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Guideline for University Teacher's Growth Mindset in Chengdu City, China

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Abstract
This study aims to explore the key factors influencing the development of a growth mindset among university teachers in Chengdu, China, and propose a corresponding guideline framework. By providing a supportive work environment and continuous professional development opportunities, universities can help teachers improve their teaching methods, collaborate effectively, and inspire students to adopt a growth-oriented approach to learning. The findings suggest that the cultivation of a growth mindset is not only influenced by individual teacher perceptions and attitudes but also requires proactive institutional efforts in terms of policies, leadership support, and access to development opportunities. Job satisfaction, leadership style, institutional culture, Specify the factors clearly were found to play a significant role in shaping faculty's growth mindset. Leadership and institutional support were identified as critical factors in encouraging faculty to innovate in teaching and engage in ongoing professional development. By implementing faculty-centered development programs, fostering a collaborative academic environment, and providing structured feedback mechanisms, universities can foster the adoption of a growth mindset. The guideline framework proposed in this study outlines specific measures to enhance job satisfaction, strengthen leadership support, foster interdisciplinary collaboration, and establish systematic feedback mechanisms. These strategies aim to help universities in Chengdu cultivate a growth-oriented environment for faculty, ultimately improving teaching outcomes and contributing to greater innovation in higher education. By integrating these strategies, universities can create a supportive academic ecosystem that enables faculty development, leading to improved teaching quality and a more dynamic learning experience for students.

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1. Introduction
In recent years, the concept of the growth mindset has gained significant attention in educational research and practice. Coined by Carol Dweck (2006) [3], a growth mindset refers to the belief that intelligence and abilities can be developed through effort, learning, and persistence. For university teachers, especially in a rapidly developing city like Chengdu, embracing a growth mindset is critical not only for personal and professional development but also for cultivating student potential in a competitive educational environment.
However, despite increasing awareness, many university educators in Chengdu still demonstrate traits aligned with a fixed mindset, such as resistance to change, low self-efficacy in the face of academic innovation, and limited engagement in professional learning communities.

These challenges are particularly evident in the face of curriculum reform, digital transformation, and internationalization demands in Chinese higher education. As such, fostering a growth mindset among university teachers has become an urgent priority.

While previous studies have explored teacher mindsets in general, limited research has focused specifically on growth mindset development among university teachers in western Chinese cities such as Chengdu. Moreover, there is a lack of context-specific guidelines tailored to support faculty members in transitioning from a fixed to a growth mindset within their unique institutional and cultural environments.

Therefore, this study aims to address this gap by investigating the key factors influencing university teachers' growth mindset in Chengdu and developing a set of practical, context-based guidelines to enhance their mindset transformation. The study employs qualitative methods to capture the voices of educators and provide insights that can inform policy, leadership practices, and teacher development programs.

The main objective of this study is to develop a practical and context-based guideline for promoting the growth mindset among university teachers in Chengdu, China. To achieve this, the study seeks to fulfill the following specific objectives:

1. To explore university teachers' current understanding and perception of growth mindset within the context of higher education in Chengdu.
2. To identify the challenges and barriers that hinder the development of a growth mindset among university faculty, including institutional, cultural, and personal factors.
3. To investigate the internal and external factors (such as leadership support, peer collaboration, and professional development opportunities) that can positively influence teachers' mindset transformation.
4. To synthesize the findings into actionable guidelines that support university teachers and administrators in cultivating a growth mindset at both the individual and organizational levels.

The objective of this guideline is to provide Chengdu universities with a structured approach to cultivating a growth mindset among faculty members. Specifically, it aims to enhance job satisfaction by implementing supportive faculty policies and engagement programs, encourage continuous professional development through innovative teaching strategies and training opportunities, and strengthen leadership and mentorship to support faculty in adopting a growth-oriented approach. Additionally, it seeks to improve the work environment by fostering collaboration and resilience while promoting an organizational culture that values learning, effort, and adaptability.

By integrating these strategies, universities in Chengdu can create an academic ecosystem that supports teacher development, leading to improved teaching outcomes, greater innovation in higher education, and a more dynamic learning experience for students. Establishing a culture that embraces growth mindset principles will not only benefit faculty members but also enhance the overall quality of education, fostering a new generation of resilient and adaptable learners.

2. Methodology and data collection
This study adopted a qualitative research design based on semi-structured interviews with university teachers in Chengdu. The qualitative approach was chosen to gain in-depth insights into participants' perceptions, experiences, and attitudes toward the concept of the growth mindset, and to explore the contextual factors influencing their mindset development.

2.1 Participants (Key Informants)
To guideline development of University Teachers' Growth Mindset, there are 58 key informants or administrators of the university teachers' growth mindset as sample to interview, including 14 teachers from Sichuan University, 10 teachers from Sichuan Normal University, 10 teachers from University of electronic Science and technology Of China, 8 teachers from Chengdu University of Technology, 6 teachers from Southwest Minzu University, 4 teachers from Chengdu Normal University, 4 teachers from Sichuan Conservatory of Music, and 2 teacher from Chengdu Sport University.

The interviewees should meet the following:
1. Must have been engaged in teaching or management for at least 5 years
2. Must have the title of associate professor or have doctoral degree or above
3. Must have a certain understanding of university teachers' growth mindset, and
4. Must be willing to participate in interview and willing to look at their interview transcripts to verify.

Selecting 58 university teachers as key informants was based on the principle of thematic saturation, which refers to the point at which no new information or themes emerge from additional data collection (Guest, Bunce, & Johnson, 2006) [4]. In qualitative research, especially within a diverse context such as Chengdu's higher education landscape, a moderately large number of participants enhances data richness, credibility, and transferability. The sample included teachers from various disciplines, institutional types (public and private), and academic ranks, ensuring a broad range of perspectives relevant to the study's objective. Moreover, purposive sampling was applied to capture depth and variation rather than quantity, and the size of 58 was deemed sufficient to ensure meaningful pattern identification while allowing for in-depth analysis.

2.2 Variables
1. Leadership consists of visional inspiration, intellectual stimulation, individual consideration
2. Work environment consist of flexibility, psychological safety, employee engagement
3. Organizational culture consist of shared values and beliefs, employee well-being initiatives, inclusivity and collaboration.
4. Professional development initiatives consist of regular training programs, mentorship opportunities, support for continuous learning
5. Job satisfaction consist of recognition and reward systems, opportunities for growth, work-life balance
6. University teacher's growth mindset consist of adaptability, openness to feedback, and commitment lifelong learning.

2.3 Research Instrument

Data were collected through in-depth semi-structured interviews, each lasting approximately 30–60 minutes. The interviews were conducted either face-to-face or via video conferencing, depending on the participants' availability. All interviews were conducted in Chinese and audio-recorded with the participants' consent. Interview questions were designed to explore participants' understanding of growth mindset, perceived challenges in mindset transformation, and their expectations for institutional support.

To ensure the trustworthiness of the study, the following strategies were employed:

1. Triangulation: Data from different institutions and academic backgrounds were compared to identify consistent themes.
2. Member checking: Selected participants were invited to review and verify the accuracy of the interview transcripts and initial thematic interpretations.
3. Peer debriefing: Findings were discussed with academic peers to reduce researcher bias.
4. Expert validation: Interview protocols and preliminary coding schemes were reviewed by two experts in educational psychology and qualitative research.

2.4 Data Collection

This study employs a qualitative research approach using semi-structured interviews to explore university teachers' perceptions, experiences, and challenges in developing a growth mindset in higher education institutions in Chengdu, China. The data collection process is designed to ensure depth, reliability, and relevance in understanding faculty attitudes, institutional support mechanisms, leadership influence, and interdisciplinary collaboration.

2.4.1 Interview Procedure

The interviews will be semi-structured, allowing for flexibility in exploring key themes while ensuring consistency across interviews. The interview questions will focus on:

1. Faculty perceptions of growth mindset in teaching.
2. The role of leadership and institutional policies in promoting professional growth.
3. Faculty engagement in mentorship, research, and interdisciplinary collaboration.
4. The effectiveness of faculty evaluation and feedback mechanisms in fostering a growth mindset.

Each interview will last approximately 45–60 minutes and will be conducted either in person or via online platforms (e.g., Zoom, Microsoft Teams) to accommodate participant preferences.

Participants will be provided with a detailed consent form explaining the purpose of the study, data confidentiality, and voluntary participation. All interviews will be audio-recorded with participant consent to ensure accuracy in data transcription. Participants will be assured that all responses will remain confidential, and pseudonyms will be used in reporting findings.

Interviews will be recorded and transcribed verbatim to preserve the authenticity of participant responses. A thematic analysis approach will be applied to identify emerging patterns, challenges, and best practices related to faculty growth mindset development (Braun & Clarke, 2006) [2]. The transcriptions will be reviewed and verified by the researchers to ensure data accuracy and credibility.

The collected interview data will be analyzed using thematic analysis, following Braun and Clarke's (2006) [2] six-step process:

1. Familiarization with Data – Reviewing transcripts to gain an in-depth understanding.
2. Generating Initial Codes – Identifying recurring themes related to faculty development, leadership, and institutional culture.
3. Searching for Themes – Grouping similar codes into broader themes such as mentorship, innovation, and faculty resilience.
4. Reviewing Themes – Refining themes to ensure coherence and consistency.
5. Defining and Naming Themes – Assigning clear definitions to each theme.
6. Producing the Report – Synthesizing findings to provide actionable recommendations for university administrators and policymakers.

To ensure the validity and reliability of the data collected through interviews, multiple strategies will be implemented to enhance the credibility, accuracy, and consistency of the findings. These measures include triangulation, member checking, and peer review, which will collectively strengthen the study's trustworthiness.

Triangulation will be employed by comparing the study's findings with existing literature on growth mindset in higher education. The research will be cross-referenced with established theories and empirical studies, such as Dweck's (2006) [3] theory on growth mindset and Guskey's (2002) [5] work on professional development in teaching. By integrating insights from prior research, the study aims to validate emerging themes and patterns, ensuring that the results align with well-documented perspectives in the field of higher education faculty development.

Member checking will be conducted by sharing preliminary findings with selected participants to verify the accuracy and authenticity of the data. This process allows faculty members to review their responses and provide feedback on whether their perspectives have been accurately represented. Member checking also serves as a corrective mechanism, enabling participants to clarify or expand on their viewpoints if necessary. This iterative process enhances the credibility of the research by ensuring that the interpretations align with the participants' lived experiences.

Peer review will involve engaging experts in higher education and faculty development to evaluate the interview framework, data analysis, and thematic categorization. External reviewers, including senior faculty members, educational researchers, and professional development specialists, will provide constructive feedback on the research design and interpretation of findings. This process not only reinforces the rigor and objectivity of the study but also ensures that the methodological approach remains aligned with best practices in qualitative research.

By implementing these validity and reliability measures, the study will strengthen the trustworthiness of its findings, providing a solid foundation for institutional recommendations on fostering a growth mindset among university faculty in Chengdu.

This interview-based data collection will provide rich qualitative insights into how university faculty in Chengdu perceive, adopt, and sustain a growth mindset. The findings

will help inform policy recommendations and guide institutional strategies to enhance faculty professional development, teaching innovation, and interdisciplinary collaboration.

3. Data analysis and results

The data were analyzed using thematic analysis (Braun & Clarke, 2006) [2] to identify recurring patterns related to growth mindset adoption, institutional support, and faculty development. The results are structured according to the research objectives to ensure alignment with the key areas of faculty growth and institutional enhancement.

Data were analyzed using thematic analysis, following the

six-phase framework proposed by Braun and Clarke (2006) [2]:

1. Familiarization with the data through repeated reading of transcripts.
2. Generating initial codes based on significant statements.
3. Searching for themes by grouping similar codes together.
4. Reviewing themes to ensure they accurately represent the data.
5. Defining and naming themes for clarity and coherence.
6. Producing the report, including illustrative quotes to support each theme.

More Intuitive Word Cloud for Key Themes in University Teachers' Growth Mindset shows in Figure 1.

(**Source:** Compiled and developed by the author from interview data)

Fig 1: More Intuitive Word Cloud for Key Themes in University Teachers' Growth Mindset

Figure 1 presents a word cloud generated from the interview transcripts of 58 university teachers in Chengdu, illustrating the most frequently mentioned concepts related to the development of a growth mindset. The size of each word reflects its relative frequency or emphasis across the interview data, as processed through NVivo's word frequency analysis.

Notably, words such as "Growth," "Faculty," "Mindset," "Leadership," "Feedback," "Innovation," and "Development" appear prominently, indicating their central role in teachers' understanding and experience of mindset transformation. Other important concepts include "Collaboration," "Professional," "Programs," "Safe," "Empowerment," and "Adaptability", which point to the environmental and institutional conditions that either support or hinder the formation of a growth mindset.

This visualization reinforces the thematic analysis findings by highlighting how key terms cluster around areas such as:

The word cloud thus serves as an intuitive summary of teachers' collective mindset landscape, capturing both conceptual awareness and the socio-cultural dimensions of growth mindset development in the higher education context of Chengdu.

Theme 1: Understanding of Growth Mindset
Theme 2: Institutional Environment and Workload Pressure
Theme 3: Professional Development: Opportunities and Limitations
Theme 4: Leadership and Support Systems
The analysis revealed five key themes related to the adoption and implementation of a growth mindset among university

teachers in Chengdu:

Theme 1: Understanding of growth mindset

Many teachers had a basic conceptual awareness of the term "growth mindset" but varied widely in their depth of understanding. Some participants equated it with general optimism or hard work, while others demonstrated a more nuanced view based on self-reflection and continuous improvement.

"I believe a growth mindset means always being open to learning and accepting that you're not perfect, but you can improve." – Participant 2
"To me, it's about being persistent even when you're not sure you can succeed yet." – Participant 12

However, several participants admitted they had never encountered the term formally during their teacher training or professional development. This suggests a gap in mindset-related education at both pre-service and in-service levels.

"Honestly, I've heard the term only recently, and no one has really explained what it means in a university teaching context." – Participant 7
"In my experience, most training focuses on teaching skills, but not on mindset or beliefs." – Participant 23

This finding aligns with Dweck's (2006) [3] argument that simply promoting the concept is insufficient without deep cultural and pedagogical integration.

Theme 2: Institutional environment and workload pressure

Teachers expressed that their working environment, especially performance evaluation systems, research publication demands, and bureaucratic procedures, often hindered their ability to adopt a growth mindset.

"Sometimes, you want to improve, but everything is about numbers—papers, student ratings, reports. You feel exhausted, not empowered." – Participant 14

"The university expects innovation but punishes failure. That makes us afraid to try new things." – Participant 29

"Even when I have ideas for new teaching methods, I don't have the energy or time to experiment." – Participant 8

Importantly, to avoid ethical concerns, this study does not name specific universities but rather presents aggregated insights across institutions. Overall, the institutional climate was reported as rigid or unsupportive in many cases, leading to frustration and a tendency toward fixed mindsets.

These results support existing studies that emphasize the role of organizational culture and performance systems in shaping teacher attitudes and beliefs (Zeng *et al.*, 2021) [12].

Theme 3: Professional development: Opportunities and limitations

Access to meaningful, sustained professional development was repeatedly identified as a key enabler of mindset growth. Teachers who had participated in peer mentoring, action research, or international training programs reported higher confidence and more positive attitudes toward change.

"After attending a short overseas program, I felt more motivated. They encouraged experimentation and failure, which made me less afraid to try." – Participant 19

"I joined a peer learning group where we shared and reflected every week. That helped me grow more than any lecture." – Participant 33

However, many teachers also mentioned that professional development was often superficial or bureaucratic, with limited relevance to their real teaching challenges.

"Most workshops are too formal and feel disconnected from our actual classroom needs." – Participant 6

"We fill out forms and attend training for the sake of records, not for real learning." – Participant 25

This theme highlights the need for tailored, reflective, and ongoing training programs to genuinely support mindset transformation, as emphasized by Sun & Zhang (2020) [9].

Theme 4: Leadership and Support Systems

The presence of empathetic, visionary leadership emerged as a strong motivator for adopting a growth mindset. Teachers who received regular encouragement, constructive feedback, and mentoring from department heads or deans felt more empowered to reflect, grow, and innovate.

"Our dean gives us space to try new things—even if we fail, she supports us. That really changed my attitude toward growth." – Participant 36

"When leaders trust you, it boosts your confidence. You feel it's okay to take risks and improve." – Participant 10

"Feedback from my supervisor is not just about performance—it's about development. That makes a big difference." – Participant 22

In contrast, in departments where leadership was perceived as authoritative or indifferent, teachers reported feelings of disengagement or fear of failure, further reinforcing a fixed mindset.

"Some leaders are only interested in rankings. They don't care how we grow as teachers." – Participant 16

This finding resonates with the work of Leithwood *et al.* (2019) [6], who argue that transformational leadership fosters teacher innovation and personal growth.

To sum up, these themes reveal that the development of a growth mindset among university teachers in Chengdu is influenced by a complex interplay of personal understanding, institutional pressures, leadership style, and access to professional support. While individual motivation is important, contextual enablers and barriers play a decisive role.

These findings support socio-cultural theories of teacher development, which emphasize that mindset change does not occur in isolation, but within an ecosystem of interactions, expectations, and support structures (Vygotsky, 1978; Opfer & Pedder, 2011) [10, 7].

The 44 themes identified in the analysis provided the foundational basis for constructing the conceptual framework presented in Figure 2.
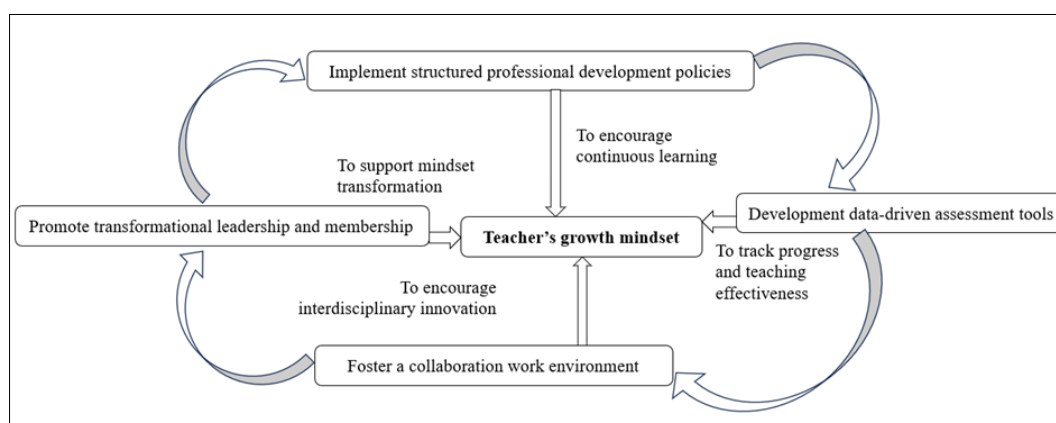
(**Source:** Developed by the author based on the thematic findings of this study)

Fig 2: The 4 key guidelines for fostering faculty growth mindset

Figure 2 shows a proposed strategic framework for supporting the development of a growth mindset among university teachers. This framework is derived directly from the thematic findings of this study and is based on the voices and insights of the 58 university teachers.

Each component of the diagram reflects one or more key themes identified during the qualitative analysis, and together they form a cyclical and mutually reinforcing system. Specifically:

1. Promote transformational leadership and membership: Supports mindset transformation by creating a psychologically safe environment and inspiring vision-driven change.
2. Implement structured professional development policies: Encourages continuous learning and reflective practice tailored to individual growth.
3. Develop data-driven assessment tools: Enables institutions to track mindset development, teaching effectiveness, and guide improvement.
4. Foster a collaborative work environment: Enhances interdisciplinary innovation and peer-driven motivation.

This model emphasizes that a teacher's growth mindset is not an isolated personal trait, but rather the product of a supportive institutional ecosystem

The finding figure is an original contribution of this study, synthesizing both empirical data and theoretical insights, and is intended to guide universities and policymakers in designing effective support mechanisms for faculty mindset growth.

4. Conclusions, discussion and recommendation
4.1 Conclusions
This study aimed to explore the development of a growth mindset among university teachers in Chengdu, China, focusing on factors that influence faculty professional growth, institutional support, and leadership practices. Based on the findings, the following conclusions can be drawn:

1. Institutional support is crucial: Faculty members' adoption of a growth mindset is significantly influenced by institutional policies that recognize and support continuous learning. Faculty members who experience clear recognition systems, fair compensation, and opportunities for participation in decision-making reported higher levels of job satisfaction and engagement.
2. Leadership and mentorship matter: Transformational leadership and mentorship programs are pivotal in fostering a growth-oriented culture. Faculty who received guidance from supportive leaders and mentors felt more empowered to experiment with innovative teaching strategies and engage in professional development.
3. A Collaborative work environment promotes innovation: Faculty members who were part of interdisciplinary projects and had access to collaborative spaces felt more motivated to innovate and contribute to the institution's academic success. However, departmental silos and a lack of structured collaboration initiatives presented barriers to such engagement.
4. Continuous professional development is essential: Ongoing training programs, access to research opportunities, and institutional funding are necessary to encourage faculty participation in innovative teaching

practices. Faculty members in institutions that offered these resources were more likely to engage in growth-oriented behaviors.
5. Organizational culture shapes faculty mindset: The overall culture of the institution plays a vital role in shaping faculty perceptions about professional growth. Institutions that embed growth mindset principles into their policies and align these values with the strategic direction of the university create an environment where faculty members feel valued and motivated to improve.
6. Effective feedback mechanisms are needed: Structured self-assessments, peer evaluations, and student feedback were identified as effective tools for measuring growth mindset adoption. However, many faculty members expressed the need for feedback systems that focus more on growth and improvement rather than solely on performance metrics.

4.2 Discussion
The findings of this study align with and extend previous research on growth mindset and faculty development in higher education.

First, the variation in teachers' understanding of growth mindset supports Dweck's (2006) [3] observation that awareness alone is insufficient without deeper integration into educational culture. This echoes research by Yeager and Dweck (2012) [11], who emphasized that mindset interventions must be contextualized within broader institutional systems to be effective.

Second, the impact of institutional barriers and workload pressure is consistent with Zeng et al. (2021) [12], who found that rigid performance appraisal systems and publication-driven metrics often discourage risk-taking and innovation in Chinese universities. Similarly, Ryan and Deci's (2000) [8] self-determination theory supports the notion that overly controlled environments diminish intrinsic motivation—thus impeding the adoption of a growth mindset.

Third, the importance of professional development as a catalyst for mindset change reflects findings by Guskey (2002) [5] and Avalos (2011) [1], who both argued that sustained, reflective professional learning is central to lasting teacher change. However, this study adds to their work by emphasizing the need for locally relevant and participatory training models—a theme less explored in previous studies on mindset development.

Finally, the theme of leadership and support systems reinforces the claims of Leithwood et al. (2019) [6], who found that transformational leadership styles promote teacher autonomy and continuous learning. This study contributes further by highlighting the psychological safety and risk-tolerant environment needed to facilitate mindset shifts, particularly within Chinese higher education contexts.

Overall, this study complements and builds upon existing literature while offering a localized, evidence-based framework for understanding and supporting the growth mindset among university teachers in Chengdu.

4.3 Recommendations
4.3.1 Policy recommendations for universities in Chengdu
Based on the findings of this study, several strategic actions are recommended for university administrators and policymakers in Chengdu to foster a growth mindset among faculty members:

1. Implement structured and reflective professional development programs
   Universities should move beyond one-time training and establish ongoing, reflective learning systems that focus on mindset, resilience, and innovation—not just content delivery. Programs should be needs-based, participatory, and discipline-sensitive.
2. Promote transformational leadership at departmental levels
   Leaders and deans should be trained to provide mentorship, foster psychological safety, and encourage calculated risk-taking among faculty members. A leadership culture that values process over perfection can empower teachers to grow.
3. Revise performance evaluation policies to support growth
   Shift from rigid output-based assessment (e.g., publication count) toward more holistic evaluations that recognize pedagogical experimentation, teamwork, and effort-based improvement. This reduces fear of failure and reinforces a growth-oriented teaching culture.
4. Foster cross-disciplinary collaboration platforms
   Creating regular forums, workshops, or communities of practice can allow faculty from different fields to exchange ideas and support each other's growth. Interdisciplinary engagement was shown to boost motivation and reduce isolation.
5. Develop data-driven feedback and mindset tracking tools
   Institutions should use learning analytics and teaching portfolios to help teachers reflect on their growth over time. These tools should emphasize improvement and self-monitoring, rather than top-down performance comparison.

4.3.2 Suggestions for future research
To further deepen understanding of teacher growth mindset development, future studies could explore the following directions:
1. Quantitative follow-up studies
   Future research could involve larger-scale surveys to validate and generalize the themes identified in this qualitative study, using statistical techniques such as structural equation modeling or regression analysis.
2. Comparative studies across cities or regions
   Comparative research between Chengdu and universities in other cities (e.g., Beijing, Guangzhou, or second-tier inland cities) can reveal how local educational policy, economic development, and institutional culture influence teacher mindsets differently.
3. Longitudinal studies on mindset transformation
   Tracking individual teachers over several years would offer insights into how mindset evolves over time, especially in response to institutional changes or professional development experiences.
4. Student perspectives on teacher mindset
   Including student feedback may provide valuable triangulation and illuminate how students perceive and are affected by teachers' mindset in their learning environments.

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