

Article

The Use of AI in Teaching International Business: Making Online Lecturing More Inclusive and Interactive

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Online video lectures often represent a passive way of learning which does not fit the needs of a diverse group of students. To tackle this issue, we present a comprehensive structure of an AI-powered international management course with specific technical features (e.g., voice and transcript translation) to create a more personalized and inclusive learning experience. Furthermore, we discuss the risks of the digital divide among students and how IB educators could address them by proper AI integration. For this purpose, we provide three practical steps for educators – assess, evaluate, and engage – to optimize their courses using the AI tools introduced in this paper.

INTRODUCTION

As artificial intelligence (AI) tools become more prevalent in educational settings, their potential application has led to the polarisation of educators. On one hand, the concerns about academic dishonesty, particularly involving such tools as ChatGPT, have led one group to advocate for their prohibition and a return to traditional examination methods (Hart & Mok, 2023). On the other hand, proponents of AI argue that it has the potential to transform education by offering personalized learning experiences tailored to individual student needs, compelling many to integrate these technologies into their courses (Bhutoria, 2022). In the midst of this ongoing discourse, an important question arises: how can the use of AI make teaching international business (IB) more inclusive and interactive?

As IB educators often face difficulties associated with the increasingly diverse classroom, they need to adapt their teaching approach to the different needs of culturally heterogeneous student cohorts (Budde-Sung, 2011). Like in many other cases, the use of AI may be considered to address this challenge. In teaching IB, AI tools adapt learning content to the students' pre-existing knowledge level, address individual knowledge gaps, and make the learning experience more engaging. While AI offers various opportunities, IB students from diverse cultural and socio-economic backgrounds may have varying levels of knowledge and motivation to effectively use technology for personal and professional development. Therefore, educators should systematically examine how the integration of AI in the IB curriculum can promote students learning success.

The intentional use of AI tools in teaching is in line with recent calls for transformative learning that provides interdisciplinary skills crucial for the global business environment (Paik, 2020). Therefore, the role of IB educators extends beyond mere facilitation of technology use; they must actively shape the curriculum by combining AI-powered methods of adaptive learning with IB content to develop relevant skills for real-world problems in the context of international business.

In this paper, we describe an AI-enhanced video lecture within a hybrid course in international management, aiming to develop intercultural skills, enhance critical thinking and problem-solving abilities, and effectively utilize AI tools for learning purposes. Furthermore, we discuss the role of the IB educators in mitigating the risks of the digital divide and the action steps that could be undertaken to maximize the potential benefits of AI in IB education.

KEY ISSUES/QUESTION ADDRESSED

Teaching IB brings multiple unique challenges. Classes often consist of a diverse group of students with different cultural and linguistic backgrounds and with different communication and learning styles (Holtbrügge & Mohr, 2010). This can manifest into learning difficulties due to language barriers or divergent learning preferences.

Therefore, a "one-size-fits-all" approach of conventional curricula does not effectively address the varied learning styles, cultural contexts, and educational backgrounds of a global student body. International students, after leaving their home countries, commonly encounter several distinct challenges. These include integrating into a new cultural

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and academic environment, learning the local language, and studying in English when it is not their native language. All these factors can collectively have a negative impact on their academic performance. Therefore, it is especially important to provide an environment that can adapt to different learning styles, knowledge levels, and learning abilities. In the context of international business education, the personalisation and flexibility in learning methodologies can increase the effectiveness of education, impacting students' ability to grasp complex concepts and apply them in a multicultural context (Holtbrügge, 2022).

In order to address such teaching challenges and increase the engagement of the students, the integration of AI into the IB courses may be useful. AI tools that are particularly useful for teaching IB include automatic voice and text translation, voice-overs in different languages, context interlinking, and collaborative learning tools (Khan, 2024). However, the use of AI in IB courses may lead to a new challenge: linking different learning materials such as videos, PowerPoints, textbooks, and other relevant readings with each other in a meaningful way so the student would stay engaged and could clearly recognize the link between all the sources (Kirste & Holtbrügge, 2019).

Incorporating AI into the curriculum of IB courses could also deepen the 'digital divide' among students, i. e. the disparity in technology access, the skills needed to use technology, and the ability to gain social and cultural advantages from technology use (Van Dijk, 2020). There's a concern that students may face unequal access to AI technologies, exacerbating this divide. The disparity could arise from financial limitations, where some students cannot afford high-quality, paid AI models, or from a lack of understanding of these complex technologies. Even if the students have access to the AI tool and know how to use it, they still might not fully leverage the technology to enhance their learning experience. Especially the last type of digital divide is challenging for IB educators to address.

USING AI IN TEACHING INTERNATIONAL BUSINESS

THE COURSE STRUCTURE

Our teaching innovation builds particularly on the work of Kolb (1984) who proposes four different learning styles: concrete experience, reflective observation, abstract conceptualization, and active experimentation. It is required that four aspects must be addressed: "(a) learner is engaged in a relevant experience, (b) learner reflects on this experience, (c) learner uses analytical skills to frame the experience, and (d) learner applies lessons from the experience to other contexts and future actions" (MacNab, 2012: 70).

Based on that, the structure of our international management course consists of six parts: the AI-enhanced video lectures, the International Management textbook, interactive sessions, self-tests, discussion forums, and case study seminars. The central aspect is the AI-enhanced lectures that provide an individual learning experience through interactive video-based learning. The provided In-

ternational Management textbook is particularly beneficial for students who prefer learning through reading, enabling them to further explore and reflect on the lecture material. Students can then test and evaluate their learning progress through voluntary self-tests. After having learned the theoretical concepts, students come to the in-person interactive sessions with the lecturer and discuss the learned topics in depth with their peers and the lecturer. The discussion forum helps to practice the written capability and get feedback from peers and the teaching staff. The seminar provides the opportunity to work in-depth on specific company cases in groups, training the soft skills and intercultural competence of the participants.

This hybrid format enables students to concentrate on the lecture material at their preferred speed and subsequently utilize the acquired ideas and concepts in real-life scenarios during face-to-face classroom sessions. It also helps to leverage the positive aspects of the AI technology in teaching, by providing an appropriate course structure, so the integration of the technology would be most beneficial for both, students and lecturers.

THE AI-ENHANCEMENT OF VIDEO LEARNING

The AI tool applied in our course (as shown in [Figure 1](#)) was collaboratively developed by our department in close partnership with the Silicon Valley-based startup [Copal.ai](#). The AI tool uses the most recent technological developments in Natural Language Processing (NLP) to address the language and accessibility barriers that often hinder learning in a diverse student group. The AI-enhanced video materials are accompanied by auto-generated transcripts and voiceovers in over 36 languages, ensuring inclusivity and equal learning opportunities for all students, regardless of their linguistic background or hearing abilities.

The NLP automatically identifies the relevant IB theories, concepts, names, and abbreviations and links them with the knowledge database, selected knowledge clips, and lecture material provided. The interlinked explanation of the concept is then shown at the corresponding time during the video as a pop-up window, allowing learners to deepen their knowledge without leaving the lecture video. The result is a personalised and comprehensive learning experience.

The AI-enhanced lectures are also equipped with a content searchability feature, allowing students to search for keywords mentioned in the transcript or shown in the video with precise time stamps. This functionality transforms the typically linear progression of video lectures into a non-linear, more focused learning experience. Thus, students are able to better concentrate on specific concepts or topics that they find more challenging to understand. Complementing these technical advancements is the introduction of a learning assistant, a ChatGPT-4-based chatbot, tailored to respond to queries specifically related to the lecture content and international management context.

This innovative use of AI and NLP not only enhances the educational content but also promotes inclusivity and equal learning opportunities, ensuring that all students, irrespective of their linguistic or socio-economic back-

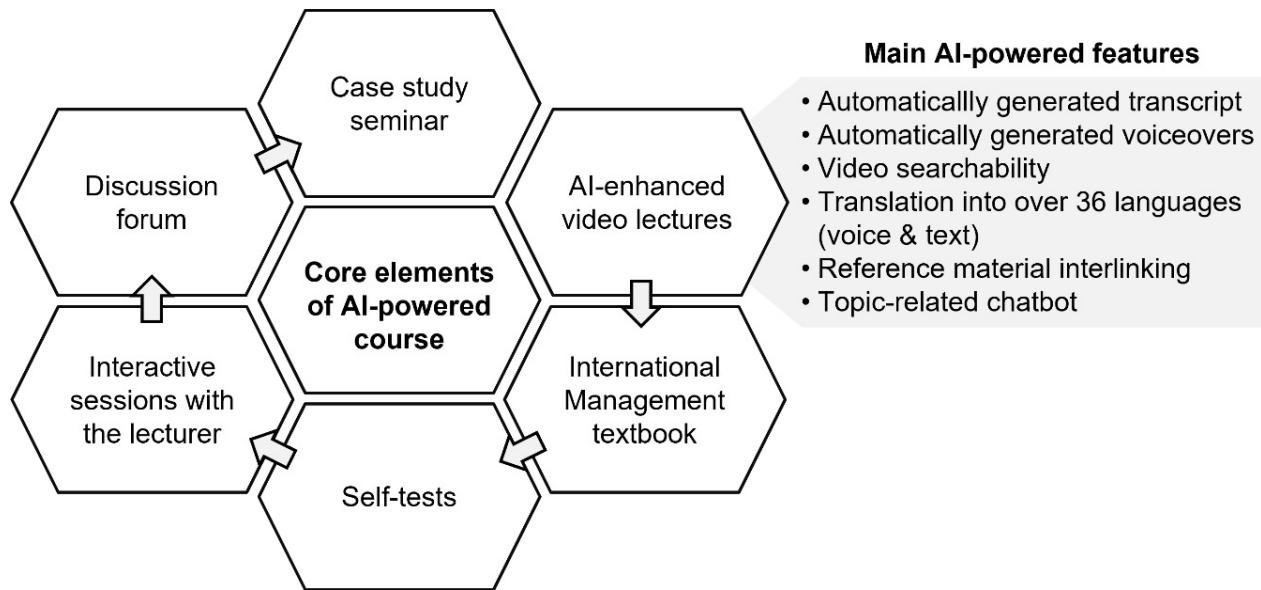


Figure 1. Core elements of the AI-powered International Management course

grounds, can access and engage with the course material effectively.

Based on the interaction of the students with the AI-enhanced video, the corresponding analytics enable the lecturer to see the real-time feedback of the learning process of the students. For example, the spots in the video that have been repeatedly watched or specific knowledge clips could indicate that students did not understand it properly. Such unique feedback allows the course creator to make corresponding improvements to the video content or address the topic in more detail during the interactive sessions in person.

IMPLICATIONS FOR IB STUDENTS

The integration of emerging technologies, such as AI and NLP, in IB course design creates a novel learning experience that is more personalized and engaging compared to traditional approaches. Such a setting helps students to improve their skills in dealing with diverse cultures and languages, and prepares them for the international working environment (Dieleman, Šilenskytė, Lynden, Fletcher, & Panina, 2022). The incorporated AI learning assistant, based on the latest version of ChatGPT, provides targeted support to students by answering questions related to specific learning videos, further enhancing their understanding and engagement with the course material. Thus, it is accessible to all students enrolled in the course. It provides high-quality, personalised assistance, helping to mitigate the issue of the digital divide in education.

We have collected extensive feedback given by the students participating in the winter semester 2022/2023. Our survey of course participants has shown significantly higher student satisfaction and perceived learning success compared to the winter semester 2021/22 when the course was offered in a traditional lecture format. The continuous collection of student feedback and data based on learning be-

haviour helps us to improve our courses in the future. For example, information about the user behaviour (e.g., which didactical elements were preferred, when were translations into other languages used, which topics were discussed in the chat most often, etc.) will be used to adapt the content and the pedagogy of the course. In the implementation phase, students have also provided feedback about the technical issues (e.g., which devices or browsers were not able to run the AI tool) or the few inconsistencies in the automatically generated transcript.

IMPLICATIONS FOR IB EDUCATORS

For teaching personnel and academic institutions, the implementation of AI-powered tools in course creation and organization significantly reduces the workload and streamlines the process. First of all, the creation of an interactive video-based online course using the AI tool becomes simpler and faster. It is possible to include any type of lecture video, whether professionally recorded in a studio, a short explainer video, or a lecture session recorded via Zoom. The AI tool is able to automatically improve the video and audio quality during video processing. The creation of the AI-enhanced video can be customized with selected languages for translation and voice-overs, and the content interlinking could be conducted with different knowledge databases and lecture materials. The AI-enhanced lectures can then be integrated into existing learning management systems or hosted on a separate website. The instructors would also greatly benefit from the integrated feedback system that gathers direct responses from students and insights into the learning analytics regarding the content and functionality of the AI features. Such a data-driven approach enables the optimization of course content based on individual learning behaviours, ultimately improving educational outcomes for diverse student populations.

We suggest three action steps on how IB educators can effectively integrate AI into their teaching practices, enhancing both the learning experience and the practical skills of their students in the international business context: (1) Assess the structure of the IB course for possible AI integration. This would require a clear separation between the online video materials, which will be used for adaptive knowledge transfer, and the in-sessions for the application of the learned knowledge to practice-related topics and case studies. (2) Evaluate the available educational video material and determine whether there is a need to record or include additional explanation videos or knowledge clips on IB concepts to help students better understand the important parts of the topic. Add relevant teaching materials or text books so that the AI tool can identify relevant concepts and definitions mentioned in the videos. The selected video and text material should reflect the interactive and case study sessions that will take place in person and equip students with the relevant theoretical knowledge. (3) Engage students during the implementation phase of the AI-enhanced video lectures. Clearly communicate the changes to the course structure and provide an initial demonstration of the new AI-powered features. While it might be self-explanatory, due to the high heterogeneity of the students in IB class, it should be clearly communicated how students can leverage the available AI resources for their own academic success and what is going to be expected from them during the in-person sessions.

The IB community stands to benefit from the increased accessibility and effectiveness of education that our AI-driven innovation brings. By enabling students to develop a deeper understanding of international management concepts and intercultural competence, we are effectively preparing them to excel in diverse environments and contribute positively to the global business landscape. As more academic institutions adopt AI-based approaches, we can expect a ripple effect of positive impacts, such as a better-prepared workforce, improved cross-cultural collaboration, and enhanced innovation within the international business community.

CONCLUSION/SUMMARY

Our paper proposed the integration of AI tools in a hybrid course of international management, addressing the challenges linked to diverse groups of students and the digital divide. The IB educators are encouraged to integrate AI tools in the curriculum not only to enhance the learning experience and simplify the course creation process but also to redefine the educator's role and empower students using the technology. Future research could focus on three main aspects: Firstly, the issues of digital divide defined in this context more as a lack of ability to fully leverage the AI technology rather than only having lack of access to it, received only spared attention in the literature. This topic is of high relevance of IB education research, as IB classrooms present a unique student demographics that could exacerbate such disparities even further if not properly addressed. Future studies could therefore focus on examin-

ing and better conceptualizing of digital divide in the IB education. Secondly, as AI-tools in education constantly evolve, the role of the educators must adapt correspondingly. Therefore, future research could explore how educators can balance the technology-driven personalization of the learning experience with the need for human interaction and what best practices could prepare them for these new roles. Thirdly, more longitudinal studies are needed to assess the impact of AI-enhanced learning on student engagement, intercultural competence, and academic performance in the unique educational environment of international business and management courses.

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REFERENCES

- Bhutoria, A. 2022. Personalized education and Artificial Intelligence in the United States, China, and India: A systematic review using a Human-In-The-Loop model. *Computers and Education. Artificial Intelligence*, 3: 100068.
- Budde-Sung, A. E. 2011. The increasing internationalization of the international business classroom: Cultural and generational considerations. *Business Horizons*, 54(4): 365–373.
- Dieleman, M., Šilenskytė, A., Lynden, K., Fletcher, M., & Panina, D. 2022. Toward More Impactful International Business Education: A Teaching Innovation Typology. *Journal of Teaching in International Business*, 33(4): 181–202.
- Hart, J., & Mok, A. 2023, August 14. College professors are going back to paper exams and handwritten essays to fight students using ChatGPT. *Business Insider*. <https://www.businessinsider.com/chatgpt-driving-return-to-paper-exams-written-essays-at-universities-2023-8>.
- Holtbrügge, D. 2022. *Intercultural Management. Concepts, Practice, Critical Reflection*. Sage Publications.
- Holtbrügge, D., & Mohr, A. T. 2010. Cultural Determinants of Learning Style Preferences. *Academy of Management Learning & Education*, 9(4): 622–637.
- Khan, S. 2024. *Brave new words: How AI Will Revolutionize Education (and Why That's a Good Thing)*. Penguin Random House.
- Kirste, L., & Holtbrügge, D. 2019. Experiential Learning in the Digital Context: An experimental study of online cultural intelligence training. *Journal of Teaching in International Business*, 30(2): 147–174.
- Kolb, D. A. 1984. *Experiential learning. Experience as a source of learning and development*. Englewood Cliffs, NJ: Prentice Hall.
- MacNab, B. R. 2012. An experiential approach to cultural intelligence education. *Journal of Management Education*, 36(1): 66–94.
- Paik, Y. 2020. The Value of International Business Education: How to Achieve Transformative Learning for Students. *AIB Insights*, 20(1). <https://doi.org/10.46697/001c.13439>.
- Van Dijk, J. 2020. *The digital divide*. John Wiley & Sons.