, engaging in poetry writing and story composition using internet language, or utilizing online cultural symbols for visual art design, these activities not only stimulate students creativity but also help them deepen their understanding and appreciation of Chinese language and culture through practical application.

4.5. Quality Education via Teacher Development

Teachers are an integral part of the Chinese language and culture education. In response to the characteristics and needs of the "Internet Generation," we need to strengthen teacher training and enhance the educational and teaching levels and capabilities of teachers. This can be achieved by organizing teacher training activities, inviting renowned education experts and scholars to share advanced teaching concepts and methods, helping teachers update their educational perspectives and broaden their teaching horizons. At the same time, conducting teaching seminars provides a platform for teachers to exchange experiences and discuss issues, promoting the collision and integration of teaching wisdom. These activities not only help teachers master modern teaching techniques and methods but also inspire their teaching enthusiasm and creativity. Additionally, teachers should be encouraged to actively participate in research and reform practices in Chinese language and culture education, driving the continuous development of Chinese language and culture education. Additionally, teachers should be encouraged to actively participate in the research and reform practices of Chinese language and culture education [12]. By engaging in research projects and

teaching reform initiatives, teachers should be motivated and guided to integrate theory with practice, continuously exploring teaching models and methods that cater to the characteristics of the "Net Generation." This practical exploration not only enhances teachers instructional capabilities and professional expertise but also provides valuable experience for the innovative development of Chinese language and culture education.

The Chinese government has significantly enhanced the teacher training system by implementing national-level initiatives such as the "National Training Plan" and the "Cultivation Plan for Famous Teachers and Principals in Primary and Secondary Schools in the New Era." These programs provide high-quality training that encompasses updates in subject knowledge, improvements in teaching methodologies, and the enhancement of information literacy to address the educational needs of the "Internet generation." Concurrently, the government is promoting the deep integration of digital technology with teacher training, utilizing the National Smart Education Public Service Platform to facilitate regular training activities. Through online courses and virtual seminars, teachers are empowered to access the latest teaching concepts and methods at their convenience. Furthermore, the initiative supports teachers in engaging in interdisciplinary learning and research, particularly in foundational disciplines, emerging fields, and cross-disciplinary areas. It also strengthens the training of leading educators in primary and secondary schools, fostering a core group of professionals capable of spearheading reforms in subject teaching within basic education.

4.6. Comprehensive Evaluation for Student Growth

In the context of a specific era, learners value orientations are increasingly diversified, and their personalized needs are becoming more prominent. Faced with this situation, educational practices need to break away from traditional, singular evaluation models and establish a diversified evaluation system to precisely motivate learners comprehensive development. The construction of this system aims to comprehensively and objectively reflect learners learning outcomes, innovative abilities, cultural literacy, and overall qualities through multi-dimensional and multi-level evaluation criteria and indicators. Firstly, when setting evaluation criteria and indicators, the characteristics of Chinese culture learners should be fully considered to ensure the diversity and relevance of the evaluation content. In addition to traditional language knowledge and skills assessments, the evaluation system should also incorporate learners cross-cultural communication abilities, in-depth understanding and expressive capabilities of Chinese culture, innovative capacities, and teamwork skills to comprehensively measure learners overall qualities in the realm of Chinese culture. Simultaneously, to cater to learners individual needs, we can establish personalized evaluation criteria, such as research on specific cultural themes, Chinese speech and debate, to encourage learners to delve deeper into specific areas and achieve personalized growth. Furthermore, in terms of evaluation methods and approaches, emphasis should be placed on diversity and flexibility. Beyond traditional teacher evaluations, multiple evaluation entities such as self-assessment, peer assessment, and parental assessment can be introduced to enhance the objectivity and comprehensiveness of the evaluation. Meanwhile, by leveraging modern information technology tools such as online learning platforms and intelligent assessment systems, immediate feedback and dynamic adjustments in evaluation can be achieved, making the assessment more precise and efficient. Additionally, novel evaluation methods like project-based learning and inquiry-based learning can be adopted, allowing learners to demonstrate their abilities and potential through participation in Chinese cultural practice activities, thereby obtaining a more comprehensive and in-depth assessment.

5. Comparative Analysis with Global Educational Models

The behavioral characteristics of the 'Net Generation' have prompted significant transformations in language education worldwide. By comparing China's educational approaches with global educational models, we can identify both convergent trends and unique adaptations tailored for digital native learners.

5.1. Key Similarities in Global Language Education for Digital Natives

5.1.1. Technology-Enhanced Learning

Many countries, such as the United States (e.g., flipped classrooms, AI-driven platforms like Duolingo) and South Korea (e.g., AI-based personalized learning systems), emphasize the use of digital tools in language education, akin to China’s initiative for "smart education" and blended learning models. The European Union’s Digital Education Action Plan highlights the use of gamification and virtual reality in language learning, paralleling China’s experiments with metaverse-based Chinese teaching platforms.

5.1.2. Focus on Digital Literacy & Critical Thinking

Western educational models, such as Finland’s phenomenon-based learning, integrate media literacy into language curricula, similar to China’s recent emphasis on discerning online misinformation within Mandarin courses.

5.1.3. Shift from Standardized to Competency-Based Assessment

Singapore’s "Teach Less, Learn More" initiative and Aus-

tralia's focus on project-based language assessments reflect China's reforms aimed at diversifying evaluation systems, which include the incorporation of peer reviews and digital portfolios.

5.2. East-West Dichotomies in Digital Education

5.2.1. Balancing Tradition and Innovation

While Western models, such as the U.S.'s Content and Language Integrated Learning (CLIL), prioritize interdisciplinary fluency, China uniquely emphasizes the integration of traditional culture, including classical poetry and calligraphy, into digital pedagogy. Japan's "GIGA School Program" focuses on English acquisition through the use of tablets, whereas China's technology-driven education equally prioritizes the global dissemination of Chinese culture, exemplified by the digital resources provided by Confucius Institutes [13].

5.2.2. Teacher-Led vs. Student-Centered Digital Classrooms

Nordic countries, particularly Sweden, heavily emphasize student autonomy in online learning. In contrast, China's hybrid educational models often retain structured teacher guidance, reflecting the influence of Confucian pedagogical traditions.

5.2.3. Policy-Driven vs. Market-Driven EdTech Adoption

China's top-down policies, such as the "Internet + Education" national strategy, stand in contrast to the market-driven EdTech boom observed in the U.S. This divergence leads to differences in scalability and equity within digital language education.

5.3. Culturally Adaptive AI for Language Learning

Future research should focus on cross-cultural studies examining how digital-native behaviors manifest differently in collectivist environments, like China, compared to individualist settings, such as the U.S. Additionally, longitudinal evaluations are needed to assess the impact of technology on ideographic (Chinese) versus alphabetic (English) language acquisition among digital natives [14]. Collaborative innovations, including Sino-European projects aimed at designing culturally adaptive AI tutors for language education, should also be explored.

China's strategies for the "Net Generation" align with global trends in digitization and learner-centered reforms; however, they remain distinct due to their cultural anchoring and systemic governance. Future advancements should leverage comparative insights to foster language education models that are globally competitive yet culturally rooted.

6. Conclusions

As typical digital natives, the "Net Generation" presents numerous challenges and inspirations to the field of Chinese language and cultural education due to their unique behavioral and psychological traits. In response to these challenges and inspirations, it is essential to adopt various strategies, such as innovating educational models, integrating digital literacy into teaching, strengthening the development of the teaching workforce, promoting the informatization and intelligentization of education, and establishing a diversified evaluation system. These measures are necessary to meet the developmental needs of Chinese language and cultural education in the new era. Simultaneously, it is crucial to focus on cultivating students comprehensive qualities and innovative abilities to lay a solid foundation for their future development.

In the long run, the behavioral characteristics of the 'Internet generation' will profoundly impact language education in China. On one hand, their fragmented, interactive, and visual methods of information acquisition may further reshape language learning forms, promoting the popularity of blended learning, gamified learning, and other models. On the other hand, their demand for immediate feedback and socialized learning may accelerate the iteration of educational technology, driving the deep integration of artificial intelligence, virtual reality, and other technologies into language education. However, it is also essential to remain vigilant about potential issues, such as weakened deep language comprehension abilities or the dilution of traditional cultural identity, which may arise from an over-reliance on digital tools. Future research could focus on the following directions: (1) how digital media influences the cognitive mechanisms of Chinese language acquisition; (2) pathways to achieving equity in language education within the context of technology empowerment; and (3) innovative strategies for the inheritance of traditional culture in digital teaching. Through interdisciplinary research, we can establish a Chinese language education ecosystem that better aligns with the characteristics of the 'Net Generation.'

Acknowledgments

This section serves to recognize contributions that do not meet authorship criteria, including technical assistance, donations, or organizational aid. Individuals or organizations should be acknowledged with their full names. The acknowledgments should be placed after the conclusion and before the references section in the manuscript.

Author Contributions

Xiaolong Lou: Conceptualization, Resources, Funding acquisition, Project administration, Supervision, Validation, Writing – review & editing

Xuanbai Song: Data curation, Methodology, Visualization, Writing – original draft, Formal Analysis, Investigation, Resource, Software

Funding

This work is supported by the National Languages Commission of China (Grant No. ZDI145-34); and the Cyberspace Administration of China (Grant No. GKZB201918).

Data Availability Statement

The data is available from the corresponding author upon reasonable request.

Conflicts of Interest

The authors declare no conflicts of interest.

References

[1] Rizqillah, A., Dwinanda, B. F. N., Nurkusuma, F. The effect of emotional intelligence on assertive behavior of the millennial generation in the digital era. *European Journal of Psychological Research*. 2022, 9(1), 11-16.

[2] Mackenbach, J. D., Tiemeier, H., van der Ende, J., et al. Relation of emotional and behavioral problems with body mass index in preschool children: the Generation R study. *Journal of Developmental & Behavioral Pediatrics*. 2012, 33(8), 641-648. https://doi.org/10.1097/DBP.0b013e31826419b8

[3] Fan, H. Exploring the Value of Chinese Language and Literature Research in Cultural Inheritance. *Frontiers in Educational Research*. 2021, 4(16). https://doi.org/10.25236/FER.2021.041612

[4] Huda, M., Hashim, A. Towards professional and ethical balance: insights into application strategy on media literacy education. *Kybernetes*. 2022, 51(3), 1280-1300. https://doi.org/10.1108/K-07-2017-0252

[5] Kilian, T., Hennigs, N., Langner, S. (2012). Do Millennials read books or blogs? Introducing a media usage typology of the internet generation. Journal of Consumer Marketing, 29(2), 114-124.

[6] Wang, J., Balakrishnan, B., Wan, X., et al. (2025). The revival of spiritual practices: factors influencing the "seeking deities and offering prayers" behavior of China's Generation Z on social media in an atheistic context. Frontiers in Psychology, 15, 1485265. https://doi.org/10.3389/fpsyg.2024.1485265

[7] Lin, Y. A comparison of selected Western and Chinese smart governance: The application of ICT in governmental management, participation and collaboration. *Telecommunications policy*. 2018, 42(10), 800-809. https://doi.org/10.1016/j.telpol.2018.07.003

[8] Wu, J. "High energy ahead!": exploring Chinese adolescents pragmatic identities in bullet-screen discourse. *Humanities and Social Sciences Communications*. 2025, 12(1), 1-16. https://doi.org/10.1057/s41599-025-04475-x

[9] Song, X., Yu, Z. A qualitative research on usage intention and platform swinging behavior of anonymous social applications "Soul". *Behavioral Sciences*. 2022, 12(7), 230. https://doi.org/10.3390/bs12070230

[10] Rebelo, F. The protection of minors in the digital age. *Vulnerabilidad y cultura digital: riesgos y oportunidades de la sociedad hiperconectada*, 2019, pp. 269-285.

[11] Zheng, F. In the Digital Media Era, the Construction of Online Female Live Streaming Identities and Professional Identity Research. *Advances in Social Behavior Research*. 2024, 9, 42-45. https://doi.org/10.54254/2753-7102/9/2024082

[12] Wang, L., Song, X. Viewing the Mass Communication of Non-mainstream Culture from "The Rap of China". In 7th International Conference on Education, Language, Art and Inter-cultural Communication (ICELAIC 2020). Atlantis Press, 2020, pp. 227-233. https://doi.org/10.2991/assehr.k.201215.334

[13] Wang, T. Establishment and Development of Chinese Language and Literature Database Under the Background of Information. In: Abawajy, J., Xu, Z., Atiquzzaman, M., Zhang, X. (eds) 2021 International Conference on Applications and Techniques in Cyber Intelligence. ATCI 2021. Lecture Notes on Data Engineering and Communications Technologies, vol 81. Springer, Cham. https://doi.org/10.1007/978-3-030-79197-1_46

[14] Yao, D., Wang, Z., Tang, Y. Ecological Change and Analysis of Public Opinion under Social Media Environment. Advances in Applied Sociology. 2023, 13(1), 28-42. https://doi.org/10.4236/aasoci.2023.131003

Biography

Xiaolong Lou is currently an associate professor in the Department of Digital Media Art (DMA) in the school of Humanity, Art & Digital Media at Hangzhou Dianzi University, where he directs the department and the laboratory of Ubiquitous Design and Media Art. He obtained his Ph.D. degree from Zhejiang University in 2018. His research interests include natural user interface and interaction techniques, perceptual computing and ergonomic evaluations in universal systems and applications.

Xuanbai Song is currently studying as a master in Design and art at Hangzhou Dianzi University. Her research interests include user experience design of Internet products, vehicle human-computer interaction, and augmented reality product design.

Research Field

Xiaolong Lou: Natural user interface, Natural interaction tech-niques, Perceptual computing and user interfaces, Ergonomic eval-uations in universal systems and applications.

Xuanbai Song: User experience design of Internet products, vehicle human-computer interaction, augmented reality product design.