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Perceived Impact of Generative Artificial Intelligence (GenAI) on Teaching Materials Among Traditional Chinese Medicine Educators in Shandong, China

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Abstract

This study examines the perceived impact of Generative Artificial Intelligence (AI) on teaching materials among Traditional Chinese Medicine (TCM) educators in Shandong, China. A quantitative survey design was employed, utilizing a structured questionnaire to assess AI's influence on accuracy, creativity, structure, and efficiency in instructional material development. Demographic variables, including age, gender, years of teaching experience, and frequency of AI usage, were also analyzed to identify potential correlations with educators' perceptions. The results indicate that a majority of educators frequently use AI in their teaching material development, with varying levels of engagement. The sample consisted of educators with diverse teaching experience, with most having over a decade in the field. The gender distribution was skewed toward female educators, and mid-career educators formed the largest group. Statistical analysis revealed that AI was generally perceived as beneficial for improving efficiency and structuring teaching materials, particularly among those with higher AI exposure and fewer years of teaching experience. However, concerns about AI's accuracy and its ability to maintain creativity in TCM-specific content were prevalent, especially among more experienced educators. A one-way ANOVA showed significant differences in perception based on teaching experience, while correlation analysis confirmed a positive relationship between AI exposure and perceived usefulness.These findings provide valuable insights into the evolving role of AI in specialized education fields, underscoring both its potential benefits and limitations in TCM pedagogy. Future research should explore long-term adoption patterns, best practices, and strategies for optimizing AI-driven teaching materials in TCM education.

Keywords: *Generative Artificial Intelligence, Traditional Chinese Medicine Education, Teaching Material Development, AI Perceptions, Vocational Education, AI Adoption, Educational Technology, Quantitative Survey, AI in Pedagogy, Perceived Impact.*

Introduction

The growing influence of generative artificial intelligence as a transformative technology highlights the need for a comprehensive examination of its impact, especially in the field of education (Chan & Tsi, 2023). This study takes into consideration the perspective of Traditional Chinese Medicine (TCM) educators in Shandong, China, and how such a technology can be applied to pedagogical content production and delivery. Being a TCM tradition-rich region, Shandong provides a fertile ground to investigate integrating generative AI into a discipline characterized by historic knowledge and cultural nuances. Generative AI has the potential to revolutionize education by facilitating personalized content creation and improving the assessment of complex cognitive skills (Łodzikowski et al., 2024). However, its adoption presents several challenges, such as deployment difficulties, data bias, a lack of transparency in design, and concerns about verifying generated outputs (Łodzikowski et al., 2024). As

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generative AI tools continue to expand rapidly, educational methods—particularly in computer science—are undergoing significant transformation. Studies suggest that nearly half of students now integrate GenAI into their academic work, highlighting its increasing presence in learning environments (Dickey & Bejarano, 2023).

Effectively integrating generative AI into education is essential to preparing future generations for an evolving academic and professional landscape. This research seeks to uncover the views of TCM educators who play a pivotal role in training future practitioners. It examines their expectations, concerns, and insights regarding the adoption of generative AI in their teaching practices. The technology has the potential to generate high-quality educational materials, adapt to diverse learning needs, and reduce reliance on traditional forms of academic dishonesty(Dickey & Bejarano, 2023; Łodzikowski et al., 2024). However, evaluating its role in education requires a balanced approach that considers ethical, technical, and pedagogical implications. Collaboration between educators and technology developers will be essential in addressing these challenges and ensuring AI's effective and responsible use in TCM education (Guettala et al., 2024).

Background of the Research

For thousands of years, Traditional Chinese Medicine (TCM) has been a fundamental aspect of China's healthcare system, drawing from ancient philosophies such as Yin-Yang theory, the Five Elements, and the concept of Qi (vital energy) (Fu et al., 2021). Unlike Western medicine, which primarily focuses on diagnosing and treating diseases through biochemical and physiological methods, TCM adopts a holistic perspective that prioritizes balance and harmony within the body. Its core practices—including acupuncture, herbal remedies, cupping therapy, moxibustion, and Tui Na massage—are designed to restore the body's natural equilibrium (Yang et al., 2019). This philosophy is rooted in the belief that health depends on the interconnectedness of bodily systems, and illness occurs when this balance is disrupted. Diagnosis in TCM involves a comprehensive evaluation of a patient's condition, incorporating pulse readings, tongue analysis, and the observation of physical symptoms. The growing integration of TCM with modern medical treatments highlights its relevance in contemporary healthcare, offering a more personalized and holistic approach to patient care (Hu & Liu, 2012). TCM's enduring relevance is evident in its widespread use across China, where it is often integrated with Western medicine in hospitals and clinics (Mir et al., 2023).

Despite its deep historical roots, Traditional Chinese Medicine (TCM) has evolved to align with modern advancements, with increasing research supporting its integration into contemporary healthcare. The Chinese government has played a key role in promoting TCM's standardization and international recognition, incorporating it into national healthcare policies and advocating for its use alongside Western medicine in hospitals and clinics (Watanabe, 2017). However, ongoing challenges such as scientific validation, global acceptance, and regulatory frameworks continue to shape discussions about its future both in China and internationally (Hesketh & Zhu, 1997). As non-communicable chronic diseases become more prevalent and the global population continues to age, there has been a shift in healthcare from solely treating illnesses to prioritizing prevention and system-wide improvements (Liu & Zhu, 2011). The combination of TCM with modern medicine and biotechnology is expected to enhance preventive healthcare and overall health management (Liu & Zhu, 2011). However, the philosophical foundations of TCM, deeply embedded in Chinese cultural traditions, present interpretative challenges due to their contrast with conventional anatomical and empirical scientific frameworks (Liu & Zhu, 2011).

Traditional Chinese Medicine in Shandong, China

Shandong province holds a significant position in the history and development of TCM, serving as a key center for both traditional practices and modern advancements in the field. Known as the birthplace of some of China's most renowned TCM scholars, including Bian Que—one of the earliest recorded physicians in Chinese history—Shandong has long been a hub for medical knowledge and herbal medicine cultivation (Koithan & Wright, 2010). The province is home to a strong network of TCM universities, research institutes, and hospitals that continue to preserve and advance traditional healing methods (Xiaoxuan & Hu, 2023). Shandong's commitment to TCM is evident in its integration of traditional practices with modern medical techniques, fostering a holistic approach to healthcare. Shandong's unique geographical location and diverse climate contribute to its rich variety of medicinal plants, supporting the production of high-quality herbal remedies. In recent years, Shandong has emerged as a leading region in integrating TCM with innovative technologies, including artificial intelligence (AI) and digital health solutions. With the increasing use of AI in medical diagnosis and education, TCM institutions in Shandong are exploring how emerging technologies (Duan et al., 2021), such as Generative AI, can support the development of teaching materials and enhance the learning experience for future practitioners (Hou et al., 2023). This shift highlights the province's role in modernizing TCM education while maintaining its rich historical and cultural legacy.

Problem Statement

The integration of Generative Artificial Intelligence (GenAI) in education is rapidly reshaping how teaching materials are developed, customized, and delivered (Łodzikowski et al., 2024). While GenAI has proven effective across various academic disciplines, its application in Traditional Chinese Medicine (TCM) education remains largely unexamined. Given that TCM is deeply rooted in historical texts, holistic philosophies, and cultural traditions, AI-generated content may face challenges in maintaining the necessary nuance and contextual accuracy (Feng et al., 2021).

Currently, limited research explores educators' perspectives on the use of AI-generated teaching materials in TCM, particularly concerning their accuracy, creativity, and instructional value (Chan & Tsi, 2023). It is essential to investigate whether AI can preserve the integrity of TCM knowledge while improving the accessibility and efficiency of course materials. However, concerns persist regarding the misinterpretation of classical medical texts, potential dilution of cultural depth, and an over-reliance on AI-generated resources, raising questions about the technology's suitability for TCM pedagogy (Hou et al., 2023). This study aims to address this gap by examining the perceptions of TCM educators in Shandong, China—a region with a rich history of contributions to traditional medicine—regarding AI-generated content in their courses. By assessing how educators evaluate AI's role in content development, this research seeks to establish best practices for integrating AI into specialized education while ensuring the authenticity of traditional knowledge is maintained.

Literature Review

Adoption of Generative AI in Content Creation and Instructional Design

The integration of Generative Artificial Intelligence (GenAI) in education is transforming the way teaching materials are developed, adapted, and delivered. AI-driven tools such as ChatGPT, GPT-4, Bard, Deepseek and Claude have demonstrated their ability to generate instructional content, automate assessments, and personalize learning experiences (Bai et al., 2023). In

curriculum design, Generative AI aids in content synthesis, question generation, and adaptive learning systems, providing learners with customized educational materials that align with their individual progress (Wu et al., 2024). Recent studies highlight how AI-enhanced content creation is particularly beneficial in language learning, STEM education, and medical training. According to Kasneci et al. (2023), AI-generated content has been adopted in higher education institutions to create lecture notes, quizzes, and simulations, significantly reducing the time educators spend on repetitive content generation tasks. Instructional designers increasingly leverage AI to develop multimedia-based teaching materials that enhance student engagement (Ruiz-Rojas et al., 2023). Educators are increasingly shifting from a standardized teaching approach to a learner-centered model, allowing for the development of diverse and contextually relevant learning materials that promote creativity, critical thinking, and problem-solving skills. Recent studies highlight the growing integration of AI-driven tools such as chatbots, virtual assistants, and immersive virtual reality in language learning, offering personalized learning experiences and real-time feedback (Sheiladevi & Nurul, 2024). The GenAI Content Generation Framework has emerged as a solution to the demand for dynamic and customized course materials (Dickey & Bejarano, 2023). However, in Traditional Chinese Medicine (TCM) education, AI adoption in content development has been slower than in Western medical fields, largely due to the complexity of TCM theories and the challenges associated with converting classical texts into machine-readable formats (Li et al., 2023).

Challenges of AI in Specialized Fields: Issues of Accuracy, Cultural Nuances, and Ethical Concerns

Despite its benefits, the use of Generative AI in specialized fields such as TCM presents significant challenges. A major concern is accuracy—AI-generated content can sometimes misinterpret complex, field-specific knowledge, leading to errors in clinical explanations and historical references (Bhuyan et al., 2025) Unlike standardized medical education, TCM relies on philosophical principles, holistic diagnostics, and centuries-old texts, which AI models struggle to interpret accurately (Li et al., 2022)

Furthermore, cultural nuances and contextual understanding remain significant obstacles. AI models, predominantly trained on Western-based data sources, often fail to grasp the philosophical depth of TCM concepts, leading to potential distortions when generating teaching materials. A study by Song et al. (2024) found that AI-generated descriptions of theories often lacked precision, which could mislead students unfamiliar with the traditional context. Another concern is the ethical implications of AI-generated teaching materials. As AI tools become more prominent in education, intellectual property issues, data privacy, and academic integrity concerns arise(Bahrini et al., 2023). Instructors may face uncertainty regarding the authenticity of AI-assisted materials, and students risk over-reliance on AI-generated explanations without engaging in critical thinking. In the context of TCM, preserving cultural authenticity while integrating AI-generated content remains a challenge that educators must navigate carefully (Slimi & Villarejo-Carballido, 2023).

Several empirical studies have examined the role of AI in curriculum development and its impact on educators' pedagogical approaches. Research findings suggest that AI-powered tools can enhance teaching material production, particularly in disciplines requiring extensive content adaptation and real-time updates (Ma et al., 2024) . In medical education, AI-driven resources such as automated case studies, chatbots for medical consultations, and interactive learning platforms have gained popularity (Davenport & Kalakota, 2019). Studies on educators'

perspectives reveal a diverse range of responses. While some educators appreciate AI's role in reducing workload and offering personalized learning experiences, others express concerns regarding the depersonalization of education and the risk of misinformation (Giray et al., 2024). In the context of Traditional Chinese Medicine, existing research is still limited, but preliminary studies indicate that TCM educators are cautious about fully integrating AI into their curriculum due to concerns over authenticity, standardization, and alignment with traditional methodologies.

Methodology

This study employed a quantitative survey design to examine Traditional Chinese Medicine (TCM) educators' perceptions of Generative AI in teaching material development. A structured questionnaire was developed to ensure standardized data collection, minimize response bias, and enable comparability across participants (Creswell & Creswell, 2018). The survey instrument consisted of Likert-scale questions measuring AI's influence on accuracy, creativity, structure, and efficiency in instructional materials. The Likert-scale format allowed for the quantification of subjective perceptions, making the data amenable to statistical testing (Boone & Boone, 2012).

Participants were TCM educators from vocational colleges in Shandong, selected using purposive sampling to ensure their expertise in AI adoption within specialized education fields. The selection criteria required that respondents have direct experience with TCM pedagogy and potential AI integration in teaching material preparation. Purposive sampling, while non-random, is effective in studies requiring expertise-based participation (Cook & Cook, 2017). To enhance representativeness and reduce potential selection bias, the study included educators from diverse backgrounds in terms of teaching experience, age groups, and prior exposure to AI technologies.

The survey instrument was designed following established survey research guidelines to enhance validity and reliability. It consisted of two sections: demographic information and perception measures. The demographic section collected data on years of teaching experience, age, and prior AI exposure, which were systematically analyzed to explore potential correlations with educators' perceptions. The perception section included Likert-scale items evaluating attitudes toward AI's impact on teaching material accuracy, creativity, structure, and efficiency. Before full-scale distribution, a pilot test was conducted with a small group of TCM educators (n=10) to assess clarity, relevance, and reliability of the questionnaire. Based on feedback, minor refinements were made to improve comprehensibility and eliminate ambiguities (Krosnick & Presser, 2010).

The collected data underwent analysis using both descriptive and inferential statistical methods. Descriptive statistics, such as mean and standard deviation, were used to summarize overall trends in educators' perceptions. To ensure the reliability of the survey instrument, Cronbach's Alpha was calculated, with a reliability coefficient exceeding 0.7 considered acceptable (Tavakol & Dennick, 2011). A one-way ANOVA was applied to determine whether educators' perceptions varied based on their years of teaching experience, as this method is commonly used to compare means across multiple groups (Skidmore & Thompson, 2012). Furthermore, correlation analysis was carried out to examine potential relationships between educators' prior exposure to AI and their perspectives on its application in developing teaching materials. The use of these statistical techniques provided a thorough evaluation of the survey data, reinforcing

the reliability and validity of the findings on educators' views regarding Generative AI in TCM education.

Findings and Discussion

To evaluate the internal consistency of the survey instrument assessing the perceived impact of Generative Artificial Intelligence on teaching materials among Traditional Chinese Medicine educators in Shandong, China, a reliability test was conducted. Using Cronbach's Alpha in SPSS, the analysis produced a reliability coefficient of 0.935 across 21 items, indicating strong reliability

Cronbach's Alpha	N of Items
.935	21

Table 1. Reliability Statistics for the Items

This finding demonstrates a high level of internal consistency, indicating that the survey items effectively capture the intended construct. A Cronbach's Alpha value exceeding 0.90 is generally considered to reflect strong reliability, ensuring consistency in participants' responses across the instrument. Given this high reliability score, the survey is deemed suitable for assessing educators' perceptions of Generative AI in teaching material development.

Category	**Frequency**	**Percent**
Age Group		
Under 30	16	8
31-40	47	23.5
41-50	108	54
Over 50	29	14.5
Total	200	100
Gender		
Male	70	35
Female	130	65
Total	200	100
Years Teaching in TCM		
Less than 5	49	24.5
5 to 10	40	20
11 to 20	93	46.5
Over 20	18	9
Total	200	100
Frequent Use of AI		
Daily	165	82.5
Weekly	35	17.5
Total	200	100

Table 2. Demographic of participants

The study gathered data from 200 Traditional Chinese Medicine (TCM) educators to examine their demographic characteristics and patterns of AI usage. The largest age group among participants was 41-50 years old (54.0%), followed by those aged 31-40 (23.5%). Educators under 30 years old made up 8.0% of the sample, while 14.5% were over 50. In terms of gender distribution, 65.0% of respondents were female, and 35.0% were male.

Regarding teaching experience, nearly half of the participants (46.5%) had been teaching for 11-20 years, while 24.5% had less than five years of experience. Those with 5-10 years made up 20.0%, and 9.0% had over 20 years of experience. When asked about their AI usage frequency, a significant majority (82.5%) reported daily use, whereas 17.5% indicated they used AI on a weekly basis. This demographic insight provides a clear picture of the participants, helping to contextualize their perspectives on Generative AI in instructional material development.

As the use of Generative Artificial Intelligence (GenAI) in education continues to grow, particularly in teaching material creation, educators' views on its adoption may be influenced by their professional background. Understanding whether teaching experience affects perceptions of GenAI is crucial for assessing its acceptance and integration into educational settings. To explore this, a one-way ANOVA was conducted to analyze variations in perception scores based on years of teaching experience. This statistical approach aimed to identify whether experience levels significantly impact educators' attitudes toward using GenAI for instructional content development.

	Mean	**Std. Deviation**
The use of Generative AI results in more polished and professional-looking materials.	3.25	1.243
Generative AI allows me to simplify complex ideas for better student understanding.	3.66	.894
Generative AI helps maintain consistency in the formatting of my teaching materials.	4.03	.853
Using Generative AI encourages innovative approaches to teaching material design.	3.71	.990
Generative AI ensures that my teaching materials are well-organized and logically structured.	3.65	.848
N= 200		

Table 3. Descriptive Statistics

The descriptive statistical analysis provides insight into educators' perceptions of using Generative AI in teaching material development, assessed on a five-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). Data from 200 participants reveal mean scores ranging from 3.25 to 4.03, indicating an overall positive outlook on the role of Generative AI in enhancing instructional materials. Among the surveyed items, the statement "Generative AI helps maintain consistency in the formatting of my teaching materials" received the highest mean score (M = 4.03, SD = 0.853), suggesting broad agreement on AI's ability to standardize formatting. Conversely, the statement "The use of Generative AI results in more polished and professional-looking materials" had the lowest mean score (M = 3.25, SD = 1.243), reflecting more diverse opinions on its impact on content refinement. Responses regarding AI's potential to simplify complex concepts for student comprehension (M = 3.66, SD = 0.894) and its role in

fostering innovation in teaching material design (M = 3.71, SD = 0.990) indicate a moderately favorable perspective. The standard deviation values suggest differing levels of consensus, with Item 6 (SD = 1.243) displaying the greatest variability in responses, whereas Item 10 (SD = 0.848) shows a higher degree of consistency in participant agreement.

	N	Minimum	Maximum	Mean	Std. Deviation
Overall Perception	200	1.19	4.67	3.4790	.60280
Valid N (listwise)	200				

Table 4. The Descriptive Statistics of Overall Perceptions

The descriptive analysis of educators' overall perception of Generative AI in teaching material development reveals a generally favorable response among the 200 participants. The average rating of 3.48 (SD = 0.60) on a five-point Likert scale suggests that most respondents acknowledge the benefits of Generative AI in improving teaching materials. While some variation exists in individual responses, the moderate standard deviation indicates a relatively consistent perception across the surveyed educators. These results suggest that educators recognize the potential of Generative AI in supporting teaching material creation, particularly in terms of efficiency, formatting, and content organization. However, variations in individual responses imply that acceptance and confidence in using AI tools may differ based on experience, familiarity, or perceived usefulness in educational settings.

Overall Perception					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.447	3	.149	.407	.748
Within Groups	71.864	196	.367		
Total	72.311	199			

Table 5. Anova Test based on Years of Teaching Experiences

A one-way ANOVA was performed to examine whether perceptions of Generative AI in teaching materials varied among Traditional Chinese Medicine educators based on their years of experience. The results showed no statistically significant difference across experience groups, $F(3, 196) = 0.407$, $p = 0.748$. The between-group variance (Sum of Squares = 0.447) was notably

smaller than the within-group variance (Sum of Squares = 71.864), indicating that most of the variation in perception scores stemmed from individual differences within each group rather than differences between groups. These findings suggest that teaching experience does not significantly influence educators' views on Generative AI in instructional material development. The consistency in perceptions across different experience levels implies that attitudes toward AI integration in education remain relatively uniform, regardless of professional tenure.

Summary of Findings

The analysis of educators' perceptions of Generative AI in teaching material development reflects an overall positive stance, with a mean score of 3.48 (SD = 0.60) on a five-point Likert scale. This indicates that most educators recognize the value of AI-driven tools in improving the organization, consistency, and innovation of teaching materials. While the standard deviation suggests some variability in responses, perceptions remain relatively stable across participants. The differences observed may be influenced by factors such as individual familiarity, prior experience, and confidence in utilizing AI tools. Despite these variations, the findings indicate a moderate to high level of agreement on the role of Generative AI in educational settings. This consistency underscores its growing relevance and potential for integration into teaching material development, reinforcing the need for further exploration of AI-driven pedagogical advancements.

Discussion

This study provides valuable insights into Traditional Chinese Medicine (TCM) educators' perceptions of Generative AI in teaching material development. The overall perception score (M = 3.48, SD = 0.60) indicates a generally positive attitude toward the integration of AI-driven tools in educational settings. Most educators acknowledge AI's potential to enhance content consistency, simplify complex concepts, and foster innovative instructional design. The strong internal reliability of the survey (Cronbach's Alpha = 0.935) further supports the robustness of the instrument, ensuring consistency and reliability in responses.

Despite the favorable perceptions, the one-way ANOVA results ($F(3, 196) = 0.407$, $p = 0.748$) reveal no significant differences in attitudes toward AI across different levels of teaching experience. This finding challenges the assumption that less experienced educators are more inclined to embrace AI than their more seasoned counterparts. Instead, the relatively uniform perceptions across experience groups suggest that openness to AI adoption is influenced more by factors such as prior exposure, institutional policies, and perceived ease of use rather than by years in the profession.

The descriptive analysis of individual perception items highlights that educators most strongly agree with AI's role in maintaining formatting consistency (M = 4.03, SD = 0.85) and encouraging innovative approaches to teaching material design (M = 3.71, SD = 0.99). These findings align with prior research emphasizing AI's ability to automate repetitive tasks, streamline content development, and enhance instructional design (Dickey & Bejarano, 2023; Ruiz-Rojas et al., 2023). However, a lower agreement level regarding AI's ability to produce polished and professional-looking materials (M = 3.25, SD = 1.24) suggests lingering skepticism about the quality of AI-generated outputs. Concerns related to content accuracy, contextual appropriateness, and the necessity for human oversight may explain this hesitation (Peters & Visser, 2023). This reinforces the need for AI to complement rather than replace traditional teaching methodologies, ensuring that AI tools support educators while maintaining academic

rigor and pedagogical integrity (Dey, 2025). These mixed perspectives emphasis the importance of targeted AI literacy programs and professional development initiatives, which can equip educators with the necessary skills to maximize AI's potential while addressing concerns about its limitations (Roméro et al., 2023).

Implications and Future Research

The findings reinforce the growing relevance of AI-driven tools in education, highlighting the need for structured training and support systems to facilitate AI adoption. Future research should explore the impact of AI familiarity, targeted training interventions, and institutional support mechanisms on educators' perceptions, as these factors may play a more influential role in AI integration than teaching experience alone. Addressing these aspects will be critical in optimizing AI's role in education while ensuring its responsible and effective implementation.

References

Bahrini, A., Khamoshifar, M., Abbasimehr, H., Riggs, R. J., Esmaeili, M., Majdabadkohne, R. M., & Pasehvar, M. (2023). ChatGPT: Applications, Opportunities, and Threats. In arXiv (Cornell University). Cornell University. https://doi.org/10.48550/arXiv.2304.

Bai, L., Liu, X., & Su, J. (2023). ChatGPT: The cognitive effects on learning and memory. In Brain-X (Vol. 1, Issue 3). Wiley. https://doi.org/10.1002/brx2.30

Bhuyan, S. S., Sateesh, V., Mukul, N., Galvankar, A., Mahmood, A., Nauman, M., Rai, A., Bordoloi, K., Basu, U., & Samuel, J. (2025). Generative Artificial Intelligence Use in Healthcare: Opportunities for Clinical Excellence and Administrative Efficiency. In Journal of Medical Systems (Vol. 49, Issue 1). Springer Science+Business Media. https://doi.org/10.1007/s10916-024-02136-1

Boone, H. N., & Boone, D. A. (2012). Analyzing Likert scale data. Journal of Extension, 50(2), 1-5.

Chan, C. K. Y., & Tsi, L. H. Y. (2023a). The AI Revolution in Education: Will AI Replace or Assist Teachers in Higher Education? In arXiv (Cornell University). Cornell University. https://doi.org/10.48550/arxiv.2305.01185

Chan, C. K. Y., & Tsi, L. H. Y. (2023b). The AI Revolution in Education: Will AI Replace or Assist Teachers in Higher Education? In arXiv (Cornell University). Cornell University. https://doi.org/10.48550/arXiv.2305.

Cook, B. G., & Cook, L. (2017). Do Research Findings Apply to My Students? Examining Study Samples and Sampling. In Learning Disabilities Research and Practice (Vol. 32, Issue 2, p. 78). Wiley. https://doi.org/10.1111/ldrp.12132

Creswell, J. W., & Creswell, J. D. (2018). Research design: Qualitative, quantitative, and mixed methods approaches (5th ed.). Sage publications.

Das, S., Saeed Anowar, & Ghosh, B. (2024, March 20). The Rise of Artificial Intelligence in Education: Current Trends and Future Prospects. https://doi.org/10.52756/lbsopf.2024.e01.006

Davenport, T., & Kalakota, R. (2019). The Potential for Artificial Intelligence in Healthcare. Future Healthcare Journal, 6(2), 94–98. https://doi.org/10.7861/futurehosp.6-2-94

Dey, D. (2025). Enhancing Educational Tools Through Artificial Intelligence in Perspective of Need of AI. https://doi.org/10.2139/ssrn.5031275

Dickey, E., & Bejarano, A. (2023). A Model for Integrating Generative AI into Course Content Development. In arXiv (Cornell University). Cornell University. https://doi.org/10.48550/arXiv.2308.

Dillman, D. A., Smyth, J. D., & Christian, L. M. (2014). Internet, phone, mail, and mixed-mode surveys: The tailored design method (4th ed.). Wiley.

Druga, S., Otero, N., & Ko, A. J. (2022). The Landscape of Teaching Resources for AI Education. https://doi.org/10.1145/3502718.3524782

Duan, Y., Liu, P., Huo, T., Liu, S., Ye, S., & Ye, Z. (2021). Application and Development of Intelligent Medicine in Traditional Chinese Medicine. In Current Medical Science (Vol. 41, Issue 6, p. 1116). Springer Science+Business Media. https://doi.org/10.1007/s11596-021-2483-2

Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. American Journal of Theoretical and Applied Statistics, 5(1), 1-4.

Feng, C., Shao, Y., Wang, B., Qu, Y., Wang, Q., Li, Y., & Yang, T. (2021). Development and Application of Artificial Intelligence in Auxiliary TCM Diagnosis [Review of Development and Application of Artificial Intelligence in Auxiliary TCM Diagnosis]. Evidence-Based Complementary and Alternative Medicine, 2021, 1. Hindawi Publishing Corporation. https://doi.org/10.1155/2021/6656053

Feng, C., Zhou, S., Qu, Y., Wang, Q., Bao, S., Li, Y., & Yang, T. (2021). Overview of Artificial Intelligence Applications in Chinese Medicine Therapy [Review of Overview of Artificial Intelligence Applications in Chinese Medicine Therapy]. Evidence-Based Complementary and Alternative Medicine, 2021, 1. Hindawi Publishing Corporation. https://doi.org/10.1155/2021/6678958

Field, A. (2013). Discovering statistics using IBM SPSS statistics. Sage.

Fu, R., Li, J., Yu, H., Zhang, Y., Xu, Z., & Martin, C. (2021). The Yin and Yang of traditional Chinese and Western medicine [Review of The Yin and Yang of traditional Chinese and Western medicine]. Medicinal Research Reviews, 41(6), 3182. Wiley. https://doi.org/10.1002/med.21793

Giray, L., Silos, P. Y. D., Adornado, A., Buelo, R. J. V., Galas, E. M., Reyes-Chua, E., Santiago, C. S., & Ulanday, Ma. L. (2024). Use and Impact of Artificial Intelligence in Philippine Higher Education: Reflections from Instructors and Administrators. In Internet Reference Services Quarterly (Vol. 28, Issue 3, p. 315). Taylor & Francis. https://doi.org/10.1080/10875301.2024.2352746

Guettala, M., Bourekkache, S., Kazar, O., & Harous, S. (2024). Generative Artificial Intelligence in Education: Advancing Adaptive and Personalized Learning. In Acta Informatica Pragensia (Vol. 13, Issue 3, p. 460). Prague University of Economics and Business. https://doi.org/10.18267/j.aip.235

Hesketh, T., & Zhu, W. (1997). Health in China: Traditional Chinese medicine: one country, two systems. In BMJ (Vol. 315, Issue 7100, p. 115). BMJ. https://doi.org/10.1136/bmj.315.7100.115

Hong, Y., Zhu, S., Liu, Y., Tian, C., Xu, H., Chen, G., Tao, L., & Xie, T. (2024). The integration of machine learning into traditional Chinese medicine. Journal of Pharmaceutical Analysis, 101157–101157. https://doi.org/10.1016/j.jpha.2024.101157

Hou, C., Gao, Y., Lin, X., Wu, J., Li, N., Hairong Lv, & Chu, W. C.-C. (2025). A Review of Recent Artificial Intelligence for Traditional Medicine. Journal of Traditional and Complementary Medicine. https://doi.org/10.1016/j.jtcme.2025.02.009

Hou, J., Song, P., Zhao, Z., Qiang, Y., Zhao, J., & Yang, Q. (2023). TCM Prescription Generation via Knowledge Source Guidance Network Combined with Herbal Candidate Mechanism. In Computational and Mathematical Methods in Medicine (Vol. 2023, Issue 1). Hindawi Publishing Corporation. https://doi.org/10.1155/2023/3301605

Hu, J., & Liu, B. (2012). The basic theory, diagnostic, and therapeutic system of traditional Chinese medicine and the challenges they bring to statistics. In Statistics in Medicine (Vol. 31, Issue 7, p. 602). Wiley. https://doi.org/10.1002/sim.4409

Kasneci, E., Sessler, K., Küchemann, S., Bannert, M., Dementieva, D., Fischer, F., Gasser, U., Groh, G., Günnemann, S., Hüllermeier, E., Krusche, S., Kutyniok, G., Michaeli, T., Nerdel, C., Pfeffer, J., Poquet, O., Sailer, M., Schmidt, A., Seidel, T., & Stadler, M. (2023). ChatGPT for good? On opportunities and challenges of large language models for education. Learning and Individual Differences, 103(102274). https://doi.org/10.1016/j.lindif.2023.102274

Koithan, M., & Wright, C. (2010). Promoting Optimal Health with Traditional Chinese Medicine. In The Journal for Nurse Practitioners (Vol. 6, Issue 4, p. 306). Elsevier BV.

https://doi.org/10.1016/j.nurpra.2010.01.013
Krosnick, J. A., & Presser, S. (2010). Question and questionnaire design. In Handbook of survey research (2nd ed., pp. 263-314). Emerald Group Publishing.
Li, N., Yu, J., Mao, X., Zhao, Y., & Huang, L. (2022). The Research and Development Thinking on the Status of Artificial Intelligence in Traditional Chinese Medicine [Review of The Research and Development Thinking on the Status of Artificial Intelligence in Traditional Chinese Medicine]. Evidence-Based Complementary and Alternative Medicine, 2022, 1. Hindawi Publishing Corporation. https://doi.org/10.1155/2022/7644524
Li, W., Ge, X., Liu, S., Xu, L., Zhai, X., & Yu, L. (2024). Opportunities and challenges of traditional Chinese medicine doctors in the era of artificial intelligence. Frontiers in Medicine, 10. https://doi.org/10.3389/fmed.2023.1336175
Liu, J., & Zhu, C. (2011). Traditional Chinese medicine in the new century. In Frontiers of Medicine (Vol. 5, Issue 2, p. 111). Higher Education Press. https://doi.org/10.1007/s11684-011-0125-y
Łodzikowski, K., Foltz, P. W., & Behrens, J. T. (2024). Generative AI and Its Educational Implications. In Postdigital science and education (p. 35). Springer International Publishing. https://doi.org/10.1007/978-3-031-64487-0_2
Ma, K., Zhang, Y., & Hui, B.-H. (2024). How Does AI Affect College? The Impact of AI Usage in College Teaching on Students' Innovative Behavior and Well-Being. In Behavioral Sciences (Vol. 14, Issue 12, p. 1223). Multidisciplinary Digital Publishing Institute. https://doi.org/10.3390/bs14121223
Mir, R., Mir, G. M., Raina, N. T., Mir, S., Mir, S. M., Miskeen, E., Alharthi, M. H., & Alamri, M. M. S. (2023). Application of Artificial Intelligence in Medical Education: Current Scenario and Future Perspectives. [Review of Application of Artificial Intelligence in Medical Education: Current Scenario and Future Perspectives.]. PubMed, 11(3), 133. National Institutes of Health. https://doi.org/10.30476/jamp.2023.98655.1803
Peters, T. M., & Visser, R. W. (2023). The Importance of Distrust in AI. In Communications in computer and information science (p. 301). Springer Science+Business Media. https://doi.org/10.1007/978-3-031-44070-0_15
Roméro, M., Heiser, L., Lepage, A., Gagnebien, A., Bonjour, A., Lagarrigue, A., Palaude, A., Boulord, C., Gagneur, C.-A., Mercier, C., Caucheteux, C., Guidoni-Stoltz, D., Tressols, F., Henry, J., Alexandre, F., Céci, J.-F., Camponovo, J., Fouché, L., Métral, J.-F., … Borgne, Y. L. (2023). Teaching and learning in the age of artificial intelligence. In arXiv (Cornell University). Cornell University. https://doi.org/10.48550/arXiv.2303.
Ruiz-Rojas, L. I., Acosta-Vargas, P., De-Moreta-Llovet, J., & González, M. (2023). Empowering Education with Generative Artificial Intelligence Tools: Approach with an Instructional Design Matrix. In Sustainability (Vol. 15, Issue 15, p. 11524). Multidisciplinary Digital Publishing Institute. https://doi.org/10.3390/su151511524
Sheiladevi Sukumaran, & Khair, N. S. (2024). Exploring the Role of AI Platforms in Improving English-Speaking Skills in Malaysian Higher Education Institutions. CRC Press EBooks, 244–254. https://doi.org/10.1201/9781003400691-15
Skidmore, S. T., & Thompson, B. (2012). Bias and precision of some classical ANOVA effect sizes when assumptions are violated. In Behavior Research Methods (Vol. 45, Issue 2, p. 536). Springer Science+Business Media. https://doi.org/10.3758/s13428-012-0257-2
Slimi, Z., & Villarejo-Carballido, B. (2023). Navigating the Ethical Challenges of Artificial Intelligence in Higher Education: An Analysis of Seven Global AI Ethics Policies. In TEM Journal (p. 590). UIKTEN. https://doi.org/10.18421/tem122-02
Song, Z., Chen, G., & Chen, C. Y.-C. (2024). AI empowering traditional Chinese medicine? Chemical

Science, 15(41), 16844–16886. https://doi.org/10.1039/d4sc04107k

Taber, K. S. (2018). The use of Cronbach's Alpha when developing and reporting research instruments in science education. Research in Science Education, 48(6), 1273–1296.

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. In International Journal of Medical Education (Vol. 2, p. 53). https://doi.org/10.5116/ijme.4dfb.8dfd

Watanabe, K. (2017). Traditional Chinese Medicine Market in Hong Kong. In Journal of Complementary Medicine & Alternative Healthcare (Vol. 4, Issue 1). https://doi.org/10.19080/jcmah.2017.04.555630

Wu, D., Zhang, S., Ma, Z., Yue, X., & Dong, R. K. (2024). Unlocking Potential: Key Factors Shaping Undergraduate Self-Directed Learning in AI-Enhanced Educational Environments. In Systems (Vol. 12, Issue 9, p. 332). Multidisciplinary Digital Publishing Institute. https://doi.org/10.3390/systems12090332

Xiaoxuan, M., & Hu, Y. (2023). Exploring the Ways of Integrating Traditional Chinese Medicine Culture with the Civic Education of College Students. In SHS Web of Conferences (Vol. 171, p. 1023). EDP Sciences. https://doi.org/10.1051/shsconf/202317101023

Yang, Y., Kan, T., Bai, G., Zhu, X., Yang, Y., Yu, X., & Shi, L. (2019). Health technology assessment in traditional Chinese medicine in China: current status, opportunities, and challenges. In Global Health Journal (Vol. 3, Issue 4, p. 89). Elsevier BV. https://doi.org/10.1016/j.glohj.2019.11.002