Sarah Anderegg

From: Jonathan Eldridge
Sent: Monday, December 11, 2023 9:51 AM
To: Jonathan Eldridge
Subject: Fall 2023 Faculty Information & Updates, Volume XIX
Attachments: Courseware Investigation.pdf; Framing Test Questions.pdf

Dear College of Marin Faculty:

This is my final 'Faculty Information & Updates' email. These updates originated during the pandemic, where constant changes and procedures about online instruction, vaccinations, coming back to campus, and a host of other logistical issues necessitated regular communication. Over the last couple of years, these messages have morphed into an opportunity to share articles and research on topics relevant to the world of higher education broadly and challenges in the classroom more granularly. I hope you have found at least some of them to be of interest. All of them are catalogued here in case you would like to revisit any: https://www1.marin.edu/student-learning-services .

On the topic of articles, I have attached two in this final edition. The first is about some interesting research on how to frame test questions in ways that resonate better with students. The other is a much longer, but important, investigation into courseware and some of the issues associated with this increasingly common piece of the textbook industry. It may or may not apply, but is a fascinating analysis of what has become a major industry.

At the bottom of this message is the latest update on LRC construction activity.

I hope to see you at Thursday's Holiday Party. Regardless, I also hope you have a relaxing break and look forward to seeing you in the new year—**Convocation is on Thursday, January 18th at the Jonas Center at IVC.** And I will be back in touch in some regularized form in my new role.

Thank you for all you do.

Jonathan

Construction activities happening on the site of the Learning Resources Center, December 11 – December 17.

1. Rebar delivered and installed for the foundations
2. Water line installation near AC
3. **Foundation concrete pour #3 (see note below)**
4. **Lot 6 and a portion of Lot 9 are closed beginning Friday, December 15 at 6am**

Noise you will expect to hear onsite:
1. Noisy steel work such as moving metal against metal and hammering metal
2. Typical construction equipment
3. Crane operations including safety horn
4. Idling trucks
5. Back up alerts
6. Diesel generators for site lighting

The LRC project team has successfully completed 2 out of the 3 large concrete pours for the foundation for the new building. There is one more remaining and it is the largest of the three to date.

This last pour will be over 2600 cubic yards of concrete. It will require 80 trucks at any given time to be on the road bringing concrete to the site or returning to the plant to pick up another load.

With that many trucks on the road, and that much concrete to pour, speed and efficiency is critical. The construction team will be pouring this final portion of the foundation beginning **Friday, December 15th at 9pm** and working through the night to complete it in the late afternoon of **Saturday, December 16th**.

The following considerations have led to this schedule modification:

1. There is significantly less traffic on the roads, bridges, and freeways between the source location of the material and the site of the LRC which will allow for them to pour more material at a faster rate
2. There is significantly less of an impact on the roads around the College since schools and many businesses are closed completely or for a vast majority of the pour time
3. There is less impact on student programs/activities

We understand that these pours will be impactful to internal and external community members alike. We appreciate your collaboration as we work through these necessary impacts.

If you have any questions, please reach out to Klaus Christiansen directly at kchristiansen@marin.edu.

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Courseware: Issues & Questions to Consider

By [Taylor Swaak](#)

JULY 18, 2023

The Substitute Teacher: Millions of students have to use courseware. Often, the product replaces the professor.

Andrew Romano can't remember having a single conversation with his physics professor sophomore year.

The recent graduate of Oakland University, in Michigan, would submit his assignments and exams online for the introductory, asynchronous course, which had at least 100 students. Everything, including his final exam, was auto-graded. It all made for an underwhelming, and often frustrating, learning experience.

"There were never ways we could *learn* from the instructor," said Romano, who double-majored in political science and environmental science. "It was just a really weird class."

Romano's instructor was using a courseware product from the publishing titan Cengage. In a departure from traditional supplementary class materials, like textbooks, many courseware tools offer the "soup to nuts" of an entire course: Not only the digital version of a textbook, but homework assignments and assessments that an instructor can select from a bank of premade options. Educational videos, slide presentations, and study flashcards. Auto-grading and performance-analytics capabilities.

These products often can't be unbundled, so while students purchase the whole slate, faculty members decide how little — or how much — of the courseware services to use.

While such products rarely come up in the public discourse about higher education, they've become a staple across in-person, hybrid, and virtual college classrooms alike. About one-third of faculty members who responded to the 2022 Faculty Watch survey from the National Association of College Stores reported using "access codes and adaptive learning products," terms commonly associated with leading courseware products like MindTap (Cengage), Connect (from McGraw Hill), and MyLab (from Pearson) — a figure that has gradually increased since the first survey in 2016.

Millions of students use these tools every year. McGraw Hill, for example, reported 5.2 million activations of its Connect product alone in the United States in the 2023 fiscal year. A *Chronicle* review of an [online database](#) curated by Don McIntosh, an online-learning expert, found more than 20 vendors in the U.S. higher-ed market offering similar products.

Some faculty members believe these tools, which can provide students with immediate feedback and additional practice, help them learn. But skeptics fear misuse or poor execution. Instructors often buy the tools directly from publishers, with limited oversight from administrators, because their choices are considered covered by academic freedom. Many instructors' introduction to courseware also came during the pandemic, when the products may have been hastily adopted as a survival mechanism, without training or guidance on how to use them to supplement — not supplant — their own teaching.

While most faculty members are not using courseware to replace instruction, numerous sources acknowledged that some *are* essentially running classes on autopilot, with courseware doing the work that students, and federal law, expect instructors to do.

Administrators like Chris Hubbard-Jackson have seen both ends of the spectrum, and a myriad of configurations in between.

Courseware can be an "absolutely amazing" addition to a class when instructors use it appropriately, said Hubbard-Jackson, the dean of assessment and institutional effectiveness at St. Charles Community College, in Missouri. "It depends on how the specific instructor is using it." Unfortunately, she said, she's heard of faculty "who use the set-it-and-forget-it method," too.

It's easy to see why overwhelmed and undersupported instructors, especially, would be drawn to these tools.

For some, outsourcing tasks like homework and grading means quicker feedback for students, and more time to focus on teaching or research. Other adopters may be underpaid and under-resourced instructors, including part-time adjuncts, who got their class schedule a mere week in advance, or who generally don't have the time or mentorship needed to develop their own materials and course designs.

"There are so many different demands" on faculty, "that if a publisher says, 'Here's a textbook — oh, and it comes with all of this stuff,'" that's going to sound appealing, said Julia Rodriguez, an associate professor and scholarly communications librarian at Oakland University who, as a textbook-affordability expert, is familiar with courseware. "It's like getting a five-course meal."

Faculty members are inundated, too, with messages from publishers marketing these tools as "the next best thing to sliced bread," as Barbara Taylor, director of academic technology at California State University at San Marcos, puts it. They may entice instructors with free demonstrations, or dangle an Amazon gift card in return for completing a survey about their class needs. Sometimes publisher representatives walk the hallways and offer trainings. The outreach, numerous faculty members told *The Chronicle*, can be quite aggressive.

"I get stuff daily, from multiple publishers," wrote Matthew Regele, an assistant professor of management and entrepreneurship at Xavier University, in Ohio, in an email. "I should probably try to unsubscribe."

Representatives for the three major publishers said their marketing strategy isn't to push particular products unprompted. Rather, outreach is meant to start a conversation about the tools a faculty member is already using, whether they're working, and what solutions may exist. Speaking to the broader complaints of aggressive marketing, Kent Peterson, senior vice president and chief marketing officer for McGraw Hill's higher-education business, said that faculty members can [specify](#) the types of emails they wish to receive, and that the company aims to make emails "very informative, very quick."

Still, he acknowledged, "It's a valid criticism."

While it's difficult to make definitive statements about which types of faculty members end up adopting courseware, existing research and anecdotes from publishers suggest higher usage in lower-level, high-enrollment courses, and in more quantitative STEM subjects. Adoption, to note, is not *always* the faculty member's choice; in many lower-level courses, instructors are required — or encouraged — to use a predetermined courseware product to maintain consistency across sections.

For example, like many of her colleagues, KaSai Un, an assistant mathematics professor at Texas A&M University at Commerce who teaches both in-person and online courses, uses Pearson's MyLab for the eBook, homework, and quizzes. The department wants instructors who teach first-year math courses, like college algebra, to give students "the same experience," she said, and to minimize headaches that might come with having to navigate multiple publisher tools.

Others adopt courseware for individual, pedagogical reasons. Lauryn De George, a senior instructor in the University of Central Florida's College of Business, turned to Cengage's MindTap a few years ago to help wrangle her management course**,** which serves some 1,200 students across six hybrid sections. She uses MindTap for textbook readings, homework assignments with auto-grading, study flashcards, educational videos, and sample exam questions — all resources that she said facilitate student work, study, and practice outside the classroom. That way, the face-to-face portion of her class can be more of a "flipped" model, dedicated to small-group activities and assessments.

This approach, she said, creates "scalable intimacy" in what otherwise might be an unwieldy, impersonal course.

But Rodriguez, at Oakland, is not sold. While she said she's not "so naïve that I think we won't need to rely on publishers for some course content," she still sees "offloading students and teaching to a for-profit company" as a problem. Among other things, she said it risks diluting the uniqueness of an institution's educational experience and degree offerings.

And in cases where a course operates fully online, legal risks come into play, too.

For distance-education courses and programs that are eligible for Title IV aid (as the majority are), federal law requires "regular and substantive interaction," or RSI, between instructors and their students. To meet that requirement, an instructor must provide at least two of five ["substantive"](#)

activities, such as "direct instruction" and "facilitating a group discussion." Opportunities for such interaction must also occur "on a predictable and scheduled basis."

The law's language is a bit vague, allowing flexibility. It has to when "you're trying to apply a single standard to 6,000 institutions of higher education that are designed in different ways," with unique objectives and student bodies, said Aaron Lacey, a partner at Thompson Coburn LLP who chairs the law firm's higher-education practice.

That makes RSI admittedly tricky to enforce — especially at the accreditor level. Education Department regulations for accreditors make no mention of evaluating institutions for RSI, said Leah Matthews, executive director of the Distance Education Accrediting Commission. "A lot of institutions," she said, "are getting a pass."

But that doesn't mean they should be complacent. If noncompliance is found, "the liability to an institution could be significant," Lacey said. "It's a pay-it-all-back liability."

I would rather have my instructors teach me with their own material, with assignments they've made themselves.

Meeting legal expectations isn't the only thing that matters. Many students report feeling let down — cheated — by courses that leaned heavily on courseware and its corresponding publisher materials.

The frustration is palpable on platforms like Reddit, where users anonymously congregate to commiserate on the trials and tribulations of higher education. "If you want to learn it does really suck," one wrote. Others summed up their experiences with courseware tools as "absolute bullshit" and "lazy."

One such user was Bethany Lewis, a sophomore at Rogue Community College, in Oregon, who took two online computer-science courses using MindTap in the spring of 2022. The classes felt disjointed, she said; the questions that followed assigned activities would focus on "little details" rather than driving home key concepts, and they didn't seem to align with the promised learning outcomes in her professors' syllabi. There were often distracting typos as well that further reminded her the materials weren't coming from her instructor.

As someone paying for an education, "I would rather have my instructors teach me with their own material, with assignments they've made themselves," Lewis wrote in an email.

Lewis ended up switching majors from computer science to psychology. She readily admits that math isn't her strong suit — a natural strike against pursuing a STEM major, perhaps — but she said her negative experience in those courses played a role. (Asked whether such critiques were on Cengage's

radar, a spokesperson wrote in an email that "we continually refine our platforms based on customer input.")

Courseware is not designed to replace the faculty and student relationship.

Phil Swanson, a student on hiatus from the University of Illinois Urbana-Champaign, was also frustrated with what he called "kind of useless" assignments and quizzes that he'd take through McGraw Hill Connect for his online synchronous course in public speaking in the fall of 2020.

Public speaking is largely skills-based, he said — yet he estimated some 30 percent of his course grade hinged on answering multiple-choice questions. He referred *The Chronicle* to a post he'd written on Reddit around that time, where he'd recalled one question along the lines of: *What's a good way to look confident?* A. Slouching. B. Not looking at the audience. C. Standing up straight. D. Reading from a notebook.

"It's a way to teach," he said. "But definitely not the best, in my opinion."

Asked about some students' lackluster experiences with courseware, publishers responded that everything depends on how an instructor *implements* the products. David Duke, chief product officer for McGraw Hill's higher-education business, pointed to elements of Connect — like [SmartBook 2.0](#), a reading tool with adaptive-learning capabilities, and student-polling features — that can foster a more-personalized user experience with regular instructor interactions.

"Courseware is not designed to replace the faculty and student relationship," Duke said. "The exact opposite. It's meant to enrich faculty-student interactions by providing more time to interact" during class, "and more information to deepen those interactions." Asked how that would work for online asynchronous courses, he replied that fostering an interactive experience is up to the university and the faculty member.

The spokesperson for Cengage expressed a similar sentiment, writing that instructors who use MindTap can customize content in various ways, such as editing existing assessments, embedding their own assessments, and reordering or removing textbook chapters. (Cengage declined an interview with *The Chronicle* after the reporter shared questions, and opted for written responses.)

For Kate Edwards, senior vice president for efficacy and learning at Pearson, the pandemic's role can't be ignored. "We have lived through some quite distinctive world events that I think have caused what you may describe as a 'rush' to online," thus hampering the ability in many cases for instructors to experiment and be thoughtful, she said. Pearson has been developing [educator guides](#), she added, "that begin to crystalize best practices."

Feedback from students is not all negative. The online-homework component, especially, can be popular. In a 2022 "Lifestyle & Media" report from the research service Student Monitor, 69 percent of respondents said the function was "valuable" for getting instant feedback on quizzes, while 63 percent said it made it easier for them to track their progress.

Jackie Carrasco, a pre-med student at Wayne State University, in Detroit, is one learner who feels she's benefited from courseware. The homework questions for her organic-chemistry class, which used another Cengage courseware tool called OWLv2, included questions likely to appear on the Medical College Admission Test (MCAT) — something she saw as a meaningful way "to prepare us for the long run."

Still, Regele, the assistant professor at Xavier, is wary of cases where content and course design from a for-profit company become the linchpin of a class. He's not convinced the tools are built with student *learning* in mind — in large part because he once worked for a major publisher, observing over a 15-month period the way it developed its courseware products. His findings are documented in a [peer-reviewed research paper](#), published in 2020 in the *American Educational Research Journal*. (The courseware vendor's anonymity was a condition for Regele being able to report and publish the paper, and allowed his colleagues to speak freely.)

If they make it easier to get the grade, that doesn't mean you're learning more, necessarily.

Many employees at the company where Regele worked, he wrote, held a "narrow" definition of what student learning and success meant: the obtainment of a credential — namely, a diploma — and higher grades. That, he found, influenced the design of the courseware, including functions such as multiple or unlimited attempts on assignments.

Indicators like grades, he emphasized, are not inherently flawed. But they can be. "If they make it easier to get the grade, that doesn't mean you're learning more, necessarily," he told *The Chronicle*. (The multiple-attempts model does have some proponents, with a [2018 study](#) linking the model to increased student learning.)

Ensuring that students actually learned the material and concepts didn't seem like a priority, either. He wrote in his paper that a software-development manager once told him: "There are the instructors who are really caring for the students to learn, and they want to impart all this knowledge. Those ones I find are a bit more hesitant" to adopt these products.

Regele doesn't entirely blame the publishers. "I don't think a lot of the people involved are intentionally trying to do things that might not be good for education," he said. "But they do have their own goals and interests" that can fall out of alignment with those of higher education.

Publishers told *The Chronicle* that higher-education expertise is baked into their courseware products. Edwards at Pearson, for example, said that creating a product like MyLab involves a group effort — taking authors who are leaders in their field and bringing them together with instructional and learning designers "who are experts in the science of how students learn," along with other necessary specialists in content development, product management, and technology.

Duke, at McGraw Hill, added that the company is continuously engaging with faculty to get feedback on its products, including through surveys, symposiums, and sales-team outreach. The spokesperson for Cengage underscored the importance of a feedback loop, noting that it seeks input from students, too.

Even so, academics skeptical of the expansive use of courseware are eager to see data: Do these tools really support student learning?

For now, at least, that question is impossible to answer definitively. In speaking with numerous sources, *The Chronicle* was unable to identify wholly independent and scaled research that answers that question.

The dearth is, perhaps, not entirely surprising. Courseware is defined in different ways by different people. Instructors don't all use the same courseware components in class. Students' goals for learning may vary. So comparisons are tricky.

There *are* elements of some courseware — such as adaptive learning, in which lessons and activities are adjusted in real time for individual learners depending on how they're performing — that have [shown promise](). Pearson told *The Chronicle* it's continuing to work with independent third parties to [conduct and publish research]() on the efficacy of products like MyLab. Publishers pointed to their case studies, as well, which often highlight individual instructors' experiences with their courseware tools.

Still, those metrics are imperfect. Some case studies found online are more than a decade old, and many tend to be more anecdotal than evidence-based, elevating the risk of overstated claims. (For example, De George, the professor at UCF, is highlighted in [a Cengage case study]() titled "Engagement and Grades Increase 'Dramatically' in 1,200+ Student Class." *The Chronicle* asked Cengage for the data buttressing that case study's claims, but the company did not provide a response.)

Stacey Margarita Johnson, who until recently taught introductory Spanish and served as assistant director of educational technology at Vanderbilt University, said she never left it up to courseware to teach her students. Johnson had to use MindTap for class; department policy requires all instructors teaching first-year Spanish courses — some 20 sections a semester, according to a search of the campus bookstore site — to use the same courseware product. But she made the most of it, drawing from the more than 20 years of teaching experience under her belt.

She'd add her own activities. She'd explain the logic behind the MindTap assignments — *you'll be drilling verb conjugations this week because we're going to practice speaking next week* — so students didn't

see them as pointless "busy work." Johnson, who's now the director of learning and engagement at the Coalition of Urban and Metropolitan Universities, also shared stories of [other faculty members](#) citing research for students on why certain skills are important, or doing the publisher assignments themselves first to gauge the time commitment and applicability to the learning goals they have for their students.

Wherever possible, faculty members should "still be the leaders of their own course design, their own facilitation practices," she said.

In many cases, that does happen. But the extent to which instructors are incorporating their own materials and expertise when they use courseware is often unclear, and is largely unmonitored.

At Oakland University, where Romano took his physics course, faculty members "have complete autonomy" over class materials, including courseware, and they can add any tool they want directly into the learning-management system, said Dan Arnold, manager of support services. A spokesperson for Saddleback College, in California, whose international-languages department uses Connect extensively, also stated that there is no approval process for using courseware; the college "allows each instructor the academic freedom to select their own textbooks and/or materials for their courses." (The one exception, she wrote, is for Spanish 1 and 2 courses, where Connect is used universally.)

Some institutions and their departments, though, *are* trying to strike a balance — preserving academic freedom while encouraging thoughtfulness about ed-tech adoption and usage.

Un, the assistant math professor at Texas A&M-Commerce, wrote in an email that first-year math faculty generally agree on the textbook they're going to adopt before discussing courseware — a practice that helps keep the focus on whether the material and lessons "fit our needs," rather than on the array of additional product services.

At Carnegie Mellon University, staffers in the Eberly Center for Teaching Excellence and Educational Innovation also encourage faculty members to work with them on "tool matching" before selecting materials like courseware. In this process, instructional designers learn about the course and its learning objectives, and advise faculty members accordingly.

"Let's say there is some courseware that has lots of multiple-choice questions. ... But the faculty member wants students to be able to apply concepts and solve problems. That would not be a good match," said Marsha Lovett, vice provost for teaching and learning innovation at Carnegie Mellon. The guiding question is often: "Does this tool have a lot of the features and qualities that we would expect would be consistent with positive learning outcomes?"

The question of academic value is one that accrediting agencies certainly care about, too. But their level of awareness around courseware is also patchy.

The Chronicle reached out to the seven main U.S. accrediting agencies, asking if any of their institutional-review processes — such as those for accreditation renewal — include elements where courseware use would come up.

Sonny Ramaswamy, president of the Northwest Commission on Colleges and Universities, doubted it would. "Our Standards are not prescriptive on courseware, technologies, etc.," he wrote in an email. "They focus instead on data-informed outcomes for students, particularly student success and closing equity gaps."

Other agencies, like the Middle States Commission on Higher Education, shared standards that — while not mentioning courseware by name — could encourage proper use. MSCHE's [standards](#), for example, say institutions must demonstrate "student learning experiences that are designed, delivered, and assessed by faculty."

Matthews, with the Distance Education Accrediting Commission, said her agency focuses intently on regular and substantive interaction. When it's conducting curriculum reviews during the accreditation-renewal process for a Title IV-participating institution, for example, at least one of the subject specialists charged with sampling 25 to 50 percent of the courses is checking for evidence of RSI. In these course-level reviews, they're able to see the tools faculty are using, including courseware products.

Still, a lot of this comes down to goodwill. "There is a level of trust and accountability and integrity that in between your accreditation cycles, you are upholding the requirements," Matthews said.

An Education Department spokesperson said the department looks for observance of RSI when it reviews institutions' annual [Title-IV compliance and financial audits.](#) Staff members conduct occasional program reviews as well.

It's also seeking to extend its oversight of some ed-tech providers, which could include publishers. [Pending guidance](#) may place such companies under a "third-party servicer" designation, subjecting them to certain legal liabilities and regulatory requirements, such as annual audits. The department confirmed that an entity can be considered a third-party servicer whether it's working with an entire institution or one individual.

Even if publishers come away from these developments unscathed, advocates have another bone to pick with the courseware they sell: the often-high price.

And the fact that students must pay it.

The Homework Tax: For students already struggling to afford college, courseware can add to the burden

Montoya Thomas recalls sleepless nights in college, crushing energy drinks from the local Smoothie King as she tried to complete coursework for history and biology weeks ahead of schedule.

The 27-year-old, who graduated in May from Houston's Lone Star College-University Park after more than seven years of study, was trying to beat the clock: a 14-day free trial of McGraw Hill Connect, a courseware product. When that didn't work, she withdrew from one course and failed out of the other, unable to afford the more than $100 cost apiece.

Thomas was making only about $200 every other week from part-time work-study — much of which was immediately funneled to essentials like food, phone bills, and bus cards. So she had to find other options, hunting for courses with low-cost or free materials, or those where professors opened up all assignments on Day 1.

Experiences like these "made me feel embarrassed … like I wasn't doing enough," she said. "It was stressful."

In the past decade, as the print-textbook market has become less profitable, publishers like Pearson, Cengage, and McGraw Hill have increasingly shifted to digital offerings like courseware. That market has ballooned, with those three companies' flagship courseware tools collectively reaching millions of users annually. Costs vary depending on the subject and publisher arrangement, but in STEM subjects, especially, the price of a courseware product can exceed $200.

For proponents of courseware, it's just another material cost, and one that's worth the price tag for the additional practice and immediate feedback the tools provide. But critics argue that there are essential, ethical differences between these tools and other course materials.

Their argument is multifold: For one, they say, products like these — which often deliver key elements of a course that an instructor would typically be responsible for, like homework, assessments, and grading — should not be the student's burden. At least one student advocate said *colleges*, rather, should cover or subsidize the cost, as they do with software like learning-management systems, if they're allowing faculty free rein to adopt the products.

"Courseware has become more central to the *operation* of the class" and is less a supplement in the way the textbook has historically been, said Richard Hershman, the vice president for government relations at the National Association of College Stores. "That's where some of the debate occurs around, 'Why am *I* paying more for this?'"

And the fact that students' access to these products expires — sometimes after just a semester — rubs salt in the wound, and risks further disadvantaging students.

The rise of courseware, skeptics argue, flies in the face of efforts by both student-advocates and legislators to make college more affordable. "Students are seeing less and less opportunity to support themselves and get a meaningful return on investment," said Sheneese Thompson, an assistant professor of English at Bowie State University, in Maryland. That is "troubling to me."

Total student spending on course materials *in general* has been in decline, dropping 44 percent between the 2011-12 and 2021-22 academic years, [according to data from the research service Student Monitor](#). One key contributor is the number of professors who've replaced textbooks with low-cost or open educational resources. Another, researchers say, is the growth in student options: Buying a used textbook. Renting a textbook. Buying a digital version of a textbook.

Over that same period, publishers have rolled out courseware products that require subscriptions or access codes. Remaining profitable in the higher-education market, after all, does remain integral to their bottom lines. At [Pearson](#), the U.S. higher-education sector generated about a quarter of the company's more than $4.7 billion in revenue in the 2022 fiscal year (the most recent earnings figures available at the time of publication). At [Cengage](#), in the 2023 fiscal year, higher education accounted for 40 percent of the company's $1.5 billion in revenue. McGraw Hill reported that nearly one-third of its total "billings" for the 2023 fiscal year — commonly defined as invoices sent to customers — came from the sector.

These products are notably different from traditional textbooks in ways that extend beyond just the scope of services. Notably: Courseware must be purchased new, can't be shared or resold, and is often essential to passing a class.

Once a student purchases and activates their courseware, it's available to them for a limited period of time. (One of the most common lengths publishers reported is 180 days.) Publishers' terms-of-service and terms-of-use agreements reviewed by *The Chronicle* make explicit that the products are for individual use. That restriction is hard to circumvent; the products are often integrated directly into campus learning-management systems and linked to each student's gradebook.

In certain cases, it may be feasible to forgo courseware and still perform well in a course. Some instructors have used it for extra credit or pre-lecture assignments that count for 5 to 10 percent of the grade. But often, students face a stark calculation: Buy the courseware or sacrifice their grade — even fail outright.

A psychology instructor's syllabus that *The Chronicle* found online, for example, noted that [26 percent](#) of a student's final grade is homework completed in Cengage MindTap. In an online intro-to-accounting course at Rio Salado College, 48 percent of the grade is Pearson MyLab assignments and assessments. Older case studies from McGraw Hill Connect have [cited](#) percentages as high as 94.5 percent.

Matthew Regele, an assistant professor of management and entrepreneurship at Xavier University, in Ohio, used to work for a major publisher before the pandemic, and spent 15 months observing how it operated its business and developed products, before publishing a [peer-reviewed research paper](#) on his findings. (Regele did not identify the publisher in his paper or to *The Chronicle*.) A key tenet of maintaining profitability was "to get every student paying every semester," Regele said in an interview. "And digital does that — especially if we hook it to the grade. ... I heard that up to at least vice-president level people."

Officials at McGraw Hill argued that their products can't be shared or resold for good reasons. Courseware like Connect is a "dynamic" learning tool that adapts based on what an individual student needs, said Kent Peterson, senior vice president and chief marketing officer for the company's higher-education business unit. "This isn't something that was created just because we want to foil used books."

This isn't something that was created just because we want to foil used books.

As for the limited use? Unlike a textbook, "If I give you a digital product and say, 'You can have that forever,' I have to support that forever and ever" with continued investments and updates, even though the user paid for it just once, said David Duke, chief product officer for McGraw Hill's higher-education business. "It's basically impossible."

Regardless of publishers' reasoning, for Thompson, at Bowie State, the subscription-based approach to student course materials is an existential threat to the "student economy." In that economy, students can rent and return used books for a fraction of the original price. They can swap and share books with each other. They can buy and then resell books.

"It used to be very feasible for students to say, 'I'll make the upfront investment [on a textbook], knowing that I can get at least 60, 75 percent of that investment back,'" she said. "You can't do that with courseware."

Questions about digital equity also arise, given that not all students will meet the tech requirements to use courseware as effectively as their peers. Disparate access to digital tools like laptops and Wi-Fi, which made headlines during the pandemic, remains a notable barrier for many students. In [a June report](#) from Tyton Partners, an advisory firm focused on the education sector, 79 percent of more than 1,500 student respondents said they'd experienced unstable internet connections. Nearly 40 percent said they'd had an experience of not having a device (computer or laptop) that they needed for class.

All three major publishers' courseware products require a stable internet connection. Representatives for Pearson and McGraw Hill also confirmed that their courseware can't fully run on a mobile device. A

spokesperson for Cengage wrote in an email that users "can access MindTap from a mobile device using their browser" but did not clarify whether all features are accessible that way.

Publishers said courseware prices depend on numerous factors, including whether additional product features are needed, like lab activities or Excel software. They also underscored that options exist at the student, course, and institutional levels to lower the cost to students.

At the student level, for example, if a learner ends up having more than one course that requires Cengage courseware, they could purchase an unlimited subscription for a flat rate of $125 a semester, a spokesperson wrote in an email.

At the instructor level, officials at McGraw Hill said they work with faculty to understand their goals and objectives, and if courseware doesn't seem like the right fit, they'll recommend purchasing just the eBook — a lower-cost solution that can amount to as little as $30.

At the institutional level, Pearson pointed to "inclusive access" arrangements, in which a college works with a publisher to offer courseware products to students at lower rates. Texas A&M University at Commerce, for example, has an inclusive-access arrangement with Pearson that, as of summer 2023, gave participating students in the math department a discount on MyLab of roughly 38 percent, bringing the cost down to $52.49 from $85.27. (Under such arrangements, the cost is automatically added to an enrolled student's bill unless they opt out — an approach some textbook-affordability advocates like the Scholarly Publishing and Academic Resources Coalition [have criticized](#).)

Be wary of solutions presented by the same people who caused the problem.

Many of these alternative arrangements, though, still don't sit well with advocates like Janelle Wertzberger. "Be wary of solutions presented by the same people who caused the problem," said Wertzberger, assistant dean and director of scholarly communications at Gettysburg College, in Pennsylvania, during a March webinar on textbook affordability.

Students who spoke with *The Chronicle* said the high costs of courseware had a real impact on their finances and aspirations.

For Montoya Thomas, high course-material costs were key to her decision not to pursue a career she was excited about: physical therapy.

Thomas, who got her associate degree in communications this year, initially became interested in physical therapy in middle school, when her foster sister broke her leg playing volleyball. During her

sister's recovery, Thomas would walk alongside her, offering encouragement as she adjusted to getting around without crutches. *Maybe I should do something like this*, Thomas thought.

But it became quickly apparent that the STEM courses and labs she'd need to take, many of which required courseware products, weren't financially tenable, she said. "So I had to let that go."

John Runningen had moments when he questioned his place in higher education altogether. The first-generation student, whose parents weren't able to contribute toward his education, attended college locally, at Minnesota State Community and Technical College at Fergus Falls, to shave costs. On at least one occasion, he took a synchronous course instead of an asynchronous one — even though asynchronous offerings worked better with his full-time work schedule — because the latter required a $115 courseware product he couldn't afford.

"When I fill out the FAFSA, and I get all these Pell Grants … and I'm *still* not able to afford college, it's almost a slap in the face," remembered Runningen, who recently graduated and completed his term as president of the nonprofit student advocacy organization LeadMN. "So when I'm coming across the additional costs and I'm sitting there contemplating whether I'm going to cover groceries this week or pay off my textbook, you really sit there, and you're like, 'Is this really for me? Is this something I should be doing to myself?'"

Where students *go* to purchase courseware can determine how much they pay — at least to an extent.

Often they're sent to the campus bookstore. Sometimes it's a matter of legal obligation. A faculty member at a public university in the mid-South, for example, said that while there's no formal policy, leaders at her institution have "reiterated that we are not permitted to advertise other sources of books" outside of the bookstore because of an agreement with Barnes & Noble. *The Chronicle* came across similar language in a contract between [Barnes & Noble](#) and an institution in the Northeast, the State University of New York's Onondaga Community College, which stated that the college "shall not accept advertising ... or authorize solicitation on campus by any seller of college textbooks and/or course supplies other than the Contractor."

The campus bookstore can also be an attractive option to students because it allows them, in some cases, to purchase course materials on credit as they wait for their college to disburse any residual financial aid.

That doesn't mean that it's always the best deal, though. While Hershman, at the National Association of College Stores, says many campus bookstores "do everything in their power" to lower the cost to students — more than a thousand offer marketplace price-comparison shopping, for example — markups are sometimes inevitable. This is especially true if a publisher doesn't offer the bookstore wholesale prices.

In such cases, bookstores "either have to sell at a loss" or charge a bit more in order to cover operational costs like labor, bank-swipe fees, and shipping costs, "which sucks," he said.

In reporting, *The Chronicle* came across instances where prices were higher at a campus bookstore than on the publisher's retail site; the largest markup recorded was 25 percent. Hershman said there's typically a zero-to 15-percent margin between what the bookstore pays for digital-course materials and what it charges students.

Peterson, at McGraw Hill, told *The Chronicle* his company doesn't automatically offer wholesale deals to bookstores, though it often works with them, alongside an institution, when forming inclusive-access arrangements. Third-party distributors are "a very important player in providing access to materials to students, but they make their own decisions regarding the markup they want to apply," he said.

(A spokesperson for Pearson replied via email, "While we cannot share the specific terms of our arrangements with retail channel partners, they do earn a margin on sales through their physical or virtual storefronts as is typical for any retailer." Cengage did not respond.)

While the cost of courseware in particular is not regulated, textbook and course-material costs more broadly are on legislators' radars. Since 2013, Sen. Richard J. Durbin, Democrat of Illinois, and his co-sponsors have continued to introduce the [Affordable College Textbook Act](#) in Congress — legislation that, among other things, would "close a loophole" in the Higher Education Opportunity Act that's allowed some publishers to sell courseware products as a single bundle only, versus also offering separately priced components.

Textbook-affordability advocates like Sydney Greenway, former president of Pirgim Campus Action at Wayne State University, are also pushing for more "course marking": A practice where, during the course-registration period, universities disclose information about required course materials, such as the ISBN and retail price, and whether a course is using exclusively free or affordable materials. She identified at least seven states, including [Texas](#) and [Louisiana](#), that have passed bills requiring some form of course marking.

Even beyond that, Greenway believes that institutions or departments should have a line item in the budget for courseware — similar to how they pay for tools like the campus learning-management system.

"If there was one site or something that the university itself subscribed to so that students wouldn't have to bear the cost … I think that's a really great solution," she said.

Most faculty members aren't blind to these issues. Nearly two-thirds of faculty respondents to a 2022 [Bay View Analytics survey](#) said they agreed that "the cost of the course materials is a serious problem for my students."

So where's the disconnect? For some, the price of materials, including courseware, is out of their control. About 26 percent of faculty respondents to a 2022 Faculty Watch survey said they didn't choose their own course materials. Some are not aware of the price: In that same survey, 36 percent said they either didn't know the cost of their course materials or knew the cost of only some of them.

Faculty and students may also have differing definitions for "affordable." A fall 2022 working-group survey of more than 3,000 students across nearly a dozen liberal-arts institutions, for example, asked students what amount they thought was reasonable to spend on course materials for a class. Fifty dollars was the most common response.

Lauryn De George, a senior instructor in the University of Central Florida's College of Business, said students in her management course pay about $100 for Cengage MindTap through UCF's inclusive-access model. While cost is always a consideration, she said, when it comes to choosing a quality course supplement, the reality is that "lowest price doesn't always mean best." De George added that none of her students have expressed reservations about the price.

One adjunct instructor in the College of Business and Economics at California State University at Los Angeles, meanwhile, has tried to strike a balance between adopting material that helps her as the instructor without burdening her lower-income students.

She uses McGraw Hill Connect for a small portion of her project-management course because it allows her to easily pull from a bank of open-ended questions and case studies — a necessary "time saver" as she balances adjunct teaching with another full-time job. She'd tried open educational resources previously, she said, but the quality wasn't up to her standards.

The $150 courseware cost has been a problem, though; about a quarter of the 25 to 30 students in her class come to her at the beginning of each semester with concerns.

The solution she's settled on is not forcing those students to purchase Connect. Instead, she uses the product only for group work. That way, students can work on the assignments together in class — huddled around a laptop, or over Zoom — with just one classmate who has a Connect account formally submitting the assignment on behalf of the group. She then manually enters the other students' grades into her gradebook.

I don't want it to be a barrier for students who are really proactively telling me, 'I cannot afford this.'

She acknowledged that this setup runs afoul of the publisher's terms of service. (*The Chronicle* granted her request for anonymity to hear a candid description of how she deals with the cost problem.) But

ultimately, she said, "I don't want it to be a barrier for students who are really proactively telling me, 'I cannot afford this.'" Asked whether her approach ruffled the feathers of students who did pay for the courseware, she said it hasn't. "I think they are all quite sympathetic to each other," she wrote in an email.

Others have had success with non-courseware options — even in larger courses. Eric de Araujo, a lead instructional designer at Purdue University who also teaches an introductory philosophy course online with about 100 students, requires two textbooks that together cost about $80 new, and a fraction of that if students opt to rent or buy used. (He's receptive to open educational resources but hasn't found any that are a good fit for the way he's designed his course.) De Araujo then uses a university-created tool, which is free to students, to post and grade assignments.

For him, it's largely a matter of principle. "I feel like ... there is an understanding when you go to college that you're going to be asked to purchase textbooks. But people don't come assuming that they're also going to have to buy a subscription to software," he said. So the latter has never sat well with him. "I don't like that kind of feeling."

Some faculty members have found other reasons apart from cost to steer clear of courseware. One of the most prevalent: Data privacy concerns.

The 'Textbook' That Reads You: When students use courseware, how much personal data is it collecting?

Carson Blaisdell sat stunned by the survey on the desktop screen in front of him.

The list of true/false questions posed to the 31-year-old were intimate: *Did he have more than one sexual partner? Did he use a latex condom, or oil-based lubricants? Did he use alcohol in "sexual situations"? Had he been vaccinated for Hepatitis B, or HPV? Did he regularly perform genital self-examinations?*

It read like a health-clinic intake form. But it wasn't. It was an assignment for a gen-ed health-and-fitness class he was taking asynchronously online through Bowling Green State University in the fall of 2022 — using McGraw Hill Connect courseware.

"It wasn't enjoyable. It made me constantly want to lie," said Blaisdell, who's in the university's commercial-aviation program. Blaisdell, who sent various screenshots to *The Chronicle*, guesstimated upward of 80 percent of the assignments in that class asked similarly personal questions, and included risk assessments for alcohol-use disorder, mental-health disorders, and skin cancer. None, to his surprise, offered any assurances as to how such sensitive information would be handled.

"Whatever I put in," he recalled thinking, "nobody's going to take care of the information."

Millions of learners purchase courseware products like Connect, Pearson MyLab, and Cengage MindTap every year to gain access to integral parts of their college courses, including eBooks, homework assignments, exams, and study tools. But as widespread as courseware has become, safeguards to protect student data privacy are riddled with cracks — a weakness that plagues many educational technologies used in colleges.

The way many students sign up for courseware, to begin with, creates a gray area within the Family Educational Rights and Privacy Act — the decades-old federal law known as Ferpa — which governs third-party use of student data. Publishers' privacy notices, which outline when and how that information is used, are often full of vague and jargon-filled language that make them hard to understand. The hidden world of web tracking, too, is so esoteric that companies with access to student data may, in fact, disclose private details unintentionally.

All of those cracks, privacy advocates say, leave students vulnerable to having their data used and shared in ways they have no knowledge of, or control over.

Institutions aren't "letting the wolf *into* the henhouse"; instead, "we're letting the hens *out* into a forest of wolves," said Billy Meinke, an open educational resources technologist with the Outreach College at the University of Hawaii-Manoa who's done research on publisher misuse of student data.

Such concerns may well have merit: In an analysis of two student courseware accounts, *The Chronicle* identified instances of student data-sharing that conflicted with, or raised questions about, the practices relayed in publishers' privacy notices. Most notably, in a review of Pearson MyLab, personally identifiable information, such as a student's name and email, were sent to Google Analytics, along with notifications of what the student was reading and highlighting in their eBook.

For some, living under the microscope of entities like Google may seem like an inescapable trade-off for using the internet. A social contract of sorts. (*The Chronicle* also uses Google products; you can read about that in our privacy policy.) But privacy advocates draw a hard line between someone who is surfing the web and a student who is paying to get an education.

"We behave differently if we know we're being watched. We get timid, we get shy, we spend a lot of our cognition on what people are going to think. ... That's not what we want" in higher ed, said Dorothea Salo, a teaching faculty member at University of Wisconsin at Madison's Information School. This is especially the case in today's political climate, where exploring topics like gender identity and abortion can put people in danger.

On principle, too, Salo sees it as colleges' *job* to protect students from harm. Publishing companies aren't impervious to data breaches; for example, McGraw Hill suffered a breach, reported in 2022, that compromised hundreds of thousands of students' email addresses and grades. (A spokesperson for the

company wrote in an email that the vulnerability was quickly remediated, and that "there was no unauthorized access" or exfiltration of the data found.)

"We are supposed to be looking after the well-being and welfare of our students," Salo said. "That definitely includes taking care of them in ways that would not occur to them."

At the moment many students agree to an arrangement with a publisher, their college is notably absent.

In the majority of cases where an instructor — even a group of instructors — adopt a courseware product for their classes, there's no signed contract or memorandum of understanding. And except in scenarios where an instructor has laid out an alternative, students either have to check the box agreeing to the publisher's privacy notice and terms of service, or not take the class.

"You're basically compelling students as part of the curriculum to establish a data relationship with a third-party vendor" in which they have no leverage to negotiate better privacy protections, said Mark Williams, a partner with the law firm Fagen Friedman & Fulfrost LLP who specializes in tech procurement and student data privacy. "I've got a lot of problems with that approach."

While not all publisher privacy notices are created equal in their scope and detail, they typically offer only a small window into how these companies — and the often nebulous groups of "affiliates" they work with — collect, handle, and share data as students use their products. (Data-privacy advocates acknowledge that this practice is not unique to publishers.)

The language, as Williams put it, can be "pretty plain vanilla," and ambiguous. Take phrasing around personally identifiable information, often referred to as PII.

"We will … process your PII to meet our legitimate interests, for example to improve the quality of services and products," McGraw Hill's end-user privacy notice reads. Andy Bloom, chief privacy officer at McGraw Hill, clarified that processing means "anything that you can really do" with data, including collection, handling, storage, and use.

That's "a place where I need to change" the notice "to make it better," he said.

In Pearson's digital-learning-services privacy notice, too, its proffered definition of PII — "information personally identifiable to a particular User" — is striking in its brevity, given the [increasingly deft and unconventional strategies](#) tech companies use to identify individuals online, wrote Pegah Parsi, chief privacy officer at the University of California at San Diego, in an email.

Most new laws she's observed, in any sector, count PII as information that could be "reasonably associated with" individuals, too, as well as those in their households, she wrote.

Advocates also noted language in the notices that read like loopholes, or that appeared to omit critical details. A notable one involved the sale of PII. Pearson's notice says that the company "does not sell or rent User Personal Information collected or processed through the Services," while McGraw Hill's notice states, "We will not sell PII to other organizations."

You're basically compelling students as part of the curriculum to establish a data relationship with a third-party vendor.

Does "sell" refer only to monetary exchanges? Does that mean that data the publishers have deemed to be de-identified *can* be sold, without restriction?

A spokesperson for Pearson wrote that its privacy notice applies "the appropriate definitions for the jurisdictions in which our products are sold." It did not respond to *The Chronicle'*s questions about specific statements in the notice. Bloom, at McGraw Hill, said that exchanging data falls under the "sell" umbrella, and emphasized that the company "does not use end-user data for anything other than educational purposes."

Referring to Blaisdell's doubts around whether his sensitive information is being protected, a McGraw Hill spokesperson wrote in a statement that instructors using Connect "can choose a 'privacy option' on assignments such as these, which give students the ability to opt out of their responses being stored. They can also choose a 'responses saved' option so responses are saved in aggregate for the instructor." The spokesperson added that the company employs "sophisticated, cryptographic encryption" for data it stores.

Cengage has perhaps one of the more transparent [privacy notices](#); it details different categories of PII collected depending on the product or service, for example. *The Chronicle* was unable, however, to identify in the notice any restrictions Cengage has in place for other third parties who have access to students' PII through its products.

The Chronicle asked Cengage for clarification, but didn't receive a response. (The company is facing [a recent lawsuit](#) that, while not courseware related, claims the publisher's online videos send visitors' personal information and video-watching behavior to Google.)

One might think state and federal laws would offer clarity. Not necessarily.

To be sure, there *are* some consumer-privacy laws that extend into higher ed. Vendors have to comply with the international [General Data Protection Regulation (GDPR)](#) if serving a student who, while enrolled in a U.S. college, resides in the European Union, where privacy laws are stricter. A handful of

U.S. states also have active [comprehensive privacy laws](#), including California, which requires vendors to — among other things — publicly share categories of customer information they've sold or shared in the last 12 months.

Those laws, however, are not universal protections for all U.S. college-goers.

For the most part, state legislative agendas concerning data privacy often focus solely on elementary and secondary education. According to the nonprofit Data Quality Campaign, just two of the 15 state-level privacy bills it monitored during the 2022 legislative session included provisions that applied to postsecondary students and institutions.

Federal law has its own limitations. Ferpa was enacted in 1974, predating even the earliest versions of the internet. One of its [key purposes](#) is to regulate how third parties use student data as they perform services for an institution that receives federal aid. Traditionally — and especially in cases where a formal contract is involved — these third parties operate under the "school official" exception, allowing them access to students' PII and education records in the absence of direct consent from each student. This access comes with guardrails, including conditions for when PII can be disclosed to additional parties, and how to handle de-identified data.

But what if the institution isn't really involved? In many cases, individual instructors adopt and assign courseware to students without a formal approval process — not because they don't care about protecting students, Salo said, but because data privacy may just not be on their radars. Regardless, that approach raises questions about control: Once students set up an account with the publisher, is data subsequently provided still data that the university "maintains"? Who decides the ground rules, in the absence of a contract?

For Parsi, at UC-San Diego, there's the rub. Ed-tech vendors, like courseware providers, "are in a strange place where multiple laws apply, and not all of them very clearly," she said. "People just don't quite know, and I don't think it's about turning a blind eye to it. It just … doesn't come up."

That doesn't mean some vendors are flagrantly skirting federal law, noted Williams, the data-privacy lawyer. Rather, in the absence of clarity, some vendors may think they don't need to hold themselves to the "school official" exception. Rather, they may consider themselves as having met the ["consent" threshold](#) within Ferpa when a student checks the box of a click-through agreement. In that case, the law is significantly less clear on what guardrails apply.

Students in those scenarios "have the least amount of protections," he said. "College administrations need to get their head more into the game. … They need to be a more robust presence in arranging contracts with these vendors that protect students, and don't leave them to the murky provisions of Ferpa. That's how I look at it."

Bloom, at McGraw Hill, said contract or not, the company considers itself a "school official" under Ferpa (he referred *The Chronicle* to its [terms of service](#)). Even so, its read on one provision, in particular, made Williams pause, and highlighted how companies and individuals alike may be interpreting the law differently.

Asked how long McGraw Hill retains users' PII before deleting it, Bloom stated that, [under Ferpa](#), the company can never delete data without a student's or college's explicit request. When it comes to students' data, "the institution is the controller," Bloom said.

Williams fundamentally disagrees. "If the question is whether a vendor is required to delete data after its use is no longer required ... my answer is yes," he said. "You don't get to keep the data forever until someone tells you to get rid of it."

Pearson and Cengage did not respond to specific questions about how they define themselves under Ferpa. Pearson's privacy notice does say it complies with "applicable provisions" of Ferpa "as a school official." Cengage's notice refers to operating in ways "required" or "permitted" by law.

For the reasons above, it's easy for student-data collection and use to feel like a black box.

To look inside, *The Chronicle* gained access to two student accounts: one via Pearson MyLab, the other McGraw Hill Connect. The goal was to see what data was being shared with companies other than the publishers, and whether that reality aligned with what the publishers described in their privacy notices.

Using free [Chrome developer tools](#) in consultation with web-tracking experts, a *Chronicle* reporter analyzed changes to network activity as she navigated around the courseware products and performed actions a student might normally while taking a course. On one of the platforms, doing so appeared to confirm cases of data-sharing beyond what the publisher promised its users.

Every time the reporter logged in to Pearson MyLab and reached the course home page, web page details that included the user's first and last name, along with the name of the college where the user was enrolled, were sent to Google Analytics. Whenever she viewed the account details page, Google Analytics got the user's email address.

This contradicted Pearson's privacy notice, which says that web-analytics services like Google Analytics only "collect and report information on an anonymous basis." Pearson last year reported about 5.5 million units sold across three main courseware products, which includes MyLab.

The Chronicle also recorded other cases of data disclosure that could theoretically be used to help a company like Google build a unique user profile. For one, among the personally identifiable data sent to Google Analytics was a unique, eight-digit user ID that the reporter observed on a handful of different pages within MyLab. As the reporter interacted with the Pearson eBook, too, Google Analytics gleaned

the name of the book and chapter she was reading — even the blocks of text she highlighted, and the exact time that she did so.

An examination of background activity on pages a student was using revealed that personal information was sent to Google.

The MyLab course home page, as the student saw it (left), with the Chrome developer tool tracking network activity — specifically, the data being sent to Google Analytics — on the right. After bringing this disclosure of personal information to Pearson's attention, the company fixed the error. Students' names and institutions are no longer being shared.
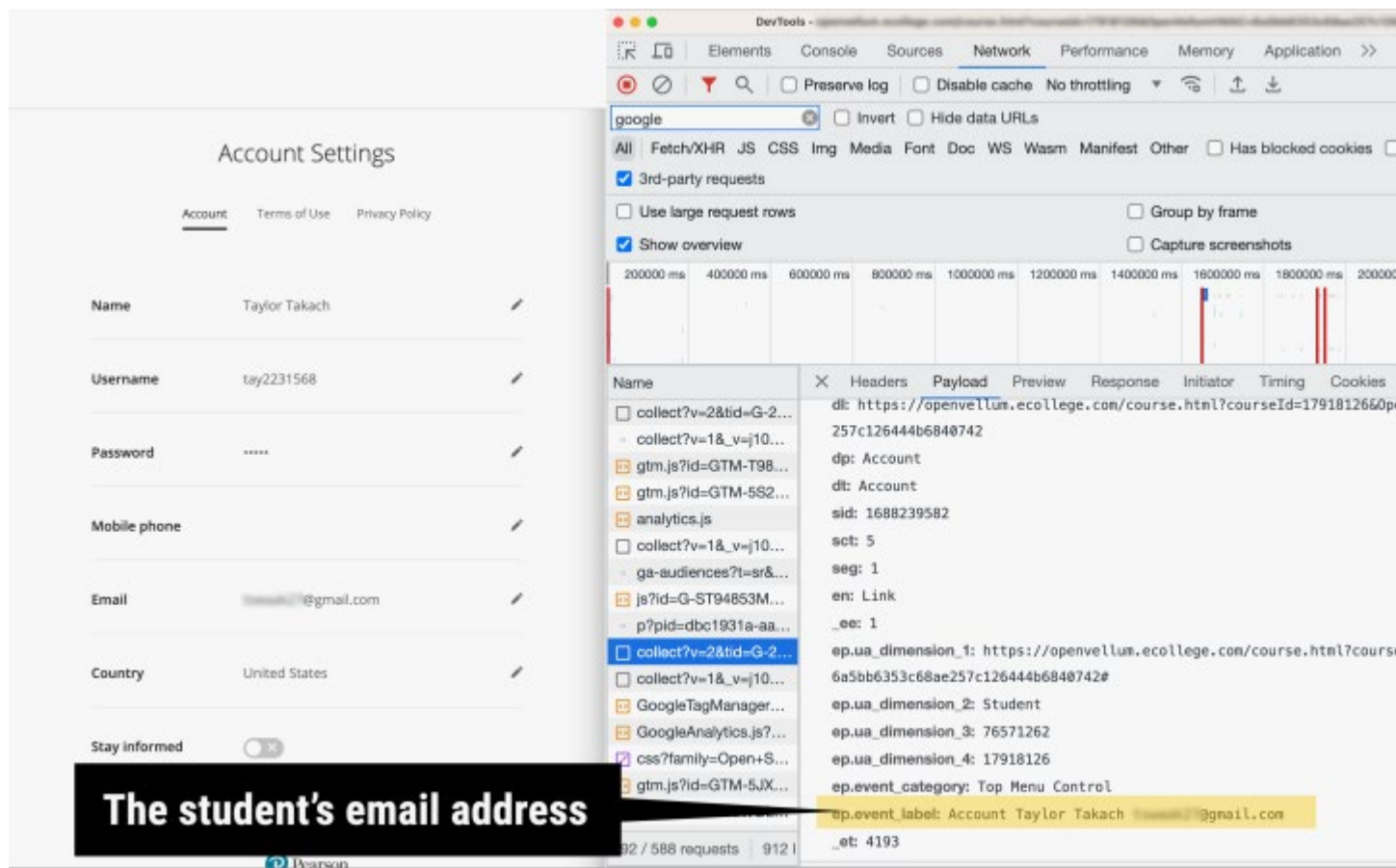
The MyLab account details page, as the student saw it (left), with the Chrome developer tool tracking network activity — specifically, the data being sent to Google Analytics — on the right. After bringing this disclosure of personal information to Pearson's attention, the company fixed the error. Students' emails are no longer being shared.
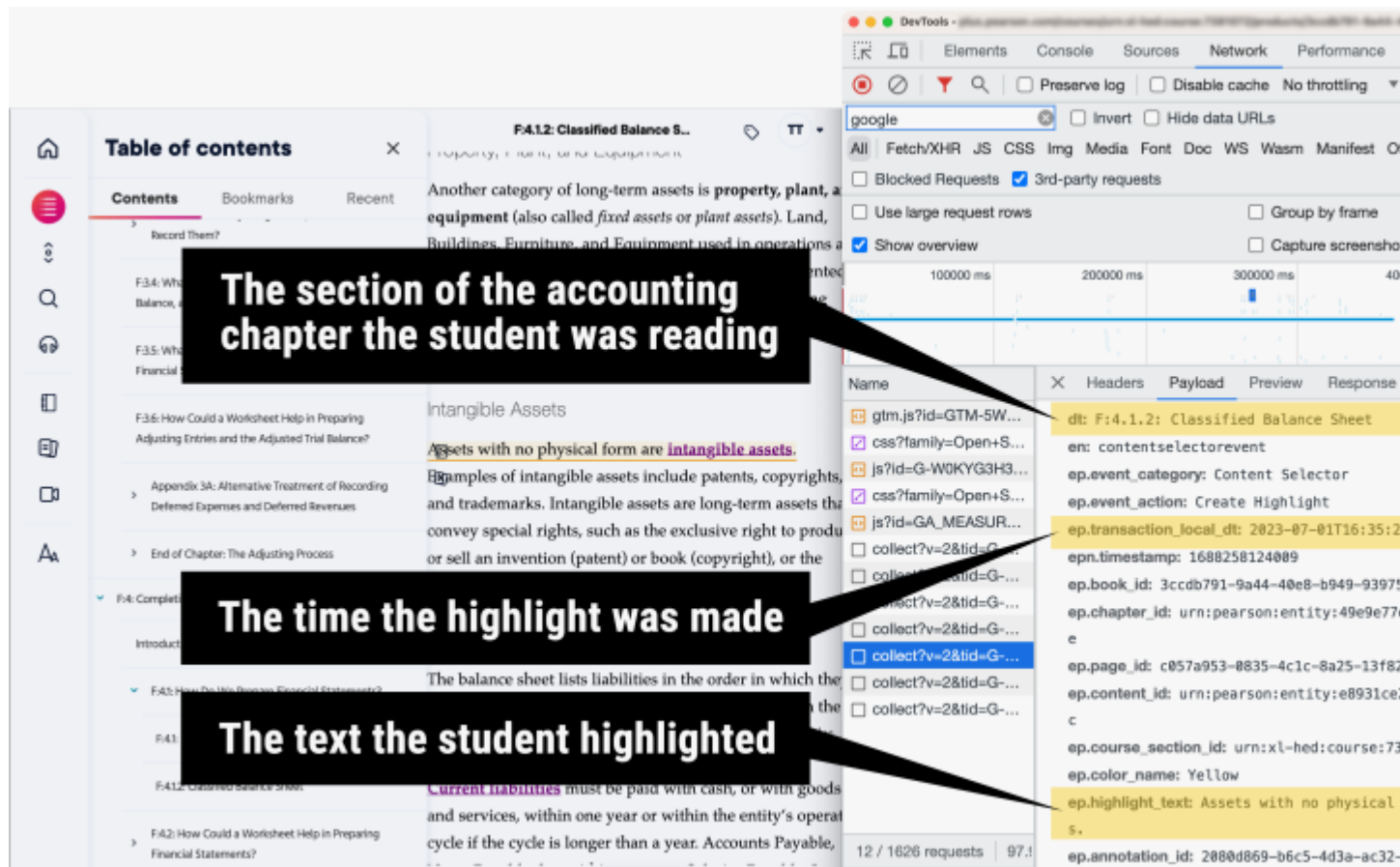
An ebook, accessed through MyLab, as the student saw it (left), with the Chrome developer tool tracking network activity — specifically, the data being sent to Google Analytics — on the right.

Source: Pearson and Chronicle reporting

Presented with these findings, a Pearson spokesperson replied in a statement: "Pearson uses a variety of tools provided by third parties, with privacy protections in place, for the purposes of improving and personalizing the product experience for students. In customizing our users' experiences within MyLab, we inadvertently captured certain personal information using Google Analytics tools, one of the third-party tools we use to help us build better user experiences. The information was collected for Pearson's purposes only, and we prohibit Google from using this information for their own purposes. The information collected was first and last name, email address, and institution name. We have deleted this information, and it is no longer captured."

A review of a Connect class yielded fewer questions. Visits to the homepage and the "Results" page, which tracks the student's grades, disclosed to Google Analytics the name of the upper-level course linked to the account, the course semester, and the specific course section the student was in. The reporter also noted, as with Pearson MyLab, the presence of an eight-digit user ID that popped up on some pages, including the eBook.

McGraw Hill's end-user privacy notice acknowledges that other third parties "collect information automatically from you" through their own tracking mechanisms. But there's a stated purpose: "To enable the functions of the digital learning system, as well as customize, maintain, and improve our digital learning systems." Asked how the information above met those standards, a spokesperson wrote in an email that the company uses Google Analytics as a "user behavior measurement system," and that being able to differentiate between a course and section "provides us with the information required to make specific product decisions for improving student outcomes," such as content or assessment updates.

The spokesperson added that the eight-digit user ID is "a custom generated value provided by McGraw Hill to Google Analytics" and "is not associated within any other data that would connect the information to other records."

In both McGraw Hill Connect and Pearson MyLab, *The Chronicle* found no evidence of students' grades, answers to assignments and assessments, or any unique written material, including messages sent to instructors, being shared with Google or any other third party. Still, privacy experts are wary. Priyanjana Bengani, a computational-journalism fellow at Columbia University's Tow Center for Digital Journalism who reviewed the reporter's analysis, said such findings underscore how murky the world of data privacy and web tracking is, and the need for both colleges and publishers to take it seriously.

"Even if it's not intentional," she said, "doesn't mean it's OK."

"People are pretty flippant about privacy these days," Bengani added. "I think it would behoove everyone to just be a little more careful about use of data."

Even with current systemic weaknesses, data-privacy measures aren't a lost cause, advocates say. There are things institutions — and individuals — can do.

Some institutions require faculty members to follow a process when adopting courseware for a class.

Sheri Prupis, director of teaching and learning technologies in the Virginia Community Colleges system office, said there's a systemwide "lock" in the learning-management system that prevents individual faculty members from integrating a new tool, including an unevaluated courseware product, without supervisor approval. In order for the lock to be lifted, and the tool integrated, the vendor must pass an industry-known [risk assessment](). The questionnaire asks, among other things, whether the vendor performs security assessments of the third-party companies that it shares data with, and for an explanation of why it shares institution data with each of those companies to begin with.

"As an administrator, it's not up to me to say what [faculty] use — *except* when it comes to background safety," Prupis said.

Meinke, at the University of Hawaii-Manoa, also pointed to his institution's creation of [an executive policy](#) in 2021 that details data-protection requirements for third-party vendors — even those operating without a university contract. The policy explicitly notes its applicability "to any formal or informal agreements made by faculty that require students to purchase products directly from Third Party Vendors."

While he hasn't observed the institution being particularly aggressive around compliance, Meinke said there are [resources online](#) to help faculty members comply. There's a Google form for instructors to submit tools to Information Technology Services for review, for example, and a spreadsheet that lists all of the third-party tools and platforms that ITS has reviewed previously.

Salo, at UW-Madison, doesn't fault already-overburdened faculty members for not being data-privacy mavens. Still, she encourages them to learn — and employ — some best practices where they can: Having an ad blocker installed on their browser to get in the habit of thinking about, and checking for, tracking activity. Always at least *skimming* companies' privacy notices, and asking clarifying questions. Finding, and leaning on, colleagues who specialize in data privacy and security.

"I would love to make myself obsolete as a higher-education data-privacy person," Salo said. "I hate having to worry. But I do have to worry."

How We Reported This Story

To perform this analysis, *The Chronicle* gained access to two student accounts: Pearson MyLab and McGraw Hill Connect. For the former, a *Chronicle* reporter enrolled in an introductory-accounting course that used Pearson MyLab Accounting, allowing her full — and live — access to the product. The selection of that particular courseware product was by chance; it was tied to one of the few courses the reporter could identify in a reasonable amount of time that met needed requirements, such as being open to single-course students, and being asynchronous.

For the latter, a recently graduated student offered *The Chronicle* access to his account for a spring 2023 class, which remained accessible at the time of reporting for this project. That did, however, mean that the reporter did not have access to all of its functions, including, for example, live exams.

The reporter began the analysis by running browser-extension tests — [Privacy Badger](#), [UltraBlock](#), and [DuckDuckGo](#) — to identify the presence of third-party domains known for tracking capabilities. Then, using Chrome developer tools, she monitored the network activity on different areas of the courseware, searching for those aforementioned domains. While Chrome is [known to be less vigilant](#) at blocking third-party tracking than other browsers, including Firefox and Safari, it is also the most popular one — which made its use seem appropriate.

The analysis focused solely on third-party activity; the publishers' own data collection and use was not explored. The work included consultation with three field experts, including a software developer, a Columbia University fellow, and a senior technologist with the Electronic Frontier Foundation, a nonprofit defending digital privacy.

Taylor Swaak is a staff reporter at *The Chronicle of Higher Education*, covering how innovations in technology are changing the student experience.

What's the best way to frame test questions?

Biology instructors write lots of test questions. But what's the best way to frame them? Should students solve problems that describe the actions of a real, named scientist? Or of a classmate? Or should the question describe the actions of the test-taker, using the second-person "you"?

A while back, Jeremy L. Hsu had a water-cooler conversation in his department that revealed his colleagues varied in how they framed their exam questions. There were arguments in favor of each approach, but there didn't seem to be much specific evidence to support them. So Hsu, an assistant professor of biology education at Chapman University, and some colleagues decided to test out their approaches.

A paper detailing their findings, "Investigating the Influence of Assessment Question Framing on Undergraduate Biology Student Preference and Affect," is published in the December issue of *CBE–Life Sciences Education*, already available online.

Hsu supposed that students might benefit from using the examples of a diverse set of real scientists. That would let students both encounter authentic instances of what they were learning and remind them that science is done by people of different genders and races. That last point, he thought, would fit in with the broader movement to create a more inclusive environment for students who have been marginalized.

Another model — using the first names of students' actual classmates in problems — connects to research on secondary-school classrooms showing that students respond to problems that are personalized around their interests.

The "you" framing, finally, suggests to students that they're the ones doing the science.

To test the approaches, the professors used one of the three formats for otherwise-identical test questions in each of three sections of the same biology course. They also surveyed students to learn about their sense of belonging and science identity (whether they feel like a scientist and part of the scientific community) and, at the end of the term, their views on how the test questions had been posed.

The researchers didn't find any difference in academic performance or students' sense of belonging or science identity based on which format of questions was used. But most students preferred the "you" format, explaining that it was the cleanest because it eliminated any extraneous information. And there were suggestions that it also helped students think about work they'd done in the lab and insert themselves into the problem.

Before the experiment, Hsu had favored using real scientists' names in part because "I thought students would find it cool and interesting" to tie their learning to authentic examples. But that was not how

students took it. Some said that seeing a scientist's name in the problem underscored the difference in status between themselves — still undergraduates — and the Ph.D.s doing the work described.

"It was the opposite of what we expected," Hsu said. Seeing those names didn't make students feel inspired or included. It made them feel intimidated.

The researchers are following up on their initial findings, analyzing student interviews and a second version of the experiment in which students in the same class encounter different question framing on different assessments. For now, they make three recommendations for instructors:

- Reduce cognitive load in assessment questions by removing unnecessary details.
- Consider students' preferences when writing assessment questions.
- Maintain consistency with how assessment questions are framed, and align in-class examples.

Based on what the team has found so far, Hsu says he is primarily using the "you" framing in his own teaching. But given the size of the sample — and the fact that this approach was not favored by a subset of students — there wasn't enough evidence to make a blanket recommendation.

Beth McMurtrie is a senior writer for The Chronicle of Higher Education, where she writes about the future of learning and technology's influence on teaching. In addition to her reported stories, she helps write the weekly Teaching newsletter about what works in and around the classroom.