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## **How to teach emerging technologies**

The world of accounting is changing fast, and faculty now must teach emerging technologies to prepare students for the future and to satisfy the demands of employers and accreditation boards.

"Employers do not just require accounting graduates to be experts in accounting," said Clarence Goh, Ph.D., FCPA (Australia), an assistant professor of accounting (practice) at Singapore Management University in Singapore. They increasingly also expect accounting graduates to be familiar with technology, and to be able to work with technology to complete accounting tasks."

However, introducing emerging technologies to accounting curriculums comes with certain challenges. Departments struggle to determine which technologies to teach, and where to fit them into their already full curriculums, and faculty need to stay relevant, and upskill in areas such as data analytics, blockchain, and robotic process automation (RPA).

Goh and other faculty experienced in teaching new technologies offer the following tips to faculty looking to incorporate them into their classrooms:

- **Get trained.** Before you can teach blockchain, data analytics, or other technologies, you need to become familiar with them yourself. Faculty can learn technologies in various ways, such as through their universities' in-house training, software companies' tutorials, sites such as LinkedIn Learning, or organisations such as the American Accounting Association, said Kimberly Swanson Church, Ph.D., the director of the School of Accountancy at Missouri State University in the US.

Church is developing Emerging Technologies in Accounting, a course she considers necessary to prepare students for real-world jobs. For Church and Missouri State, the term "emerging technologies" includes hot areas such as virtual reality, RPA, process mining, and blockchain. Data analytics, she said, is already integrated across the university's curriculum.

Having "a broad awareness of the types of technology" used in accounting is more important than acquiring deep knowledge of specific software, as new types of software are being developed and adopted all the time, said Victoria Clout, Ph.D., a senior lecturer in the University of New South Wales in Sydney, Australia.

Clout has introduced cloud accounting and data analytics to her undergraduate students, but also sees the value in blockchain. "The Australian Stock Exchange is looking into getting blockchain for buying and selling of shares," she said.

- **Help students see the relevance of new technologies.** Demonstrate to your students how a given technology applies to accounting, Church said. Provide use cases or tie the technology to current events.

This is particularly important when teaching data analytics, noted Goh, who is teaching data modelling and visual analytics to his students. Give students "examples of how data analytics techniques covered in class are applied in real-world settings to solve accounting problems", he said.

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Singapore Management University students also can take an accounting analytics capstone course, where they work on a real-world project and act as consultants with an actual client. "At the end of the semester they present a final solution" to the client, Goh said.

- **Tie the classroom to the real world.** If you're teaching a subject such as blockchain and want to pique students' interest, discuss familiar companies, such as Walmart and Amazon, that have blockchain systems in place. Or use case studies that include data from real, anonymous companies or from organisations students may recognise. Faculty can obtain data sets from a wealth of organisations or companies, including Data.gov, the International Monetary Fund, the US Securities and Exchange Commission, and the World Bank, Goh noted. "Students enjoy seeing how what they have learned is applied on the street," he said.
- **Use emerging technologies to teach traditional accounting concepts.** Faculty often think they must eliminate content from an accounting curriculum to be able to cover new technologies, but this is a myth, Church said. "You don't have to cut any of your accounting content," she noted. "You just have to change how you teach it." She, for example, often teaches financial concepts to students in blockchain rather than Excel, or teaches cost-value-profit using data analytics visualisations in Power BI or Tableau.
- **Pick the technologies students will be most likely to use on the job.** Research how companies are using emerging technologies. "Talk with accountants who are using technologies, and bring that back to the classroom," Clout said. She invites several guest speakers — all accountants in various disciplines — simultaneously to a lecture, and asks them numerous questions about how they use technology in their jobs and what accountants need to do to stay relevant in the future. Clout also benefits from listening to these speakers, as she can update her knowledge about which technologies are being used in practice, she said.

If your students tend to stay close to home after graduation, talk with local employers and then teach the specific technologies being used in your area, Church said. For instance, because most of her students find jobs with nearby small and medium-size enterprises, which tend to use Power BI, that's a type of software she emphasises.

- **Start small.** When introducing students to new technologies, give them small assignments, not giant projects. Church walks students through "little steps" as she explains the technology. "Any new technology is probably replacing older tech functions," she said. "Show where we were and where this technology will let us go."

For example, she teaches about the characteristics of blockchain, and explains how it is tamper-evident since blockchain throws up a red flag if there's an alteration to the data. "That's important from an audit perspective," she said. She also collaborates with students on hands-on projects to help them work through technology kinks. Clout uses team-based learning, which allows students to discuss problems in groups.

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- **Obtain student feedback.** With COVID-19 still a concern, remote teaching will continue into 2021. This poses a challenge to many professors since "the teaching of data analytics often involves close interaction between instructors and students", Goh said. "It can also be difficult to get an accurate sense of students' reactions to an online class." To improve your courses, conduct recurring post-class surveys to obtain feedback on your materials and teaching style, he advised.
- **Partner up.** When learning new technologies or keeping abreast of change, ask others for insight and guidance. Visit an accounting information systems faculty member, or call a colleague who is up to speed. Clout has established a "good community on Twitter", where she connects with people who have expertise in a certain technology, she said.

"Partner with someone with a technology background," Church said. "Don't reinvent the wheel. Let them help you."

*Editor's note: The CIMA syllabus incorporates many of the emerging technology topics mentioned above. The AICPA and CIMA offer a course called Emerging Topics in Finance 2021 (AICPA link) (CIMA link) with 10 hours of learning on topics such as artificial intelligence, RPA, cyber fundamentals, and human intelligence. View classroom activities for teaching blockchain, written by Kimberly Swanson Church and colleagues, and find other resources on the AICPA Academic Resource Hub (free registration required).*

— **Cheryl Meyer** is a freelance writer based in California. To comment on this article or to suggest an idea for another article, contact senior editor Courtney Vien at [Courtney.Vien@aicpa-cima.com](mailto:Courtney.Vien@aicpa-cima.com).