Cambodian Journal of Educational Research
2024, Vol. 4, No. 2, pp. 1–11
https://doi.org/10.62037/cjer.2024.04.02.01

CAMBODIAN
EDUCATION
FORUM
A forum for education

Editorial

The use of AI and ChatGPT for education and research in Cambodia: Current state and future directions

Kimkong Heng [1,2,1] and **Koemhong Sol** [1,2]

[1] Faculty of Education, Paññāsāstra University of Cambodia, Phnom Penh, Cambodia
[2] Cambodian Education Forum, Phnom Penh, Cambodia

The use of artificial intelligence (AI) has grown in magnitude since the launch of Chat Generative Pre-Trained Transformer (ChatGPT) in late 2022 by an American AI company called Open AI. As Mollman (2022) noted, the number of ChatGPT users grew by one million in just one week since its release. By December 2024, the number of weekly ChatGPT users had surged to 100 million, with approximately 400 million monthly visitors (Duarte, 2024). This remarkable AI tool has gained immense popularity and has undergone significant upgrades, offering both free and premium or paid versions to cater to different user needs. The free version is powered by GPT-3.5, while the premium versions include ChatGPT-4 and the latest ChaGPT-4o, featuring models such as ChatGPT-4o mini, GPT o1-preview, and GPT o1-mini (Sant, 2024).

Since the advent of ChatGPT, research on the use of this AI tool for educational and research purposes has skyrocketed (see Grassini, 2023; Mogavi et al., 2024; Rahman & Watanobe, 2023; Sol & Heng, 2024; Sok & Heng, 2023, 2024). A Google Scholar search performed on December 10, 2024, using the keyword "ChatGPT for research," yielded 235,000 results, while the same search for the keyword "ChatGPT for education" returned 140,000 results. According to Liu et al. (2023), there has been "a significant and increasing interest in ChatGPT-related research, predominantly centered on direct natural language processing

[1] Kimkong Heng ✉ kimkongheng@gmail.com 🖃 Faculty of Education, Paññāsāstra University of Cambodia, No. 184, Preah Norodom Boulevard, South Campus, Phnom Penh, Cambodia

© Cambodian Education Forum

application" (p. 1). They added that "there is significant potential for ChatGPT to be applied in a range of domains, including education, medical, history, mathematics, physics, and more" (p. 12). However, alongside its popular utility, there is a growing body of research examining the ethical concerns regarding the use of ChatGPT, particularly in terms of "the generation of biased or harmful content, privacy violations, and the potential for misuse of the technology" (Liu et al., 2023, p. 12).

While there is a plethora of studies on AI, particularly on ChatGPT, in a developing context like Cambodia, little is known about how AI is employed for academic purposes. In this editorial, we present the results of a systematic search using Google and Google Scholar for relevant documents – including newspaper articles, reports, research articles, and so on – on AI and ChatGPT use in Cambodia. Our aim is to provide the current status of relevant documents on AI for education and research and suggest future directions regarding the use of AI for such purposes.

We conducted Google and Google Scholar searches using some keywords such as "ChatGPT in Cambodia," "AI use in Cambodia," "ChatGPT for research in Cambodia," "ChatGPT for education in Cambodia," and other similar keywords. We found a number of relevant documents and research articles discussing various aspects of AI or ChatGPT use in the context of Cambodian education. These documents and research articles are listed in Table 1.

Table 1. *Documents and research articles on AI or ChatGPT use for education and research in Cambodia*

No.	Title	Type of document	Source
1	Understanding AI ecosystems in the Global South: The cases of Senegal and Cambodia	Research article	Heng et al. (2022)
2	Generative AI: Challenges and opportunities in the higher education sector in Cambodia	Research article	Islam (2023)

© Cambodian Education Forum

3	Integrating artificial intelligence in higher education: A case study of Cambodian universities	Research article	Hoeurng et al. (2024)
4	Leveraging AI in education in Cambodia: A review of perceived concerns and associated benefits	Research article	Pum and Sok (2024)
5	Generative AI in higher education: The need to develop or revise academic integrity policies to ensure the ethical use of AI in Cambodia	Research article	Sok and Heng (2024)
6	Using AI in English language education: An exploration of Cambodian EFL university students' experiences, perceptions, and attitudes	Research article	Sol et al. (2024)
7	Cambodia's higher education: Educating the next generation for the age of artificial intelligence	Research report	Veung (2021)
8	Case study of AI tools usage in Cambodia's higher education	Research report	Heng (2023)
9	AI landscape in Cambodia: Current status and future trends	Book	Ministry of Industry, Science, Technology & Innovation (2023)
10	Revolution and readiness through AI-driven learning in Cambodia's higher education.	Book chapter	Heng and Seng (2023)
11	Future of STEM education in Cambodia: Leveraging generative	Book chapter	Phuong (2023)

© Cambodian Education Forum

	artificial intelligence for enhanced learning and innovation		
12	The implications of ChatGPT on media education in Cambodia: A plus or a minus?	Book chapter	Soun (2023)
13	Experts warn of danger of broad use of artificial intelligence in government or education	Newspaper article	Cambodianess (2023)
14	Is Cambodia ready to embrace generative AI in education?	Newspaper article	Rov (2023)
15	Unlocking Cambodia's AI potential: Innovations, challenges, and future horizons	Newspaper article	Hong (2024)
16	Teachers urged to understand AI to boost the education sector	Newspaper article	Khmer Times (2024)
17	Opinion: Benefits and risks of ChatGPT in education	Opinion article	Sok (2023)
18	Spotlight: Can AI transform Cambodia's education system for a post-LDC era?	Opinion article	Cambodia Investment Review (2024)
19	Ethical use of artificial intelligence in Cambodian education	Opinion article	Chum (2024)
20	Artificial intelligence in Cambodia: Advancing education and security	Opinion article	Loma Technology (2024)
21	Navigating AI bias in Cambodian education: Opportunities and challenges	Opinion article	Phann (2024)

As can be seen in Table 1, there are 21 documents examining various aspects of AI or ChatGPT for education and/or research in Cambodia. Among these documents, several are research articles, although only a few are grounded in empirical evidence. With the growing interest in AI use for education and/or research, it is certain that more research will be conducted to investigate the different dimensions of AI or ChatGPT use for academic purposes in Cambodia. Although the development of academic research in Cambodia is in

© Cambodian Education Forum

its infancy or nascent stage (see Heng, 2024; Heng & Sol, 2021), the use of AI tools for education and research purposes is poised to expand and research into this topic will also flourish.

Having conducted a few studies on the use of AI for education and research (see Sol & Heng, 2024; Sol et al., 2024), we firmly believe that AI holds considerable potential for academic purposes. Instead of banning it, as some universities have done, we advocate for its integration into the educational ecosystem. It is essential to encourage teachers and students to take advantage of AI and use it for academic writing and other educational purposes to support the teaching and learning process as well as research and publication. However, it is equally important to be mindful of the ethical concerns that come with it. Thus, while embracing AI for education and research, it is critical to provide structured training on AI use and ensure that ethics and integrity in using AI can be maintained and promoted. This structured training should emphasize academic integrity, responsible application, and strategies to mitigate risks, such as plagiarism and over-reliance on AI-generated content.

As our own research has shown, many university students in Cambodia have experienced using AI for their studies; however, most lacked the skills and necessary training to make the best possible use of AI for their learning effectively and efficiently (Sol et al., 2024). In this respect, we call for future research into the use of AI or ChatGPT for education and research in Cambodia, as well as research that explores how AI tools can effectively and ethically be utilized for learning, teaching, and research. Future research should also explore the long-term implications of AI adoption in education, including its impact on critical thinking, creativity, and the teacher-student dynamic. Only by doing so can a well-informed framework be developed for the ethical, responsible, and productive use of AI in education and research, ensuring that AI tools and applications serve as catalysts for innovation rather than sources of contention.

Overview of this issue

In this issue of the Cambodian Journal of Educational Research (CJER), there are six articles. Among them, two are original articles based on empirical data, and the rest are review articles. The first article, a full-length article, was contributed by Nathan Polley and Shoba Sonukumar. The article reports the

© Cambodian Education Forum

findings of a participatory action research study on leadership coaching for servant leadership development. Overall, the article highlighted the need for cultural sensitivity and adaptation in offering leadership programs to support the development of servant leaders in Cambodia.

The second article focuses on students' reactions or attitudes toward online learning during COVID-19. It is an original article written by Vutheavy Chim, Sopha Soeung, and Sacha Seng. The article used exploratory sequential mixed methods and showed that online learning brought both anxiety and enjoyment to students. Public school students were found to have more anxiety toward their learning than their private school counterparts. It was also found that students studying in the science track had greater enjoyment in online learning than their peers in the social science track.

The third article, contributed by Andrew D. Tweed and Stuart Warrington, discusses autonomous learning in Cambodia. It argues that autonomous learning can serve as a solution to educational issues in Cambodian education and help improve the knowledge and skills of everyday Cambodians.

The fourth article turns the attention to leadership and change models that may be needed to improve gender equality in Cambodian higher education. Contributed by Sineat Som, the article discusses the role of leadership, change models, and other approaches that contribute to effective leadership. It also discusses strategies for leadership capacity building and how different actors and factors need to work together to promote equity in the higher education setting.

The fifth article is about the power of reading and strategies to develop a reading habit. The article is written by Korngleng Sear. It discusses 10 benefits or power of reading before introducing a dozen of strategies to develop a reading habit. The article concludes that building a reading habit is not an overnight success. It requires considerable effort, sustained commitment, and much practice.

The sixth and final article in this issue is written by Udam Prang. The article provides a concise overview of accounting thoughts from the perspectives of positivism and other approaches such as interpretivism and critical inquiry. It

© Cambodian Education Forum

argues that understanding accounting philosophy is essential for a better understanding of the concept and importance of accounting for organizations and societies.

Conflict of interest

No potential conflict of interest was reported by the author(s).

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

Disclosure statement

The views expressed in this editorial are those of the authors and do not necessarily reflect the views or positions of their affiliated institutions.

The authors

Kimkong Heng holds a PhD in Education from the University of Queensland, Australia. He is a Senior Lecturer in the Faculty of Education, Paññāsāstra University of Cambodia, and a Co-Founder and Editor-in-Chief of the Cambodian Education Forum and the *Cambodian Journal of Educational Research*. He is also a former Technical Advisor at the Department of Research and Innovation, Ministry of Education, Youth and Sport, Cambodia. He was conferred the title of Associate Professor by His Majesty the King of Cambodia in 2023 and was awarded a Community Leadership Award of the Year 2023 by the Australian Alumni Association of Cambodia for his significant contributions to promoting research in Cambodia. His research interests include TESOL, teacher education, higher education, and research engagement and productivity.
Email: kimkongheng@gmail.com

Koemhong Sol holds a PhD in Education from International Christian University in Tokyo, Japan. Prior to this, he was a Chevening scholar and graduated with a Master of Arts in Leadership and Management (Education) from the University of South Wales, United Kingdom. He is a Co-Founder and Co-Editor-in-Chief of the *Cambodian Journal of Educational Research* and a part-time English lecturer at the Paññāsāstra University of Cambodia. His research

© Cambodian Education Forum

focuses on teacher education and policy, continuous professional development for EFL teachers, educational technology, and higher education.
Email: koemhongsol.edu@gmail.com

References

Cambodia Investment Review. (2024, April 25). *Spotlight: Can AI transform Cambodia's education system for a post-LDC era?* https://cambodiainvestmentreview.com/2024/04/25/spotlight-canai-transform-cambodias-education-system-for-a-post-ldc-era/

Cambodianess. (2023, March 12). *Experts warn of danger of broad use of artificial intelligence in government or education.* https://cambodianess.com/article/experts-warn-of-danger-of-broaduse-of-artificial-intelligence-in-government-or-education

Chum, C. (2024, May 29). *Ethical use of artificial intelligence in Cambodian education*. Cambodianess. https://cambodianess.com/article/ethical-use-of-artificial-intelligence-in-cambodian-education

Duarte, F. (2024, December 4). Number of ChatGPT users (Dec 2024). *Exploding Topics*. https://explodingtopics.com/blog/chatgpt-users

Grassini, S. (2023). Shaping the future of education: Exploring the potential and consequences of AI and ChatGPT in educational settings. *Education Sciences*, 13(7), 692. https://doi.org/10.3390/educsci13070692

Heng, K., & Sol, K. (2021). Academic research in Cambodia: Progress, challenges, and ways forward. *Cambodian Journal of Educational Research*, *1*(2), 6–23. https://doi.org/10.62037/cjer.2021.01.02.02

Heng, S. (2023). *Case study of AI tools usage in Cambodia's higher education*. Cambodian Youth Internet Governance Forum. https://yigfkh.org/app/uploads/2024/03/ChatGPT-CamtechODC.pdf

Heng, S., & Seng, S. (2023). Revolution and readiness through AI-driven learning in Cambodia's higher education. In M. Gerster & P. Chanty (Eds.), *Digital insights: Future of education* (pp. 117–132). CADT & Konrad-Adenauer-Stiftung Cambodia. https://www.kas.de/en/web/kambodscha/digital-insights/detail/-/content/digital-insights-future-of-education-1

Heng, S., Tsilionis, K., Scharff, C., & Wautelet, Y. (2022). Understanding AI ecosystems in the Global South: The cases of Senegal and Cambodia.

© Cambodian Education Forum

International Journal of Information Management, *64*, 102454. https://doi.org/10.1016/j.ijinfomgt.2021.102454

Hoeurng, H., Phorn, P., Kheav, S., & Sam, R. (2024). Integrating artificial intelligence in higher education: A case study of Cambodian universities. *European Journal of Theoretical and Applied Sciences*, *2*(5), 462–473. https://doi.org/10.59324/ejtas.2024.2(5).47

Hong, R. (2024, July 24). *Unlocking Cambodia's AI potential: Innovations, challenges, and future horizons*. The Phnom Penh Post. https://www.phnompenhpost.com/post-in-depth/unlocking-cambodia-s-ai-potential-innovations-challenges-and-future-horizons

Islam, M. M. (2023). Generative AI: Challenges and opportunities in the higher education sector in Cambodia. In *Asia-Pacific Conference on Economics & Finance* (pp. 103–117). Springer Nature Singapore. https://doi.org/10.1007/978-981-97-3512-9_6

Khmer Times. (2024, April 9). *Teachers urged to understand AI to boost the education sector.* https://www.khmertimeskh.com/501469686/teachers-urged-to-understand-ai-to-boosteducation-sector/

Liu, Y., Han, T., Ma, S., Zhang, J., Yang, Y., Tian, J., ... & Ge, B. (2023). Summary of ChatGPT-related research and perspective towards the future of large language models. *Meta-Radiology*, *1*(2), 100017. https://doi.org/10.1016/j.metrad.2023.100017

Loma Technology. (2024, September 4). *Artificial intelligence in Cambodia: Advancing education and security*. https://lomatechnology.com/blog/artificial-intelligence-in-cambodia-education-security/2705

Ministry of Industry, Science, Technology & Innovation. (2023). *AI landscape in Cambodia: Current status and future trends*. https://misti.gov.kh/public/file/202305301685426285.pdf

Mogavi, R. H., Deng, C., Kim, J. J., Zhou, P., Kwon, Y. D., Metwally, A. H. S., ... & Hui, P. (2024). ChatGPT in education: A blessing or a curse? A qualitative study exploring early adopters' utilization and perceptions. Computers in Human Behavior: *Artificial Humans*, 2(1), 100027. https://doi.org/10.1016/j.chbah.2023.100027

Mollman, S. (2022, December 10). *ChatGPT gained 1 million users in under a week. Here's why the AI chatbot is primed to disrupt search as we know it*. Yahoo Finance. https://finance.yahoo.com/news/chatgpt-gained-1-million-followers-224523258.html

© Cambodian Education Forum

Phann, B. (2024, August 5). *Navigating AI bias in Cambodian education: Opportunities and challenges*. LinkedIn. https://www.linkedin.com/pulse/navigating-ai-bias-cambodian-education-opportunities-challenges-veo1c/

Phuong, S. (2023). Future of STEM education in Cambodia: Leveraging generative artificial intelligence for enhanced learning and innovation. In M. Gerster & P. Chanty (Eds.), *Digital insights: Future of education* (pp. 100–116). CADT & Konrad-Adenauer-Stiftung Cambodia. https://www.kas.de/en/web/kambodscha/digital-insights/detail/-/content/digital-insights-future-of-education-1

Pum, M., & Sok, S. (2024). Leveraging AI in education in Cambodia: A review of perceived concerns and associated benefits. *Asian Journal of Distance Education*, *19*(2), 157–167. https://asianjde.com/ojs/index.php/AsianJDE/article/view/794

Rahman, M. M., & Watanobe, Y. (2023). ChatGPT for education and research: Opportunities, threats, and strategies. *Applied Sciences*, *13*(9), 1–21. https://doi.org/10.3390/app13095783

Rov, H. (2023, August 15). *Is Cambodia ready to embrace generative AI in education?* KiriPost. https://kiripost.com/stories/is-cambodia-ready-to-embrace-generative-ai-in-education

Sant, H. (2024, November 20). ChatGPT-4 vs. ChatGPT-4o vs. ChatGPT-4o mini vs. o1-preview vs. o1-mini: Differences tested. *Geekflare*. https://geekflare.com/ai/chat-gpt-versions-comparison/

Sok, S. (2023, February 15). Opinion: Benefits and risks of ChatGPT in education. *Cambodianess*. https://cambodianess.com/article/opinion-benefits-and-risks-of-chatgpt-in-education

Sok, S., & Heng, K. (2024). *Generative AI in higher education: The need to develop or revise academic integrity policies to ensure the ethical use of AI in Cambodia*. Cambodia Development Center. https://www.cd-center.org/generative-ai-in-higher-education-the-need-to-develop-or-revise-academic-integrity-policies-to-ensure-the-ethical-use-of-ai-in-cambodia/

Sok, S., & Heng, K. (2024). Opportunities, challenges, and strategies for using ChatGPT in higher education: A literature review. *Journal of Digital Educational Technology*, *4*(1), 1–11. https://doi.org/10.30935/jdet/14027

Sol, K., & Heng, K. (2024). AI-powered chatbots as personalized academic writing assistants for non-native English speakers. In M. A. Peters, & R.

© Cambodian Education Forum

Heraud (Eds.), *Encyclopedia of educational innovation* (pp. 1–5). Springer. https://doi.org/10.1007/978-981-13-2262-4_313-1

Sol, K., Heng, K., & Sok, S. (2024). *Using AI in English language education: An exploration of Cambodian EFL university students' experiences, perceptions, and attitudes*. SSRN. https://dx.doi.org/10.2139/ssrn.4687461

Soun, P. (2023). The implications of ChatGPT on media education in Cambodia: A plus or a minus? In M. Gerster & P. Chanty (Eds.), *Digital insights: Future of education* (pp. 133–141). CADT & Konrad-Adenauer-Stiftung Cambodia. https://www.kas.de/en/web/kambodscha/digital-insights/detail/-/content/digital-insights-future-of-education-1

Veung, N. (2021). Cambodia's higher education: Educating the next generation for the age of artificial intelligence. In R. Hör & T. Hesketh (Eds.), *Digital insights: Future of work* (pp. 170–183). Konrad-Adenauer-Stiftung Cambodia. https://www.kas.de/en/web/kambodscha/single-title/-/content/future-of-work-2

© Cambodian Education Forum