Exploring Learner Identity in ICLE from a Cross-Cultural Perspective: A Scientometric Analysis Based on Cite Space

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Abstract

Background and Aim: The study of learner identity in International Chinese Language Education (ICLE) has emerged as a significant area of research. This paper aims to develop a comprehensive scientific knowledge map in this field, exploring research hotspots and emerging trends in ICLE learner identity, as well as providing reference and guidance for future studies.

Materials and Methods: Utilizing 408 literature records from the China National Knowledge Infrastructure (CNKI) database, spanning from 2000 to 2023, this study employs bibliometric techniques and CiteSpace visual analysis. The analysis covers the trend of publication outputs, involvement of key institutions, analysis of hot keywords, their clustering, and burst rates, culminating in an extensive knowledge map.

Results: The analysis yielded several key findings: 1. A significant increase in research within this domain; 2. A lack of extensive collaboration among institutions; 3. The identification of three major research themes through keyword clustering: 'Cultural Adaptation and Identity,' 'Learner Identity in Diverse Cultural Contexts,' and 'Educational and Communication Strategies'; 4. The division of the field's development into three distinct periods: 2000-2009, 2010-2017, and 2018-present.

Conclusion: Future research should focus on: 1. Enhancing and deepening the methodological approaches for studying ICLE learner identity; 2. Fostering collaborative networks among scholars and academic institutions; 3. Emphasizing the application of concepts and theoretical frameworks in real-world contexts; 4. We are continuously addressing current and practical challenges within the field.

Keywords: Learner Identity; International Chinese Language Education (ICLE); Visualization Analysis; Bibliometrics

Introduction

China's growing global presence and the Belt and Road Initiative have propelled the Chinese language into a key tool for international communication, cultural exchange, and mutual understanding. This trend has fueled Chinese language learning, with over 85 countries integrating it into their national education systems and 30 million learners across 190 countries and regions (Cai, 2023). To meet the evolving needs of international Chinese language education (ICLE), the 2019 International Chinese Language Conference, held by the Chinese government, proposed the establishment of a more open, inclusive, and standardized ICLE system. Consequently, the academic framework was formally established, and its scope expanded to include not only Teaching Chinese as a Second Language (TCSL) and Teaching Chinese as a Foreign Language (TCFL) but also multiple functions of heritage and...
dissemination (Cao, 2023). The educational targets were redefined to include international students studying in China, overseas ethnic Chinese, and foreign learners abroad (Guo, 2021). At the 2023 Conference, Vice Premier Ding Xuexiang of the People's Republic of China emphasized the global significance of the Chinese language and reaffirmed China's steadfast support for its education worldwide (CPCG, 2023). All of these developments have undoubtedly enhanced the global application and influence of ICLE.

International learners studying Chinese inevitably face cross-cultural adaptation challenges in their journey to learn about China. Throughout this process, they develop an appreciation and respect for both their own and Chinese cultures, integrating various cultural elements and broadening their cultural horizons, thereby enhancing their communication skills. Furthermore, cross-cultural identity plays a significant role in adaptation. Some studies demonstrate positive correlations between second language (L2) learner identity related to language, culture, and ethnicity, and their proficiency, thereby aiding in optimal language acquisition (Polat & Diane, 2013; Choi, 2015; Lybeck, 2022). Consequently, improving foreign learners’ identity not only benefits their Chinese language proficiency but also deepens their understanding of Chinese culture, contributing to international understanding and regional cooperation.

As the birthplace of the Chinese language and a key promoter of Chinese language education, China possesses a wealth of resources and experience in academic research on ICLE. This field has shown vibrant development and a rich array of research achievements in China. Currently, the topic of ICLE learner identity has become a research hotspot in the Chinese academic community. Some scholars explore language identity from educational and linguistic perspectives; others investigate the impact of cultural identity on international students' cultural adaptation from a psychological standpoint. There are also studies examining the relationship between ethnic and national identity from ethnological and political perspectives, as well as research assessing the influence of learner identity on economic and cultural dissemination from economic and communication viewpoints. Due to varying academic backgrounds, researchers employ different theories and methods, leading to some divergence in understanding various types of identity. To gain a comprehensive understanding of the research on international Chinese learners’ identity, conducting a review of this field will help in organizing the current research landscape, grasping emerging trends, identifying gaps in the field, and providing reference and guidance for future studies.

However, existing review studies often focus on a single dimension of identity or solely on international students in China (Li & Li, 2014), (Zhou, 2020), overlooking overseas learners of the Chinese language. Additionally, some studies are limited to the aspect of cultural identity (Wang, 2014), (Pan, 2022), failing to comprehensively cover the multidimensional aspects of identity, leading to a lack of depth and breadth in conclusions and analysis. In the field of applied linguistics, Chen's (2018) research conducted an integrated analysis of the connotations of language identity, cultural identity, and ethnic identity, revealing their impact on second language learning and the factors influencing L2 identity and related teaching strategies. However, this study remains confined to a single disciplinary perspective. Han (2016), on the other hand, approached from a broader disciplinary viewpoint and employed a meta-analysis method to synthesize literature on the identity of international students in China and Chinese students abroad from 1990 to 2015. This analysis displayed the literature landscape of both groups' identity research, but it did not delve deeply into exploring the multidimensional identity
issues specifically within the context of international Chinese language education.

To comprehensively understand the research landscape and evolving trends of ICLE learner identity, this study employs CiteSpace scientometric software for thorough visual analysis. It scrutinizes relevant research spanning from 2000 to 2023, sourced from the China National Knowledge Infrastructure (CNKI) database. This paper meticulously reviews the progression of learner identity studies in ICLE, aiming to provide valuable insights into prospective research trajectories and the overall development of this academic field. In this study, 'learner in ICLE' refers to a diverse group of individuals engaged in cross-cultural Chinese language learning, including international students in China and both ethnic Chinese and foreign learners studying Chinese abroad.

Objectives

This study aims to comprehensively map the current research landscape on ICLE learner identity and achieve the following objectives:

1. To reveal trends in publication outputs and identify prominent research institutions within the field of ICLE learner identity.
2. To explore and analyze research hotspots and emerging trends in ICLE learner identity research.
3. To identify gaps in the field and provide reference and guidance for future studies.

Literature review

The etymology of the term 'identity' from the Latin noun identity emphasizes an individual's mental image of themselves and their 'sameness with others'. In other words, 'Identity' refers to the recognition of who a person is or the qualities of a person or group that make them different from others. In the social sciences, identity is shaped by social and cultural factors and how others perceive and acknowledge one's characteristics (Schmeck et al., 2013). It is associated with social categories such as nationality, ethnicity, class, and gender, and it more often refers to an individual’s sense of belonging to a social group. For cross-cultural learners, their exposure to a new language and culture can lead to a series of identity conflicts, as the education itself has the function of 'acculturation'. How cross-cultural learners deal with these conflicts will directly affect their subsequent identity cognition and behavioral choices, and in the macro sense, it may trigger the flow of educational populations between different countries. Pavlenko (2003) used the example of foreign language teaching to point out that learners may establish a 'resistant identity' when they resist the invasion of the other culture brought about by language learning, while they may develop an 'alternative identity' that replaces their home culture if they fully accept the cultural implications of the language. In reality, the identity conflicts and hybridity faced by cross-cultural learners are more complex. In the cross-section, it is not only reflected in the narrow sense of cultural identity conflict, but also many aspects such as political system, religious beliefs, and social norms, these learners may face identity dilemmas and crises. Dealing with the consequences of these conflicts will lead to changes in their identity, and thus constitute an important tributary of the flow of 'identity' in the era of globalization. According to the records of the Science Citation Index (SCI), the earliest research on the identity of international students began in 1983 with a study of immigration in France (DeLey, 1983). Subsequently, this group identity research has been consistently linked with the analysis of ‘ethnic identity’ of resistance, such as the article 'Constructing a
Minority Group Identity out of Shared Rejection: The Case of International Students’, which is the most cited article on this topic (with a total of 590 citations) (Schmitt, 2003). With the intensification of the globalization process and the rise of various globalization theories, the research perspective on the identity of foreign students has gradually moved out of the ‘resistance’ confinement. Global Nomad Theory, Third Culture Theory, and Postmodern Identity perspective have gradually entered this field, and have produced several achievements in social science research. At the same time, corresponding summary articles have also begun to appear in this field, with Grimshaw and Sears’s ‘Where am I from?’ ‘Where do I belong?’: The Negotiation and Maintenance of Identity by International School Students' (Grimshaw & Sears, 2008) is a typical example. This paper provides a retrospective summary of the theoretical analysis perspectives in the field of foreign student identity research since the 1980s.

In comparison, research on the ICLE learner identity has started relatively late. With the development of ICLE, foreign learners have increased, and the number of articles that take ‘international students in China’ as the research target has begun to show an increasing trend, and some of them focus on learner identity. The first paper on the identity of international Chinese education learners was written by Wang (2000) of Huaqiao University in China, titled ‘Cultural Identification of Southeast Asian Students of Chinese Descent and Their Motivation of Learning Chinese’. Based on second language acquisition theory and Chinese identity theory, this study explored the Chinese language learning motivation and related situations of Southeast Asian Chinese students, revealing the important influence of self-identity and their Chinese cultural identity on learning motivation. It marked the initial attention of the academic field and laid an important foundation for subsequent research.

Subsequently, research has focused on the learner identity during the process of Chinese language acquisition. Above all, the phenomenon of identity arising from 'cultural integration and adaptation' when learners come into contact with the host culture has attracted attention (Wen, 2007; Xu, 2017). After that, the positive impact of ICLE learner identity has been increasingly emphasized by researchers. Third, researchers have also found factors that influence learner identity, such as in-depth research on social support networks, interpersonal interaction, media, and cognition in the process of identity (Ren, 2019; Yao, 2021,2023). Finally, research has been conducted from the perspectives of educational management and classroom teaching strategies to improve learners' identity, and practical solutions have been proposed to improve learners' identity (Song, 2015; Shen, 2018).

Identity is considered to play a crucial role in language dissemination. A lack of identity can hinder L2 learners from accepting a particular language. Firstly, if learners have an identification with the target language's country, they can better communicate with native speakers of that language, which in turn facilitates the spread of the language (Zhang, 2013). Secondly, identity also plays a significant role in international cooperation across economic, political, and cultural fields; a lack of identification with another country can impede collaboration between countries (Qu, 2016). Moreover, the L2 acquisition research field emphasizes the issue of identity construction to guide fostering identification. Existing studies often categorize L2 identity into different dimensions for examination, including linguistic, cultural, ethnic, and social identity, with the first three being the most commonly studied. Most research focuses on one type of identity: for instance, investigating immigrant language identity and heritage language identity from the perspective of generational differences (Guo & Li, 2016); examining the cultural identity of L2 learners from different cultural distances based on cultural adaptation (Wei et al., 2015); or exploring ethnic identity based on political conflicts.
The above-mentioned studies have reviewed the development of ICLE learner identity research papers from different perspectives. However, very few studies have simultaneously used bibliometrics and CiteSpace visual analysis software for statistical analysis of ICLE learner identity research papers published in the past 23 years in China. In addition, this study conducts statistical analysis on the publication trend and major scientific research institutions. Simultaneously, it uses a CiteSpace visualization knowledge map to analyze popular topics, and trends of ICLE learner identity research more clearly and visually from different perspectives. It presents a comprehensive understanding of ICLE learner identity studies and presents data supporting ICLE learner identity research to provide a reference for improving the quality of its academic studies.

Methodology

Research Methods
Mapping knowledge domain in scientometrics leverages theories and methods from diverse fields like applied mathematics, graphics, information visualization, and information science. It employs techniques like bibliometrics and citation/co-occurrence analysis to visually represent a discipline's core structure, evolution, and overall knowledge framework. The CiteSpace software used in this study was developed by Dr. Chao-Mei Chen of Drexel University in the United States. It is one of the most widely used tools in the field of scientometrics. Since its release in 2004, CiteSpace has been widely used in over 60 countries around the world, becoming a distinctive and influential visualization software in the field. This paper utilizes the software CiteSpace 6.2R4 for bibliometric analysis of literature data, extracting key terms in the field of learner research, and generating maps of keyword clusters and graphs of burst terms. This approach identifies and displays new trends and dynamics in scientific development.

The specific methodologies used are as follows:

Frequency Analysis: The paper employs frequency analysis to extract keywords from artificial intelligence literature. By examining the distribution of keywords, the study investigates the developmental trends and research hotspots in the field.

Cluster Analysis: Cluster analysis is a group of statistical techniques used to divide research literature into relatively homogeneous groups. Literatures within the same cluster exhibit significant similarities, while those in different clusters display substantial dissimilarities. This paper utilizes the Log-likelihood Ratio (LLR) algorithm in CiteSpace for clustering.

Burst Term Analysis: Burst words refer to terms that emerge or are used with high frequency within a relatively short period. By analyzing the rate of emergence and the year of occurrence of burst words, researchers can identify hot topics and cutting-edge issues in their field of study.

Data Sources
The validity of any knowledge graph is fundamentally dependent on the quality of its underlying data. To ensure the scientific validity of this study, the data foundation was sourced from CNKI, the most representative and authoritative database in China. Employing precise retrieval methods and strategies, we obtained comprehensive and accurate foundational data for our scientific analysis. The data for this study was retrieved using the following criteria:

1. Topic: Searches included keywords such as 'ICLE learner identity*', 'international students in China* identity*', 'Chinese as a second-language student* identity*', 'Chinese as a foreign-language student* identity*', and 'ethnic Chinese student* identity*'. This allowed for the
retrieval of articles and reviews containing these terms in their titles, abstracts, or keywords.

2. Time Span: The period from 2000 to 2023 was covered.

3. Document Type: The search was limited to articles and reviews.

The initial search in the CNKI database focused on 'learner identity in ICLE' and related keywords, yielding 413 papers. After excluding non-academic materials such as news, conference proceedings, and book reviews, a total of 408 relevant academic articles were selected for analysis, with the cutoff date being November 2, 2023. This literature review aimed to address the following research questions:

Research Question 1: What is the current state of ICLE learner identity study in China from January 2000 to November 2023?
Research Question 2: What are the hotspots and trends in ICLE learner identity studies?
Research Question 3: How are the gaps and dilemmas in ICLE learner identity studies addressed?

Results

The Trend of Publication Outputs in ICLE Learner Identity Study

The trend of publication outputs is a crucial quantitative indicator of research intensity and developmental trends within a specific field. Analysis of this data reveals the dynamic evolution of the field and offers valuable insights into its future trajectory. This study utilizes Microsoft Excel for the analysis and visual representation of the annual publication volume distribution in ICLE learner identity research (Figure 1).

![Annual Number of Publications/Papers](image)

Figure 1: The trend of publication outputs of ICLE Learner Identity

The data suggests a three-stage development in ICLE Learner Identity research:

1. Emergence Stage (2000-2009): During this initial phase, academic attention was relatively low, with an average of fewer than three publications per year. The first notable paper in this area was authored by Aiping Wang from Huaqiao University. It explored the impact of identity on Southeast Asian ethnic Chinese students' language learning motivation, pioneering the application of second language acquisition (SLA) and identity recognition theories among ethnic Chinese learners (Wang, 2000).

2. Steady Growth Stage (2010-2017): This period witnessed a significant increase in annual publications, averaging 13 per year. The rise in attention can be attributed to the implementation of the 'Teaching Chinese to Speakers of Other Languages' strategy and policy optimizations for international
students in China.

3. Consolidation and Enhancement Stage (2018-Present): The publication volume further surged during this phase, peaking at 70 papers in 2021. Despite a slight decrease in 2022, 41 papers were published by early November 2023, indicating a sustained interest in the field. This trend suggests the potential for new research avenues and perspectives focusing on the intricate link between language learning and socio-cultural dynamics, as well as the evolving complexities of cultural understanding and exchange in a globalized world. The field's trajectory provides valuable insights into cross-cultural communication, adaptation, and identity formation among international Chinese language learners.

**Prominent Research Institutions in ICLE Learner Identity Study**

Understanding the distribution of research strength among institutions is crucial in revealing the overall academic landscape in the study of ICLE learner identity. This paper utilizes CiteSpace software to analyze the collected data, with the node type set to 'institution' and default values applied for other settings.

**Table 1: Top 10 High-Publishing Research Institutions in the Studies of ICLE Learner Identity**

<table>
<thead>
<tr>
<th>No</th>
<th>Name of Institution</th>
<th>Location</th>
<th>Papers No.</th>
<th></th>
<th>No</th>
<th>Name of Institution</th>
<th>Location</th>
<th>Papers No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Shanghai Jiao Tong University</td>
<td>Shanghai</td>
<td>18</td>
<td></td>
<td>6</td>
<td>Fujian Normal University</td>
<td>Fujian</td>
<td>7</td>
</tr>
<tr>
<td>2</td>
<td>Huaqiao University</td>
<td>Fujian</td>
<td>14</td>
<td></td>
<td>7</td>
<td>Renmin University of China</td>
<td>Beijing</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>Beijing Language and Culture University</td>
<td>Beijing</td>
<td>10</td>
<td></td>
<td>8</td>
<td>South China University of Technology</td>
<td>Guangdong</td>
<td>6</td>
</tr>
<tr>
<td>4</td>
<td>Beijing Normal University</td>
<td>Beijing</td>
<td>9</td>
<td></td>
<td>9</td>
<td>Guangdong University of Foreign Studies</td>
<td>Guangdong</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>Jinan University</td>
<td>Guangdong</td>
<td>9</td>
<td></td>
<td>10</td>
<td>Jiangsu University</td>
<td>Jiangsu</td>
<td>5</td>
</tr>
</tbody>
</table>

**Analysis of Publication Volume by Institutions:** Considering the number of publications by research institutions (Table 1). Shanghai Jiao Tong University leads in this research area with a total of 18 relevant articles, primarily exploring the impact of media use on the identity of international students in China from a communication theory perspective, exemplified by the work of Yao (2021; 2023) and Zhang et al., (2013). Other notable contributions include Han (2017) and Zhang (2022), focusing on cultural identity from educational and psychological perspectives. Huaqiao University, with 14 publications ranking second, mainly investigates the cultural identity of Southeast Asian ethnic Chinese students, emphasizing political science and L2 theory perspectives. This includes Wang (2000), who authored a pioneering article in this field. Beijing Language and Culture University, ranking third with 10 publications, concentrates on applied linguistics theories (Chen, 2018; Wei, 2015). Jinan University and Beijing Normal University, each with 9 publications, exhibit unique strengths in areas like cultural adaptation (Jinan University) and strategies to promote international student identity from various disciplines (Beijing Normal University) (Qu, 2016; Chu, 2016; Shen, 2018). These institutions have secured high-level research grants, enabling them to conduct in-depth empirical studies.

**Limited Collaboration Opportunities:** Although the institutional network graph displays numerous collaborative nodes, the overall network density is relatively low at 0.0013, indicating a
tendency towards independent research. This limited collaboration among institutions may restrict knowledge sharing and reduce the overall research impact. Factors such as uneven resource distribution, diverse research themes and methods, and a lack of collaboration incentives might contribute to this trend. Enhancing interdisciplinary, cross-cultural, and cross-border collaboration is essential for advancing the field and increasing research impact.

**Interdisciplinary Potential Remains Untapped:** The research in ICLE learner identity predominantly originates from comprehensive and language universities, encompassing a wide range of disciplines. However, interdisciplinary collaboration remains limited. This lack of integration suggests an underutilization of interdisciplinary potential, especially given the inherent interdisciplinarity of the field. Different disciplines employ varied research methods; for example, psychology often uses quantitative approaches and tools like structural equation models, while sociology, journalism, communication, economics, and demography may use correlation analysis and testing. In contrast, cultural and linguistic studies, ideology and political education, and education tend to employ simpler research methodologies. This divergence in methods affects the depth of research on ICLE learner identity. To gain a comprehensive understanding of the issue, different disciplines must collaborate, share methods and resources, and promote the overall development of research in this field. Additionally, researchers should stay abreast of evolving research methodologies to enhance the scientific rigor and reliability of their studies.

**Regional Distribution and Research Resources:** Research institutions in ICLE learner identity are predominantly located in economically and educationally developed areas such as Beijing, Shanghai, Jiangsu, Zhejiang, and Guangdong. These regions offer high-quality education, a vibrant research environment, and opportunities for international students to experience China's cultural diversity. Coastal and border provinces like Fujian, Guangxi, Yunnan, and Heilongjiang, being popular among students from neighboring countries, contribute unique perspectives to cross-cultural identity studies. However, the concentration of research capabilities in specific regions leads to an imbalance, necessitating efforts to diversify the origins of international students and expand research across different regions. This approach will enhance the quality, scope, and representativeness of ICLE learner identity research.

**High-Frequency Keywords in ICLE Learner Identity Study:** Unveiling Research Trends

Keywords serve as indicators, revealing the core content and focus of research within a field. Analyzing their frequency helps identify hotspots and emerging trends. In CiteSpace, larger nodes indicate higher frequency, highlighting pivotal concepts, while smaller nodes represent less prevalent but potentially emerging areas of inquiry. The interconnectivity between keywords further reveals the degree of association among topics.

<table>
<thead>
<tr>
<th>No</th>
<th>Frequency</th>
<th>High-Frequency Keywords</th>
<th>Centrality</th>
<th>Year</th>
<th>No</th>
<th>Frequency</th>
<th>High-Frequency Keywords</th>
<th>Centrality</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>79</td>
<td>Cultural Identity</td>
<td>0.54</td>
<td>2000</td>
<td>8</td>
<td>9</td>
<td>National Identity</td>
<td>0.04</td>
<td>200</td>
</tr>
<tr>
<td>2</td>
<td>61</td>
<td>International Students</td>
<td>0.55</td>
<td>2000</td>
<td>9</td>
<td>8</td>
<td>Ethnic Chinese students</td>
<td>0.07</td>
<td>200</td>
</tr>
</tbody>
</table>
This study's keyword map, comprising 485 nodes and 872 connections, exhibits a network density of 0.0074, indicating a complex web of interrelationships within ICLE learner identity research. As demonstrated in Table 2, keywords such as 'cultural identity' and 'international students' occupy central positions in academic discussions, showing high centrality. Additionally, 'Chinese culture,' 'Belt and Road,' 'cultural adaptation,' 'identity recognition,' 'ethnic Chinese students,' and 'Cross-Cultural' also display significant centrality, underscoring their importance in the field's advancement.

Figure 2: Keyword Clustering Map in the Research of ICLE Learner Identity

An in-depth analysis combining Table 3 (High-Frequency Keywords) and Figure 2 (Keyword Clustering Diagram) reveals several characteristics:

Table 3: Keywords Cluster Analysis in the Research of ICLE Learner Identity

<table>
<thead>
<tr>
<th>No.</th>
<th>Topic</th>
<th>Cluster No. and Name</th>
<th>Keywords</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cultural</td>
<td># 0 Cultural Identity</td>
<td>Cultural Identity; Language Identity; TCFL;</td>
</tr>
</tbody>
</table>
Firstly, research hotspots primarily focus on various aspects of cultural identity. The most frequent keyword, 'cultural identity,' is closely associated with 'Chinese culture' (3rd), 'cultural adaptation' (6th), and 'cross-cultural' (12th), forming the central topics of current research.

Secondly, in the ICLE field, there is a strong interest in the specificities of international students, especially ethnic Chinese students, as primary research subjects. 'International students' and 'ethnic Chinese students' have become the second and tenth high-frequency keywords, respectively, emphasizing their unique status and research value.

Additionally, with the deepening implementation of the "Belt and Road" initiative, Chinese-funded enterprises engaged in overseas investment and construction are facing a talent shortage. These enterprises urgently require local talents who possess both vocational skills and Chinese communication abilities and are familiar with local society (Song et al., 2022) Thus, keywords like 'Belt and Road' and 'higher vocational colleges' are gaining academic attention, reflecting the influence of national development strategies on academic research themes.
Lastly, the prominence of keywords such as 'media usage' and 'ideological education in courses' highlights the significance of effectively utilizing media tools and teaching methods in language learning and cultural understanding. It also emphasizes the application and practice of ideological and political education concepts in curriculum teaching.

Unveiling Research Hotspots Through Keyword Clustering

To better understand the evolutionary path and development trajectory of a research field, as well as to reveal the research topics emerging in different periods, keyword clustering methods are commonly employed. CiteSpace provides two key indicators for assessing the quality of clustering: the cluster module value (Q value) and the average silhouette value (S value). These indicators reflect the network structure and the distinctness of each cluster. The average silhouette value S is particularly crucial. When it exceeds 0.5, with values closer to 1 indicating higher network homogeneity, it suggests a more cohesive and well-defined clustering. Additionally, a cluster module value Q greater than 0.3 signifies a significant network clustering structure. To thoroughly investigate the research hotspots in the field of ICLE learner identity, this study utilizes CiteSpace to perform keyword clustering on selected literature, resulting in a cluster graph. The obtained cluster module value Q = 0.6211 and average silhouette value S = 0.9177, both exceeding their respective thresholds, demonstrate that the clustering is significant, reasonable, and reliable (Figure 2). Following the homogeneity criteria, the clusters are categorized and ranked, revealing 11 major clusters in the field of ICLE learner identity: #0 Cultural Identity, #1 International Students, #2 Chinese Culture, #3 Chinese Language Education, #4 Southeast Asia, #5 Belt and Road Initiative, #6 Strategy, #7 International Communication, #8 Self-identity, #9 Cultural Adaptation, #10 Cross-cultural.”

1. Research on Cultural Adaptation and Identity

The theme of Research on Cultural Adaptation and Identity encompasses clusters #0 Cultural Identity, #2 Chinese Culture, #8 Self-identity, #9 Cultural Adaptation, and #10 Cross-cultural, underscoring the importance of learners' cultural understanding and identity development in ICLE. It is also associated with high-frequency keywords such as 'Cultural Identity,' 'Chinese Culture,' 'Cultural Adaptation,' 'Identity Recognition,' 'National Identity,' and 'Cross-Cultural.' Based on an analysis of relevant articles and core high-frequency keywords, this study summarizes three main characteristics:

Firstly, cultural adaptation and self-identity are pivotal in the field of ICLE learner identity. Scholars increasingly recognize that international Chinese education involves learners progressively experiencing and understanding Chinese culture, leading to cross-cultural exchanges (Zhao, 2014). For example, ethnic Chinese students' cross-cultural adaptation experiences significantly influence their alignment with Chinese culture and its global transmission (Wen, 2007). Moreover, cultural identity is a key factor in overcoming challenges during cultural adaptation (Xu & Hu, 2017), with learner identity playing a crucial role in connecting learners to the Chinese language and culture (Goh & Shao, 2014).

Secondly, research on cultural identity spans various dimensions. Some studies examine international students' cognition and identification with Chinese culture from a macro perspective (Liu, 2015; Zhu, 2019). For instance, Zhang and Wang's (2021) research on international students' identification with Chinese dragon and lion culture shows how participation in traditional sports programs can enhance their connection to Chinese traditional culture and moral growth. Others delve into regional cultural identity from a micro perspective (Lu, 2015), and some focus on the cultural identity of Traditional
Chinese Medicine among international students in Chinese medical colleges (Guan, 2021; Su, 2021). Moreover, the field is increasingly adopting multidisciplinary theoretical approaches. Scholars from diverse backgrounds are exploring learner identity in ICLE from various angles, including the economic impact of cultural identity on international students in China (Li & Li, 2019), the psychological interplay between cultural intelligence and cultural identity (Chu et al., 2016), and the influence of media and social networking on Chinese cultural identity among international students (Ren & Yao, 2019; Gao, 2022; Wang & Chen, 2022). Studies such as those by Liu & Song (2015) and Zhu & Yao (2019) provide macro-level insights, while others offer a micro-level analysis of regional cultural identities (Lu, 2015). These studies collectively demonstrate that the cultural adaptation and identity of learners in ICLE is a multi-dimensional, interdisciplinary phenomenon involving a broad spectrum of academic fields.

2. Research on the Identity of Learners from Different Cultural Backgrounds
This research theme focuses on key clusters such as International Students (#1), Overseas Chinese Language and Culture Education (#3), Southeast Asia (#4), and the Belt and Road Initiative (#5), exploring ICLE learner identity from diverse cultural backgrounds. Central to this theme's cluster includes three high-frequency keywords: 'International Students,' 'Belt and Road,' and 'Ethnic Chinese Students.' The research encompasses not only students within China but also ethnic Chinese and L2 learners globally.

Prominent studies in this area include Zhou (2014) and Liu (2015), who examined the identity recognition of ethnic Chinese students in language learning contexts and its impact on their connection with Chinese culture. Their work provides strategic insights for refining ICLE to enhance cultural understanding and identification among these students. Additionally, this field investigates the experiences of learners from the Belt and Road regions and Southeast Asia. For example, Liu (2019) surveyed international students from 10 Belt and Road countries, analyzing their views on China's reforms and initiatives. His findings suggest innovative approaches to content and communication models to aid these students' societal integration and promote a balanced understanding and emotional connection with China. Wang (2022) studied universities across five Southeast Asian countries, discovering that Chinese language learning not only enhances learners' comprehension of China but also shapes their identity as informal ambassadors of Chinese culture. She advocates for optimizing Chinese language dissemination in terms of both structure and quality, thereby improving learner satisfaction and leveraging the role of international communication in identity formation.

In summary, research on ICLE learner identity from various cultural backgrounds enriches our understanding of their cultural adaptation and identity construction processes. This contributes to the formation of a global community grounded in mutual understanding and shared recognition of Chinese culture.

3. Research on Shaping Identities through Education and Communication Strategies
This topic focuses on clusters #6 Strategy and #7 International Communication, examining how education and communication strategies influence ICLE learner identity. The high-frequency keywords related to this theme include 'Ideological and Political Education,' 'Chinese Stories,' and 'Media Usage.' Based on a comprehensive analysis of ICLE learner identity research papers in this area, this study observes the following:

Increasingly, researchers acknowledge that language serves not only as a means of communication but also as a cultural vessel embedded in rich traditions. Learning Chinese, therefore,
involves immersing oneself in its associated culture, positioning the language as a powerful tool for cultural dissemination. The research underscores the critical role of effective language and cultural communication in fostering cultural identification and enhancing national soft power globally. For instance, Zhang et al. (2011) analyze foreign learners' media exposure and suggest strategic improvements for the worldwide dissemination of the Chinese language. Song (2015) and Shen (2018) emphasize the importance of cross-cultural awareness in ICLE practices, exploring effective communication strategies for promoting Chinese culture internationally. Moving beyond mere language instruction, Li (2019) examines international students' pragmatic choices and their relationship to identity recognition, proposing novel teaching methods for guidance. Wang (2023), from an educational management perspective, focuses on fostering cultural identification through strategic management and teaching practices. These approaches contribute to mutual understanding and the development of a global community with a shared future.

In summary, research on education and communication strategies in ICLE extends beyond language teaching and cultural dissemination to include educational management and cross-cultural communication. This diverse body of work offers innovative ideas and solutions for enhancing ICLE learner identity through strategic education and communication, paving the way for deeper cultural understanding and global connectivity.

![Top 10 Keywords with the Strongest Citation Bursts](image)

**Figure 3: Burst Words in the Field of ICLE Learner Identity**

**Discussion**

In this article, bibliometric methods were utilized to analyze the research status of ICLE learner identity. A total of 408 journal articles from CNKI were examined. Moreover, bibliometric analysis and visualization have been instrumental in illustrating current research trends and providing novel insights into future directions. Past years have witnessed a steady increase in the number of publications, growing from 2 in 2000 to a peak of 70 in 2021, marking an overall growth rate increase of 35 times. Although there was a slight decline in the number of publications in 2022, the overall upward trend remains significant, with the volume of publications in 2023 also indicating continued research activity. This growth trajectory suggests that research in this field will maintain its momentum and give rise to new research topics and perspectives. Tables 3 and 4 show the top 15 high-frequency keywords and cluster topics in ICLE learner identity research. To further reflect the evolution process of ICLE learner identity, this paper combines a keyword time-zone map (see Figure 3) and, based on the trajectories of
the three stages, discusses and analyzes its process, historical background, and research trends in the field.

**From the year 2000 to 2009**, keywords such as 'cultural identity,' 'identity recognition,' and 'international students' emerged as main research hotspots, each with a centrality exceeding 0.1, signifying their significant mediating role in research. Key burst words during this period included 'identity,' 'ethnic Chinese students,' and 'strategies.' This era was marked by a notable increase in international students in China, with Chinese language education primarily targeting this group. Additionally, Chinese universities implemented the 'Regulations on the Administration of Foreign Students in Higher Education Institutions' in 2000, mandating a curriculum that included Chinese Language and China Panorama, thus setting clear objectives and policies for Chinese language education for international students in China (MOE of China, 2000). This provided a foundational basis for research on ICLE learner identity. On one hand, educators emphasized improving communication skills for foreign students, while also beginning to recognize the role of culture in language communication. On the other hand, researchers increasingly focused on learners' differences, cultural adaptation, identity status, and influencing factors, transitioning from experiential to empirical research approaches. As a result, research findings in this area have steadily grown. Concurrently, with China's rising international prominence, more ethnic Chinese parents chose to send their children to study in China. Ethnic Chinese students, as an important group in Chinese language education, garnered researchers' attention due to their unique challenges in language acquisition and cultural identity, particularly in multicultural contexts.

In summary, the study characteristics of this period include: 1. A focus on international students in China, especially ethnic Chinese students, within a multicultural context, addressing issues of language, culture, identity, national identification, and cultural adaptation. 2. Research often concentrated on macroscopic perspectives, exploring the initiation of studies on the identity of international students in China, with less in-depth examination of the nuances and dimensions of identity. 3. The research tended to be scattered, often starting from the relationship between cultural identity and learning motivation to propose strategies, indicating a need for greater depth and a more systematic approach in future studies.

**From 2010 to 2017**, high-ranking keywords included 'Chinese Culture,' 'China's Story,' and 'Media Use,' while burst keywords were 'Chinese Culture,' 'Language Identity,' 'Overseas Chinese Language and Culture Education,' and 'TCFL.' During this phase, with China's expanding global influence and the implementation of its 'going global' strategy, the existing TCFL model needed to evolve to meet burgeoning global demands. To address this, China established Confucius Institutes globally, numbering 525 institutes and 1113 classrooms across 146 countries by 2017 (CNS, 2018). This initiative not only served foreign students studying in China but also reflected the Chinese 'going out' objective, realizing the joint promotion of domestic and international education. In 2012, the major of TCFL was officially renamed Teaching Chinese to Speakers of Other Languages (TCSOL).

With the yearly increase in international students studying in China and the majority becoming degree-seeking students, ICLE in China entered a pivotal development phase. International students increasingly use the Chinese language for major studies and skill acquisition, highlighting its practical utility beyond traditional language learning (Li & Zhai, 2021). Additionally, China's education began to focus more on quality improvement, aiming to enhance the 'Study in China' brand. Chinese universities adopted a 'convergence' strategy in managing international students, reducing special

Furthermore, the 'Belt and Road' initiative in 2013 furthered economic cooperation and cultural exchanges, emphasizing international understanding. The 'Opinions on Carrying Out International Education Opening Work' in 2016 highlighted the importance of international understanding of education, promoting the Chinese language, and spreading Chinese stories and values (CPCG, 2016). During this period, TCSOL, with the primary goals of teaching Chinese and spreading Chinese culture, aimed to promote the global dissemination of Chinese language and culture, making Chinese an effective medium for conveying Chinese culture and values. Research trends focused on helping Chinese learners deeply understand China through Chinese culture courses and using various media to spread China's stories worldwide (Yao, 2023). Additionally, researchers explored helping more learners establish a sense of language identity through ICLE (?)

Overall, the study characteristics of this phase include: 1. A focus on international students in China, especially ethnic Chinese students, within a multicultural context, addressing issues of language, culture, identity, national identification, and cultural adaptation. 2. Research often concentrated on macroscopic perspectives to explore the initiation of studies on the identity of international students in China, with less in-depth examination of identity nuances and dimensions. 3. Empirical research on learner identity became prominent, exploring mechanisms and implementation paths from multidisciplinary perspectives. Researchers from fields like communication studies, psychology, economics, education, and applied linguistics contributed to interdisciplinary innovative research. 4. Keywords such as 'Chinese culture,' 'language identity,' 'Chinese language education,' and 'TCFL' emerged as burst words, with research becoming more detailed and in-depth, forming a more systematic theoretical framework and logical system integrating language, culture, and teaching.

The third stage, from 2018 to the present, represents the consolidation and enhancement stage of research on ICLE learner identity. The high-ranking keywords in this phase focus on 'Belt and Road,' 'Vocational Colleges,' 'Cross-cultural,' and 'Ideological Education in Courses,' with 'Ideological Education in Courses' being the only burst keyword.

With China entering a new era of transitioning from high-speed economic growth to high-quality development, educational openness has evolved to emphasize quality-centered, connotative development over mere scale expansion. In 2018, the Ministry of Education of China issued the 'Quality Standards for Higher Education of International Students in China (Trial),’ outlining requirements for international students' familiarity with aspects of China's history, geography, society, economy, and culture, as well as China's political system, foreign policies, mainstream societal values, and legal and ethical awareness. This change signifies a shift in Chinese language teaching content from 'historical China' to 'modern China,' with educational objectives evolving from solely language teaching to comprehensive educational development, emphasizing mental education and holistic cultivation of international students in China. Overseas, the 'China’s Education Modernization 2035' report in 2019 promotes the 'Belt and Road' education initiative, focusing on cultural exchanges and mutual understanding, the development of Confucius Institutes and Classrooms, and encouraging vocational
colleges to establish 'Luban Workshops' overseas to implement the 'Chinese Language+Vocational Skills' education model(CPCG, 2019). The implementation of these policies has led to widespread academic attention to topics like 'ideological education in courses,' 'Belt and Road,' 'vocational colleges,' 'cross-cultural,' and 'cultural communication.'

Considering the overall trend, this phase's research features include 1. Sustained interest in 'cultural communication,' particularly using the internet and new media as mediums, involving empirical studies analyzing their influence on Chinese cultural identity and cross-cultural communication. 2. Theoretical research delving deeper into the concept of learner identity in ICLE, exploring patterns, impacts, and characteristics of external environments, and providing in-depth examination of motivations, frameworks, and pathways for identity. 3. A focus on ideological education in courses and related cultural education research, with academia agreeing that comprehensive personal development, emotional resonance, and understanding and acceptance of cultural values are key to internalizing identity. Exploring how to achieve deep cultural identification within Chinese cultural education and Chinese societal conditions holds significant contemporary relevance.

Strengths and Limitations

To provide a comprehensive overview of research on ICLE learner identity internationally from 2000 to 2023, we conducted a systematic literature review. We extracted all relevant documents from the CNKI database, ensuring extensive coverage and reliable statistics. Subsequently, we employed CiteSpace software for bibliometric and visualization analysis to examine publication trends, identify prominent research institutions, and explore current research hotspots and future directions. Recognizing the limitations inherent to any research endeavor, we acknowledge several caveats associated with our study. First, our analysis relied solely on the CNKI database, potentially overlooking valuable publications from other databases due to inherent biases. Second, the retrieval formula used may not have captured all relevant documents despite our efforts. Third, the visualization presented in the figures may include keywords lacking context as a result of frequent occurrences associated with broader subdomains. Finally, due to the absence of standardized parameters for cluster analysis, our results may vary slightly under different settings, potentially affecting the reproducibility and comparability of our findings.

Conclusions

This study has conducted a meticulous analysis of 408 Chinese articles from the CNKI database using CiteSpace software. The analysis covered various aspects, including the trend of publication outputs, involvement of key institutions, research hotspots, keyword clustering and bursts, and their evolution, to provide an in-depth exploration of the state of research on ICLE learner identity. The key findings of this study are as follows:

1. Literature Publication Trend: Since 2000, scholarly literature on learner identity in ICLE has begun to emerge, demonstrating fluctuating growth patterns. There was a noticeable upsurge in research output after 2017, signifying robust development within this field.

2. Distribution of Research Institutions: The majority of research in this domain is led by universities, predominantly situated in economically and educationally affluent regions, as well as coastal and border provinces. However, there is a notable trend of independent work among scholars in...
this field. This trend is characterized by weak inter-team connections and a relatively sparse network of cooperation.

3. Research Hotspots and Trends: Analysis of high-frequency keywords has identified recurring themes such as 'Cultural Identity,' 'International Students,' 'Chinese Culture,' and the 'Belt and Road' initiative as persistent focal points. Cluster analysis indicates concentrated study in areas like 'Cultural Adaptation and Identity,' 'Learner Identity from Diverse Cultural Backgrounds,' and 'Education and Communication Strategies,' each offering a wealth of content.

4. Research Phase Division: The evolution of research in this field can be broadly segmented into three distinct stages: the emergence phase, a phase of steady development, and the current phase of consolidation and enhancement. Each stage is marked by unique characteristics and evolving trends, reflecting the dynamic nature of research in ICLE learner identity.

Recommendation

ICLE learner identity research has yielded a wealth of insights, enhancing our understanding of this complex phenomenon. Yet, there remains significant potential for further exploration, requiring deeper investigation and refined methodologies. Four key aspects are crucial for advancing the field:

Firstly, Diversification of Research Methods. While current literature predominantly uses surveys and interviews, there is a need for more comprehensive theoretical frameworks and hypothesis-testing designs. The keyword co-occurrence timeline map indicates an increasing emphasis on robust scientific research methods. Future studies should incorporate diverse qualitative methods, such as Grounded Theory, Narrative Study, and Case Study, alongside quantitative approaches like Structural Equation Modeling, Multiple Regression Analysis, and Meta-analysis. The growing trend of mixed-methods research, combining both qualitative and quantitative techniques, promises to deepen insights and enhance scientific rigor.

Secondly, Enhancement of Interdisciplinary Cooperation. The study of learner identity in ICLE is inherently cross-disciplinary, involving fields such as culture, language, education, and sociology. Despite growing interdisciplinary attention, stronger integration is necessary to fully harness their combined potential. Enhancing collaboration between universities and vocational colleges is essential for developing collaborative research models. Expanding cooperation across disciplines and specializations will significantly contribute to the academic depth and practical innovation in ICLE learner identity research.

Thirdly, Refinement of Fundamental Concepts and Theories. There is an urgent need to clarify and refine the basic concepts and foundational theories of ICLE learner identity. Given the field's diversity in theories and methodologies, a unified understanding of fundamental concepts is crucial. Current studies often focus on specific identity types without addressing their interconnected and dynamic nature, limiting a comprehensive understanding of learner identity development in ICLE. As the field evolves, including the global promotion of Chinese language and culture and the deepening of Chinese studies overseas, the concepts, content, and context of ICLE have also transformed. This evolution presents new challenges for learner identity research. Future studies should aim to clearly define the identity concept within the ICLE context, developing a robust theoretical framework and ontology to foster academic and practical advancements in the field.

Finally, Exploring ICLE Learner Identity in a Dynamic Landscape. Recent years have
witnessed a heightened academic focus on this field, which has evolved from initial explorations of 'cultural integration and adaptation' in cross-cultural contexts to multifaceted analyses involving the 'identity' variable. The field now encompasses diverse areas such as social support networks, interpersonal interactions, media influence, and cognitive processes in identity formation. Moreover, perspectives from diplomatic discourse, educational management, economics, and others are increasingly relevant. Despite a relatively stable research community in this field, there is a need to enhance the quality of research in certain areas to further its scope and depth. Future studies should offer comprehensive, systematic, and in-depth explorations of learner identity issues in ICLE, focusing on significant real-world challenges of our time. Key research directions include:

1. **The Status of Learner Identity in ICLE.** This involves conducting thorough studies of learner identity characteristics and variations among different groups, such as those based on nationality, region, and cultural background, including learners studying in China, overseas ethnic Chinese, and non-Chinese learners.

2. **Factors Influencing ICLE Learner Identity.** The factors influencing identity development are complex. Future research should delve into the interplay between identity and its driving forces, including sociocultural environment, media usage, cognitive processes, and individual experiences. This deeper understanding will enrich our knowledge of both the intrinsic nature and broader context of ICLE learner identity.

3. **Impact of Learner Identity on Various Fields.** It is crucial to understand the relationship between learner identity in ICLE and its impact on various fields. This includes exploring how learner identity influences international communication and diplomatic discourse. Emphasis should be placed on effectively conveying China's story and voice to learners, thus fostering a credible, likable, and respectable image of China and promoting the global dissemination of Chinese culture.

4. **Educational Strategies of ICLE Learner Identity for Cultivating Learners and Humanity.**

Future research should extend beyond language teaching to interpret human essence from an educational perspective, seeking the enrichment of human life values. It should address the characteristics of the current era, such as supporting the high-quality development of ICLE and focusing on innovative models and talent cultivation in 'Chinese language + professional skills' international education. It should also integrate the concept of 'whole-person education' into the quality construction and development of ICLE. This necessitates viewing learner identity issues from a global vantage point, encouraging mutual learning among world civilizations, enhancing international understanding, and nurturing individuals who will contribute to building a shared future for humanity. By concentrating on these key areas, future research in ICLE can significantly contribute to a deeper understanding of learner identity, fostering more effective educational strategies, and promoting global cultural exchange.

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