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Article

Reinventing International Business Education: Integrating the Power of Generative AI

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As artificial intelligence (AI) reshapes global business, international business (IB) education must adapt. This article explores the incorporation of Generative AI (GenAI) into IB curricula, examining course fit and faculty readiness, while presenting actional recommendations across three dimensions: Engagement, Collaboration, and Academic Integrity. We propose methods for interactive learning and lesson engagement using GenAI's conversational interface and prompts engineering. We also propose leveraging GenAI as a multifaceted tool to enhance international teamwork and collaboration and cultivate cross-cultural and linguistic connections. Additionally, we outline measures to prevent its misuse and mitigate the inherent threats it poses to academic integrity and assessment.

INTRODUCTION

As artificial intelligence (AI), robotics, smart devices, Big Data, and Generative AI (GenAI) have revolutionized international business (Ghauri, Strange, & Cooke, 2021; Lawton, Tonn Goulart Moura, Tobin, & Silva-Rêgo, 2023), it becomes crucial for international business (IB) education to tap into their potential. This will enable IB education to prepare the next generation of global business leaders who are equipped to manage and adapt to the ever-evolving technological advancements. This is especially true given recent data showing the significance of AI in today's global business. According to a 2017 survey by Fortune magazine, 81 percent of the chief executives of Fortune 500 companies agreed that "artificial intelligence and machine learning" are either "very important" or "extremely important" to their company's future, up from just 54% in 2016 (Murray, 2017).

Forbes and LinkedIn ranked skills associated with AI, machine learning, and digital transformation as the top tech skills in high demand (Forbes, 2017; Petrone, 2018). Certainly, AI-driven emerging and futuristic technologies are changing labor market demands for competencies and skills. They have imposed new skills on the current and future workforce. According to McKinsey, AI is poised to replace up to 800 million jobs by 2030 (Manyika et al., 2017). This is "a drastic reshaping of the workforce – and one that universities can and should help students prepare for" (Glass, 2018). The next business graduates who would command the most value in this digital age are the ones who can work comfortably alongside intelligent machines (Aoun, 2017).

Amidst these changes, this article emphasizes the importance of integrating and adapting to AI and GenAI in IB education. Although AI, particularly GenAI, is at the forefront of conversations across universities, instructors are slow to adopt these technologies (Hodges & Ocak, 2023; Nejame, Bharadwaj, Shaw, & Fox, 2023). In fact, students have outpaced them in usage (Nejame et al., 2023). A survey by Tyton Partners in March 2023 found that 48% of students have tried AI writing tools at least once, whereas 71% of instructors and administrators have never used them (Nejame et al., 2023).

As the field of IB education continues to mature, innovative curriculum designs are being developed to prepare future global business leaders for the complexities of IB (Dieleman, Šilenskytė, Lynden, Fletcher, & Panina, 2022; Klarin, Inkizhinov, Nazarov, & Gorenskaia, 2021; Schmitz & Cordova, 2023). This article contributes to this trend by discussing the integration of GenAI into IB teaching.

GENERATIVE AI: POTENTIAL FOR IB

We asked ChatGPT to explain AI in 20 words. The following is the definition provided:

> "Artificial Intelligence (AI) is the simulation of human-like intelligence in machines, enabling them to learn, reason, and perform tasks."

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Table 1. Key Terms Glossary

Term	Definition
Neural Networks (NN)	Also known as Artificial Neural Networks (ANNs), it is a subtype of AI that emulates the functioning of the human brain to effectively analyze and interpret data and develop patterns to make informed decisions.
Natural Language Processing (NLP)	A field of AI that focuses on enabling computers to understand, interpret, and respond to human language (text and spoken).
Chatbot	A computer program that uses natural language processing (NLP) and AI to imitate human conversation.
OpenAI	An AI organization known for developing advanced AI models such as ChatGPT and DALL-E. It was founded in December 2015 by a group of prominent tech leaders, including Elon Musk and Sam Altman.
ChatGPT	A conversational AI chatbot developed by OpenAI.
DALL-E	An AI program by OpenAI that generates images and art from textual descriptions using advanced image synthesis technology.
Google's Bard	A conversational AI chatbot developed by Google.
Microsoft's Bing AI chatbot	An AI-powered chatbot integrated into Microsoft's Bing search engine.
Microsoft 365 Copilot	An AI tool integrated into Microsoft 365 suite that helps users create and manage content across various applications such as Word, Excel, and PowerPoint.
Duet AI	An AI tool for Google Workspace that helps users create and manage content across various applications such as Google Docs, Sheets, Slides, Meet, and Gmail.
Prompt engineering	It involves crafting precise and targeted textual inputs or commands, known as "prompts," that guide GenAI to generate specific, desired outcomes.

Sources: Adapted from various sources: (Caulfield, 2023); ("Microsoft 365 Copilot," 2023); (IBM, 2023).

This short definition provided by ChatGPT is one of many, as there is no standard definition, and the concept is continually evolving.

GenAI is a branch of AI that utilizes neural networks to enable users to create various types of content, including text, images, art, audio, video, music, code, animation, simulations, sketches, paintings, movies, and more, based on a few input cues (Caulfield, 2023; IBM, 2023). OpenAI's DALL-E, for example, can quickly generate high-quality images based on a simple text prompt, whereas the ChatGPT chatbot can generate new text in response to text prompts. Despite ChatGPT receiving most of the attention, other consumer GenAI programs, such as Google's Bard and Microsoft's Bing AI chatbot, compete in the lucrative GenAI market. Furthermore, the technology is expanding into other popular educational platforms, such as Microsoft 365 and Google Workspace with Microsoft 365 Copilot and Google Duet AI, respectively. Microsoft 365 Copilot can automate tasks across the 365 suite of products, such as PowerPoint and Excel. Duet AI is integrated across Google Workspace, including applications such as Google Docs, Slides, Meet, and Gmail. Table 1 presents concise explanations of essential terms used throughout this manuscript.

There are various potential applications of GenAI in IB education. IB educators can leverage GenAI's multilingual capabilities, which can be incredibly beneficial in providing diverse global perspectives. For instance, students can gain insights into China from a Chinese perspective. Furthermore, IB educators can utilize GenAI's data analysis and visualization features to equip students with analytics and data visualization skills while exploring IB topics. In my IB Intelligence and Analytics course, my students use the ChatGPT Advanced Data Analytics plugin in conjunction with Python to analyze, query, and extract country data from the World Development Indicators. They create maps and charts for further analysis and interpretation. Beyond these, IB educators can utilize GenAI for various academic tasks ranging from editing and translation to lesson formulation, curriculum development, and assessment.

ASSESSING READINESS AND FIT

To assess if GenAI is the right fit for your class, consider examining it through three critical lenses: Knowledge Readiness, Course Readiness, and Faculty Readiness.

KNOWLEDGE READINESS

The accuracy and relevancy of GenAI's responses are not perfect and may lack cross-cultural and global insights and the personalized touch an IB instructor offers. It is important to note that even popular AI-powered assistants such as OpenAI's ChatGPT may produce biased responses, as the application developer acknowledges. OpenAI stated in the FAQ that ChatGPT has "limited knowledge of world events after 2021 and may occasionally produce harmful instructions or biased content" (Natalie, 2023). Additionally, ChatGPT is known to produce wrong answers and is prone to "hallucination," as pointed out by Morgan Stanley analysts who wrote that ChatGPT occasionally "hallucinates and can generate answers that are seemingly convincing, but are actually wrong" (Son, 2023).

To overcome the limitation of GenAI-produced information, educators should teach students how to fact-check the information produced by GenAI and provide them with reliable IB resources to assist in this process. One effective way to achieve this is by asking students to compare GenAI responses with human-generated responses, as suggested

by Abramson (2023). I have implemented this approach in my IB classes by allowing students to use ChatGPT for essay assignments. However, I also require them to present and justify their conclusions, craft a subsequent draft without ChatGPT's assistance, and then contrast their results. In another course, I shared an opinion article on conducting business in the Middle East. I then asked students to pose questions to ChatGPT and Google Bard to contrast their responses with the article's content. This method not only cultivates critical thinking but also aids students in discerning the capabilities and constraints of GenAI in generating credible information.

Like humans, GenAI may exhibit biases or a skewed perspective (Baum & Villasenor, 2023). A study by researchers at the University of Copenhagen revealed that ChatGPT "is aligned with American culture and values, while rarely getting it right when it comes to the prevailing values held in other countries." (Hershcovich, Cabello, & Hornbek, 2023). This can pose challenges in the context of IB education, where there's an emphasis on understanding national differences in political, cultural, ethical, legal, and economic systems. These subjects promote critical thinking but can spark heated discussions. Therefore, IB educators need to exercise caution when relying on GenAI as a source. While GenAI is a helpful starting point, it's vital to supplement it with multiple sources to ensure a holistic understanding and reduce bias.

COURSE READINESS

IB faculty employ a range of tools to deliver IB education, such as lectures, case studies, simulations, and discussions (Aggarwal & Zhan, 2018). However, IB instructors need to evaluate the appropriateness of GenAI for each tool. This evaluation process should involve asking questions like those suggested by Derek Bruff for assignments (Bruff, 2023):

- Why does this assignment make sense for this course?
- What are specific learning objectives for this assignment?
- How might students use AI tools while working on this assignment?
- How might AI undercut the goals of this assignment? How could you mitigate this?
- How might AI enhance the assignment? Where would students need help figuring that out?
- Focus on the process. How could you make the assignment more meaningful for students or support them more in the work?

To enhance the effectiveness of assignments, educators could incorporate a requirement for students to detail their usage of GenAI. Additionally, restructuring assignments to minimize the possibility of plagiarism and cheating may be worth considering. One approach, suggested by the University of Delaware's Center for Teaching & Assessment of Learning, is to emphasize the writing process by mandating students to submit a bibliography along with a brief note highlighting how each cited source has been utilized and how it has substantively impacted their essay (Guidry, 2023). Please refer to Table 2 for additional recommendations.

FACULTY READINESS

Faculty readiness to adopt GenAI depends on a combination of attitudes towards the technology and technical and pedagogical skills, all of which impact their effectiveness in integrating GenAI into their teaching practices.

To overcome negative attitudes or perceptions of GenAI as a potential threat to academic integrity and student learning, educational institutions can be crucial in promoting its positive use. One way to achieve this is by offering training programs to faculty members. Faculty should also give the technology a test drive, research, and consult with experienced peers.

Technically, most GenAI tools are user-friendly and easy to use. However, it is highly recommended to master the art of prompt engineering when considering GenAI. Prompt engineering is the process of providing specific instructions, inquiries, or data, usually in textual format, to GenAI to produce a desired output. A well-crafted prompt should be unambiguous, comprehensive, precise, and pertinent to enable GenAI to generate the best possible responses. For example, when using GenAI to create prompts for international marketing and localization, it is essential to include important details about the target market, language preferences, cultural nuances, as well as local laws and regulations (ClickUp, 2023).

There are numerous prompt engineering best practices and methodologies to optimize GenAI's output, but these go beyond the scope of this document. However, a foundational approach would be to frame your prompt as a conversation and engage in back-and-forth communication by asking follow-up questions related to your previous prompt and providing feedback if necessary. For example, if GenAI's response is not what you were seeking, you can say, "That's not what I was looking for. Can you focus on [topic] instead?" Also, you can start with a general question and then proceed to more direct questions to help GenAI understand your request more accurately.

If you want an expert-level response, you can direct GenAI to assume that role, for instance, by saying, "Act as an expert in international business" or "Pretend you are an international business teacher." You can also provide examples and break down your request to guide GenAI, mainly if the topic you are investigating is complex. Please refer to Table 2 for different variations of prompts tailored to various tasks.

To illustrate, consider the following ChatGPT prompts that have been crafted to develop a syllabus for an undergraduate-level course focused on international business.

- *Please generate the structure of an undergraduate-level course on international business, including the topics to be covered, learning objectives, and any necessary prerequisites. Also, please add creative assignments to engage students and enhance their learning experience.*

- *I need your assistance in creating a comprehensive rubric for evaluating online discussions. The rubric should include four criteria: Relevance of Post, Quality of Post, Contribution to Discussion, and Replies. Each criterion should be assigned a point value based on the following scale: Outstanding (20 points), Good (15 points), Average (10 points), and Limited (5 points).*
- *I would like you to create a quiz with 15 multiple-choice questions that assess students' understanding of globalization. Please cover the following topics in your response [add relevant topics]*
- *Act as an expert in international business and provide a comprehensive lesson plan for teaching undergraduates. Your lesson plan should cover the following topics [add topics]*

In sum, GenAI can be a dependable and valuable tool for educators and learners. Nonetheless, GenAI can sometimes deliver inaccurate or biased data, and there's a risk it could hinder the growth of students' critical thinking and problem-solving skills. Table 2 provides an overview of GenAI's advantages and disadvantages across three dimensions, complemented by actionable recommendations to leverage its benefits and mitigate its risks.

CONCLUSION

The paper emphasizes the benefits of GenAI in enhancing interactivity and global collaboration in IB lessons. It also helps faculty members in course development and classroom management. However, the paper also acknowledges that GenAI has its limitations.

Nevertheless, it's undeniable that such technologies are an integral part of academia, and their usage will only increase with time. In this constantly evolving era, IB education must adapt to prepare future IB leaders for the digital age. To ensure responsible usage and mitigate potential issues, instructors should pursue training to enhance their GenAI proficiency. By doing so, they can harness the capabilities of GenAI while minimizing associated risks.

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Table 2. Pros and Cons of GenAI: Actionable Recommendations

Dimension	Pro	Cons	Actionable Recommendations
Engagement	• GenAI's conversational interface can enhance IB lesson engagement and interactivity.	• GenAI might lead to over-dependence. • GenAI might provide biased and incorrect responses. • GenAI might undermine independent research.	• Simulate IB using GenAI. • Encourage students to converse or debate with GenAI, audibly or textually. • Use GenAI as a fictional guest speaker. • Use GenAI to simulate conversations with business figures. Examples (ChatGPT prompts): • *Let's participate in a simulation of a free trade negotiation. You can represent the USA, and I'll take on the role of China.* • *Let's engage in a constructive debate on the topic of Brexit. I invite you to present your arguments in favor of Brexit, and let's have a thoughtful discussion.* • *As a guest speaker with expertise in globalization, could you elucidate the pros and cons associated with globalization?* • *Let's engage in a simulated dialogue with John Dunning, renowned for his OLI paradigm in international business. Please answer as if you were him, reflecting his perspectives on international business.*
Collaboration	• GenAI's language tools can enhance global remote team collaborations.	• GenAI can't replace in-person global immersion or authentic interactions. • GenAI could weaken critical thinking and problem-solving development.	• Use GenAI to boost collaboration among global virtual teams from diverse universities and languages. • Encourage teams to use GenAI responsibly as a brainstorming and ideation aid. Examples: • Several video conferencing tools, such as Zoom, Microsoft Teams, and Google Meet, are integrating GenAI within their platforms.
Assessments & Academic Integrity	• GenAI aids faculty in assignment creation, preparation, and autograding	• GenAI poses a risk to academic integrity and makes detection more challenging.	• Review evaluation tools with GenAI for plagiarism and misconduct risks. • Design assignments where students use GenAI, then critically assess its response with scholarly sources before submitting a final draft. • Encourage students to present verbally their responses to essay questions. • Restrict GenAI's word count, pushing students to infuse their own ideas in assignments. • Demonstrate ChatGPT's limitations to students with examples or have them spot biases in GenAI's output. • Urge students to scrutinize GenAI responses and source originals and adjust rubrics to emphasize originality and critical thinking. • Craft assignments promoting critical thinking, graded on peer feedback, personal reflection, and course material relevance. • Include a statement regarding GenAI and academic integrity in your syllabus.

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