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Wanted: More systems and analytics training for accounting students

By Courtney Vien

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College and university accounting departments should update their curricula to meet the demands of practice, an [AICPA-National Association of State Boards of Accountancy \(NASBA\) gap analysis survey](https://evolutionofcpa.org/Documents/Accounting%20Program%20Curriculum%20Gap%20Analysis%20Report%203.15.2021.pdf) (<https://evolutionofcpa.org/Documents/Accounting%20Program%20Curriculum%20Gap%20Analysis%20Report%203.15.2021.pdf>) found.

Though around two-thirds of departments now teach data analytics (64%) and IT audit (63%), far fewer teach topics such as cybersecurity, IT governance, and Systems and Organization Control engagements. Of the departments that teach these topics, the survey found, many cover them in only a handful of class sessions or relegate them to Accounting Information Systems (AIS) courses.

The survey suggests that there are "significant gaps between what practice is demanding and what students are learning in accounting programs, especially when it comes to systems, data analytics, and digital acumen," said Carl Mayes, CPA, associate director—CPA Quality and Evolution, at the AICPA.

The findings, he said, dovetail with what the CPA Evolution team has learned that employers need from accounting graduates. "Our most recent [AICPA Trends Report](https://www.aicpa.org/content/dam/aicpa/interestareas/accountingeducation/newsandpublications/downloadabledocuments/2019-trends-report.pdf) (<https://www.aicpa.org/content/dam/aicpa/interestareas/accountingeducation/newsandpublications/downloadabledocuments/2019-trends-report.pdf>) showed that from 2014 through 2018, what the firms told us is they're hiring 29% fewer accounting graduates," he said. "The firms are demanding skills in data analytics and cybersecurity and IT audit and these other areas. Many graduates coming out of accounting programs don't have those skills, so they have to look elsewhere for that talent."

The gap analysis, Mayes said, was intended to identify the extent of the mismatch between the skills accounting students graduate with and those that employers need. It was fielded in September and October 2020 as part of the CPA Evolution initiative, a joint effort by The AICPA and NASBA to adapt CPA licensure to meet the changing needs of the profession.

Three hundred and seventeen accounting department heads from across the United States responded to the survey, which asked participants whether and to what extent their departments taught eight technology-related competencies.

The respondents represented a good mix of small, medium-size, and large departments, Mayes said. Around half (53%) of them were from departments with 1–50 accounting students; 22% from departments with 51–100 students; and 25% from departments with more than 101 students. Small departments were less likely than medium-size or large ones to teach all the topics, with the exception of IT risks and controls (42% of small programs taught this compared with 39% of medium-size and 48% of large programs).

Along with data analytics and IT audit, the survey also asked whether departments taught:

- IT risks and controls (43% of department heads said they did).
- IT governance (41%).
- Predictive analytics (40%).
- Cybersecurity (40%).
- Digital acumen (23%).
- Systems and Organization Control (SOC) engagements (23%).

The eight topics were selected because "we are hearing they are of increasing importance to practice," Mayes said. "While the CPA Exam practice analysis is still ongoing, current directional thinking is that these topics will appear on the Exam beginning in 2024."

It's "important to make sure faculty are emphasizing these areas," he said, "so that students are not just ready to pass the Exam but also ready to meet the needs of the marketplace."

Jan Taylor-Morris, CPA, academic-in-residence at the AICPA, encouraged faculty to read the gap analysis report and to start thinking now about how they might change their curriculum in response. Developing courses and units, she said, can be a lengthy process, so departments need to start considering what changes are needed and begin implementing them as soon as possible.

The takeaway for department heads, Mayes said, is not that they need to have a separate course on each of the eight topics covered in the gap analysis — only that they should assess their curricula and see which topics they might need to cover more thoroughly.

"Not every faculty member has to be teaching, say, data analytics," Taylor-Morris said. "You just need to make sure by the time students graduate, they've had a good amount of coverage in those areas."

The gap analysis also has implications for state boards of accountancy, said Dan Dustin, CPA, vice president, state board relations, at NASBA. "It's an opportunity for boards to review their current education rules and update them to align with the future of the CPA profession and the types of tools that new licensees will be using as they begin their careers," he said. He noted that several state boards are already reviewing their standards for accreditation and what material should be taught in an accounting concentration.

"The really great thing that I'm hearing," he added, "is that the boards, state societies, and the business community are working together to address these changes to the profession."

Assistance for faculty

The AICPA and NASBA, Taylor-Morris and Mayes said, are ready to help departments incorporate emerging technologies into their curricula.

"We're committed to aiding the academic community throughout this transition," said Taylor-Morris, who pointed faculty to resources the AICPA has developed, including the [Academic Resource Hub \(https://www.thiswaytocpa.com/segmented-landing/academic-resource-hub/\)](https://www.thiswaytocpa.com/segmented-landing/academic-resource-hub/), which contains more than 200 case studies, lesson plans, and other materials faculty can use to help plan their classes.

The AICPA also holds [Faculty Hour webinars \(https://www.thiswaytocpa.com/segmented-landing/educator-webinars/\)](https://www.thiswaytocpa.com/segmented-landing/educator-webinars/) with free CPE that cover topics such as incorporating technologies into classes, and offers educators a significant discount on certificate programs, including certificates in data analytics, cybersecurity, and related topics.

These resources, Mayes said, were developed following discussion groups with faculty, including those from smaller schools and minority-serving institutions. "We're building the types of resources those groups requested to help them transition to teaching these emerging topics," he said.

The organization intended to keep its faculty resources "free or low-cost," Taylor-Morris said, partly so that departments with smaller budgets can have access to them.

This summer, she said, the AICPA plans to launch a model accounting curriculum that will lay out suggested topics and learning objectives for courses at various levels, and recommendations for integrating more systems and analytics coverage throughout an accounting program.

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