

# The ACAO Digital Fellows Project

## **PROVOSTS AND DIGITAL LEARNING:** An Interim Report from the ACAO Digital Fellows Project

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Who has led the campus efforts to advance and support technology-enhanced pedagogy and instructional innovation at most colleges and universities: the provost/chief academic officer (CAO) or the chief information officer (CIO)?

Beginning with the arrival of personal computers in the early/mid-1980s, much (perhaps most) of the campus discussion about institutional leadership on technology and digital pedagogy has focused on (or involved) CIOs. The integration of IT into the curricular experience of undergraduates has often been viewed primarily as a technology challenge rather than pedagogical issue. And as a technology issue, the (perceived) pressing challenges were often about hardware, software, technical support services for students and faculty, an expanding (and increasingly expensive) institutional technology infrastructure, and the evolving campus technology strategy. Moreover, CIOs often lead because many CAOs (like many professors) deferred to technical experience and expertise of their CIOs and tech-savvy faculty colleagues. Too, save for the small number of institutions that launched student notebook initiatives, the pedagogical issues were more often about departmental preferences and strategies rather than institutional priorities.

Moreover, the actual (or inferred) leadership role of CIOs for various "technology-touched" instructional initiatives often extended into online education at many institutions. For example, data from the 2016 Campus Computing Survey reveal that online/distance education programs reported to CIOs at a fifth (19 percent) of the institutions participating in the annual survey. The fall 2016 survey numbers ranged from a high of 28.1 percent in private universities to a low of 11.1 percent in private, non-profit BA/MA institutions.

Yet in most academic enterprises, CIO responsibilities are operational, not academic and not programmatic. In other words CIOs typically are not responsible for academic programs and related academic initiatives.

Nonetheless, even as CIOs typically report to either CAOs or presidents, IT officers often emerged as the presumed institutional leaders (or catalysts or sponsors) of technology-driven instructional innovation at many institutions.

Yet academic programs and related operations – teaching, learning and scholarship – are traditionally the domain of provosts/CAOs. Indeed, scholars of higher education and campus culture view CAO engagement and leadership as essential for any major changes in academic strategy, institutional mission, or other related major initiatives. As noted in a 2015 Chronicle of Higher Education article titled The Path Change Runs Through the Provost's Office, "if a campus is going to pursue new priorities, fix systemic problems, or adopt innovation on a broad scale, a provost will most likely be directing the charge. To do that, the provost has to listen, inform, discuss, and persuade, engaging people from all corners of campus."

THE CHRONICLE OF HIGHER EDUCATION Chronicle of Higher Education • 8 Sept 2015

#### The Path to Change Runs Through the Provost's Office By Lee Gardn

When José L. Cruz became a prov a lot had to change. And that the change had to start



A self-described introvert more at home with a spreadheet full of numbers than a room full of people, Mr. Crux recognised that his new role, at California State University's Fullerton campus, required him to get out from behind his computer screen. If a campus is going to pursue new priorities, fix systemic problems, or adopt immovation on a bar dot date systemic problems, or adopt immovation on a bar dot date the provost has to listen, inform, discuss, and persuade, exerption exond from all corners of campus.

"A lot of the issues that could impact a president': And to the Issues that Could impact a president 5 ability to meet this or her ambitions or goals, Mr. Cruz says, "are dependent on the provost's ability to deliver." Provosts became a more common part of academic life in the decades after World War II. Booming enrollments

In the decades after World War II. Booming enrollments and expanding institutions hastened the appointment of chief academic officers to overse the bigger faculties an increased numbers of schools and programs. The provos was meant to be a dean for the other deans, the academi results "first among equals". Af fatt, provosts were most often found at elite institutions, but the position is now common at all types of colleges. Some colleges that have done without provosts for means means dealer when Villement to learbit.

Some colleges that have done without provests for years are now adding them. Villanova Unhersity announced this spring that the dean of its business school Patrick G. Maggetty, would become list first provost. The university had a vice president for academic affairs, but not all academic units were under the office; the law school, for example, reported directly to the president. Villanova needed a provolt. M. Wadgetti says, to help build up to graduate-education programs and faculty research colume — part of a large graduation school echanical get here and the school and the school and the school of need to pull together all the academic enterprises under one umbreliks, to look for opportunities to increase efficiencies, but also to be more effective in delivering academic initiatives."

Support for the leadership, operational, and strategic role of the provost/CAO in campus efforts to leverage and expand the use of digital pedagogy was the catalyst for the <u>Digital Fellows Project</u>, hosted by the Association of Chief Academic Officers (ACAO). Launched in 2017 with support from the Bill & Melinda Gates Foundation, the Digital Fellows (DF) Project was intended to foster and support the appropriate use of digital pedagogical resources in gateway courses. Central to this initiative has been the goal of enhancing the leadership role of the provost/CAO in the campus strategy for and implementation of digital pedagogy. The emphasis on gateway courses occurs as part of larger institutional efforts focused on student success – enhanced student learning and improved retention and graduation rates – particularly among low-income, first generation, and minority students.

Following the selection of 31 Digital Fellows in June 2017, workshops in summer and fall 2017, and the launch of campus pilot projects in winter 2018, it is now appropriate to ask (a) what do we know about CAOs and digital pedagogy, and (b) what have the 31 CAOs participating in the ACAO Digital Fellows Project learned about the challenges of deploying digital pedagogical resources to improve student learning and student success in gateway courses? What insights emerge about digital pedagogy, deployment strategies, faculty engagement, and scaling from the experiences of the 31 CAO Digital Fellows?

What follows here are the first data from the DF project about provosts, faculty, and digital pedagogy. This interim report from the Digital Fellows Project draws on two sources: (a) a national survey of CAOs and digital pedagogy conducted in fall 2017, and (b) the interim (year one) reports from the 31 CAOs selected as Digital Fellows about the gateway course initiatives at their institutions and the challenges and benefits of "going digital."

## Provosts, Pedagogy and Digital Learning: The Fall 2017 ACAO Survey

As part of the Digital Fellows Project, ACAO launched a national survey of CAOs, focused on digital pedagogy and provost/CAO engagement in the development of curricular and related strategies intended to promote the effective use of digital pedagogies in undergraduate education. The fall 2017 survey population targeted some 2,100 CAOs at public and private, non-profit college and universities that enrolled more than 1,000 students; 359 CAOs participated in the survey. (Private, non-profit two-year colleges were not included in the survey population.) The full results of the fall 2017 *Provosts, Pedagogy, and Digital Learning Survey* are available here.



The fall 2017 survey data reveal that CAO's top IT priorities clearly focus on instruction, tech

training and support for faculty, and leveraging IT for student success. But interestingly, the CAO focus on instruction seems more generalized (or generic) than targeted: almost fourth-fifths (79 percent) of the survey participants identified "the instructional integration of information technology" as a top institutional priority. However, smaller numbers endorsed more specific "going digital" strategies: just over half (52 percent) said a top IT priority was "using digital curricular resources in undergraduate courses" and than just under half (47 percent) identified "leveraging IT in gateway courses." The gap (about 25-30 percentage points) between the general support for "the instructional integration of IT" and more specific implementation strategies (digital curricular resources and a focus on gateway courses) may



## **CAO Perspectives on Campus IT Priorities**

reflect less direct knowledge about the specific digital pedagogical strategies, options, and interventions on the part of many CAOs.

That "leveraging IT for student success" (69 percent) ranks highly (third) among CAOs is not surprising. The IT initiatives linked to student success initiatives cover a range of academic, support service, and analytical activities and services, almost all of which are typically part of the academic and operational domain of CAOs.

The fall 2017 survey also revealed that CAOs at the nation's two- and four-year colleges and universities are very optimistic about the potential of digital learning resources to enhance and transform the learning experience of under-graduates. CAOs overwhelmingly affirm that

## CAOs are Optimistic About the Potential Benefits of Digital Resources in Instruction

55% agree	31% strongly agree		
Digital curricular resources make learning more efficient and effective for students.			
44% agree	30% strongly agree		
Digital curricular resources provide a richer and more personalized learning experience than traditional print materials.			
50% agree	42% strongly agree		
Adaptive learning technology has great potential to improve learning outcomes for students.			
40% agree	47% strongly agree		
I would like our faculty to make greater use of adaptive learning technologies and related curricular resources in our entry level / gateway courses.			

"digital learning resources make learning more efficient and effective for students" (86 percent agree/strongly agree) and that "adaptive learning technology has great potential to improve learning outcomes for students" (92 percent agree/strongly agree). Almost 90 percent would like to see their faculty make greater use of adaptive learning technologies in entry level and gateway courses.

However, CAOs are far less far effusive about the benefits of technology when asked to assess the effective-ness of current campus investments in IT resources and the general campus satisfaction with key IT applications and services. The highest rated resources and services are the campus investments in library systems, online education, on-campus teaching, and academic support services, and faculty support services.

In contrast are the four "investments" that get the lowest ratings from CAOs for being "very effective:" administrative information systems, students resources on the campus web site/portal, IT resources and support for students, and data analytics. Admittedly, the gap is not large between the higher rated items, and the survey means and medians on these items higher and lower rated



## CAO Assessments of the Effectiveness of Campus IT Investments

items may be close. Too, the disbursement (rankings 1-7) may suggest that CAOs view all these items as "ok or adequate," but not exceptional. Still, the four lowest rated items are key *infrastructure* resources for administrators (administrative systems and analytics) and for students (online resources and IT support services).

It is important to place these data in a broader context. Across all sectors of higher education and regardless of their home disciplines, today's CAOs have come of age personally, professionally, and professorially with the technologies that are now ubiquitous in the consumer market and on campus. In aggregate, the survey data presented above and in the <u>2017 survey report</u> suggest that CAOs have great faith in the power of information technology and digital course resources to transform the student learning experience. At the same time, the survey highlights important questions about how CAOs assess, to date, the effectiveness of campus investments in IT for instruction and operations, and also the current campus level of satisfaction with key IT resources and services.

## The ACAO Digital Fellows Project: Provosts and Digital Pedagogy

With generous support from the Bill & Melinda Gates Foundation, the <u>ACAO Digital Fellows Program</u> launched in January 2017. The 31 CAO Fellows were selected from a national competition in June 2017.

The first year of the Fellowship Program was marked by workshops in summer and fall 2017, and the launch of campus pilot projects in winter 2018. Across the 31 participating institutions, the DF project was the catalyst for the mid-academic year launch of 84 new or significantly modified gateway courses. These mid-year course initiatives involved 103 faculty and some 7,500 students. Many of the new or revised gateway courses launched at the participating DF institutions involved an initial campus deployment of adaptive learning technologies. (Mid-year launches of new or redesigned courses are, understandably, both challenging and significant!)

ACAO Digital Fellows Program acao.org/digitalfellows		
Focus on the potential benefits of digital pedagogy (and esp. adaptive learning technologies) on student performance in gateway courses. • CAO leadership • Faculty engagement • Evidence of impact • Scaling at and beyond 31 project campuses	<ul> <li>Ashford University</li> <li>Athens State University</li> <li>Austin Community College</li> <li>Bunker Hill Com. College</li> <li>Clark Atlanta University</li> <li>Colorado Technical Univ.</li> <li>Davidson County Comm. College</li> <li>Gallaudet University</li> <li>Georgia Highlands Univ.</li> <li>El Segundo College</li> <li>Hofstra University</li> <li>Indiana U-Purdue U- Indianapolis.</li> <li>Laredo Community College</li> <li>North Dakota State Univ.</li> </ul>	Nova Southeastern University     Potomac State College     Richard Bland College     Saint Martin's University     Seattle Central College     Shippensburg University     Texas A & M, Kingsville     University of Alaska Southeast     University of Alaska Southeast     University of Nane     University of Nevada, Las     Vegas     Univ of North Carolina,     Charlotte     University of Pikeville     Winona State University     Zane State University

Six months after the launch of the campus projects (and ahead of a July 2018 project workshop), the 31 CAOs/Digital Fellows were asked to report what they had learned about "digital learning" and the opportunities, challenges, and potential benefits of deploying digital pedagogical resources to improve student learning, student retention, and student success in gateway courses. As part of on-going project evaluation activities, the fellowship participants were asked to share what insights emerged from their "year one" experience in the DF program about digital pedagogy, deployment strategies, faculty engagement, and scaling digital initiatives.

Specifically, the CAOs were asked to think about their individual and institutional experience over the past year (June 2017-2018), and to identify their "top five findings" about the "going digital" initiatives at their institutions and the overall Digital Fellows experience. Perhaps not surprisingly, many of the issues the 31

DFs cite among their "top five findings" about the institutional and personal experiences align with the CAO priorities identified the fall 2017 ACAO Survey of CAOs.

The summary data from the open responses of the 31 CAO Digital Fellows reveal that the leading "finding" among the top five issues focused on faculty issues, including faculty buy in, engagement, collaboration, cooperation, training, and also recognition and reward, were cited by almost al the program participants. Analytics/ Evaluation/ Outcomes emerged as a distant second, followed by a "near tie" for third among leadership, collaboration, courseware, and scaling. The narrative that follows focuses the CAO comments and experience in the DF program.



#### The Focus on Faculty

For a project intended to promote the use of digital pedagogies, the focus on faculty, rather an emphasis on courseware, might seem surprising. Following the arrival of the first IBM-PCs and Macs on college campuses

in the mid-1980s and the continuing campus quest to integrate technology into instruction, much of planning and policy conversation about "going digital" and the making greater (or better) use of technology resources in the postsecondary curriculum has focused on the technology resources and tools.

Yet the CAO comments in their Year One reports affirm the central role of faculty engagement and support as essential to the effective deployment of digital pedagogy and, by extension, the effective (and often long-overdue) curricular redesign of critical undergraduate gateway courses. The CAO comments below, taken verbatim from their individual campus reports, highlight the importance of faculty issues.

- The use of digital technology needs to be faculty driven. The faculty members need to want to use the project and to improve student success. They need to be invested in the project and to be successful on a large scale, it needs to be a department decision.
- Digital pedagogy is a foundational part of education that needs to be built into all faculty development programs from new to seasoned faculty representing all disciplines.
- Our faculty have told us they more robust training on the courseware itself as well as adequate time to integrate digital adaptive courseware into their gateway courses. They report that some of the challenges they have encountered include balancing the use of digital adaptive courseware with in-class activities and adaptive the course for different rates of student mastery.
- There is a significant [and surprising] amount of untapped interest among faculty in engaging with Digital Pedagogy, both in terms of course redesign and in using analytics to better understand student behavior as it affects retention and graduation.
- It's critical to cultivate a trusting relationship with a faculty champion (or champions) who have sufficient power within the school/department to lead change.
- Faculty are generally isolated from pedagogically sound digital courseware products and developments. Their primary exposure to digital courseware is often through vendor advertisements and salespeople.
- Designing and developing innovative course material that shifts from the customary delivery of instruction can occur successfully when faculty are supported through instructional design personnel, professional development credit, monetary incentives, administrative involvement, and when the penalty for failure is removed.
- Do not short-change faculty development and support services. Faculty may be disciplinary subject matter experts, but they need the assistance of instructional designers, media developers, and other digital learning professionals to realize the best possible outcomes for their technology-enabled course redesigns.

These comments cover a wide range of critical faculty issues: faculty raining and continuing support, uncertainty about and untapped interest in digital pedagogies; the role and importance of faculty champions; and the relationship between faculty and instructional design personnel and campus TLT centers.

These comments also suggest that the ACAO Digital Fellows, drawing on their recent individual and institutional Fellowship experiences, are now prepared to engage with their CAO colleagues at other institutions about the primacy of faculty engagement and involvement in institutional efforts to leverage the potential benefits of appropriate digital pedagogies in gateway courses.

### Analytics, Evaluation and Outcomes

Questions about analytics and evaluation are particularly important in discussions about curricular innovation and reform. Too often curricular choices and decisions about supporting pedagogical and technology resources are influenced by opinion, enthusiasm, advocacy, and epiphany, rather than any empirical evidence of impact and outcomes. Consequently the "does it really work" question (and, by extension, "could it work here with our students?") remains a critical issue in the continuing campus conversations about the instructional integration of information technology and the deployment of digital pedagogies in gateway (and other) courses.

CAO comments (below) reflect their concerns about data and analytics. What in theory should be a somewhat direct and linear task – developing a research design for a classroom intervention, agreeing on and collecting appropriate data, and then analyzing the data – is often surprisingly complex. And it may also be a bureaucratic challenge or subject to campus politics (and personalities). Moreover, evaluation efforts often

take longer than anticipated, meaning that reliable data and the necessary evaluation narrative are not presented in a timely manner, which can impede future planning, decision-making, and deployment efforts.

As with their comments about faculty issues, the CAO comments below are both informative and compelling, but perhaps not surprising:

- Assessment and data analysis take longer than anticipated. I had hoped to have hard data by now, but that will probably not be available from IR for another week or two.
- We were surprised at how time-consuming it is to track the progress and outcomes with high resolution for each student as part of the data analysis.

A second data/outcomes assessment challenge is often the absence of "hard evidence" about specific applications and interventions. We know that faculty act out of enlightened self-interest: faculty want (need!) a compelling reason to change current practices, and not surprisingly, may request "real research" documenting the impact of a proposed pedagogical application or intervention. Although the research literature on adaptive applications, in particular, is growing, adaptive technologies are still, in many ways, early (and often immature) technologies. No surprise then that some faculty may be suspicious about the quality of the campus reports or published research endorsing adaptive and other tech-based pedagogical innovations, especially as so much of the technology (and some of the research literature) comes from commercial providers rather than campus colleagues, faculty researchers, and institutional research organizations:

• While there are good arguments based on learning theory for the use of adaptive tools, at present there is insufficient rigorous data on the effective use of specific adaptive tools to be convincing to faculty in many areas to invest the time and energy needed to make a change in their pedagogy.

But "rigorous" data alone may not be sufficient. For many wavering or ambivalent faculty, presenting data that document the effectiveness of digital pedagogies may need to be part of a larger, compelling, "data driven, first person" narrative from one or more colleagues. One CAO cited a specific experience with one of her faculty colleagues involved in a course design initiative:

• Data are important, but old ideas die hard. The reluctant faculty member is often convinced, despite national research and data, that his approach to teaching introductory math courses is state of the art and is the best we can do. I think I should have approached him with both data and stories, rather than just data.

These last two comments highlight the role of data, as resource, that can inform and foster best (or better) practices. And based on the comments above, CAOs acknowledge that they need compelling narratives that draw on data, credible research, and (often) the experience of peers, as necessary catalysts for change.

#### Leadership and Culture

James G. Ptaszynski, formerly a senior fellow at the Gates Foundation (and now the vice president for digital leaning for the University of North Carolina System) reports that the 2015 Chronicle of Higher Education article titled <u>"The Path Change Runs Thorough the Provost's Office"</u> was one of several catalysts for the development of the Digital Fellows Program. As noted above, "if a campus is going to pursue new priorities, fix systemic problems, or adopt innovation on a broad scale, a provost will most likely be directing the charge. To do that, the provost has to listen, inform, discuss, and persuade, engaging people from all corners of campus."

Given the Gates Foundation's interest and investment in the effective deployment of digital pedagogies to improve student learning and student success, it is not surprising that the 2015 *Chronicle* article was instrumental in the development of the Digital Fellows initiative. Whereas the Foundation's other postsecondary digital initiatives often have had a more programmatic orientation, the Digital Fellows project was designed to explore and support the role and impact of campus leadership – provosts and chief academic officers – in advancing the appropriate use of digital pedagogies in gateway courses.

So, then, what did the CAOs learn during the Year One of the Digital Fellows Project about the role of leadership in fostering curricular innovation and the appropriate deployment of digital pedagogies in gateway courses? The CAO comments clearly articulate the essential role of academic leadership:

- Leadership at the top makes a difference. When the leadership of an institution generates a shared creative vision that is realized through the sustained integration of planning, resourcing, and assessing, innovation in digital learning can take place on a significant scale. This take away was perhaps best illustrated during our visit to EdPlus at Arizona State University. Clearly, the people in top leadership, with President Michael Crow at the apex, are indispensable to systematic and sustained change of significant magnitude.
- We find that while there are faculty who are anxious and excited about the exploration and integration of technology, large-scale, high-impact implementations require the buy-in of faculty leadership at the department chair or dean level, to fully deploy. We need to find better ways of not only having their support of innovative faculty, but also for them to build knowledge and skills in this area.
- To effectuate change, there is a need to establish publicly an intended goal and incorporate into the overall university outcomes or compelling priorities as a strategic goal to be supported by effort, intent, resources and the willingness to expand beyond a comfort zone. Never, never assume that faculty will never buy into the intended goal. It should not be presented as a top down initiative's, allow faculty to own the project and that as such is part of the responsibilities they must expand their scholarship of teaching and learning.
- Creating an environment in which faculty and staff are encouraged to take calculated risks to support student learning also creates a culture of innovation and improvement, where faculty can experiment with new approaches without fear of reprisal if attempts do not yield favorable results.
- A key question for the leadership about robust support for the advancement of digital learning and pedagogies involves not only the faculty but also all who play satellite roles in such advancement. If an institution does not, for example, provide the services and support of a Center for Faculty Excellence in Teaching and Learning, then the institution's leadership must surely examine its own conscience on the subject of sufficient support for faculty development.
- Incorporating the DF project into a larger campus wide movement yields higher buy in. Our Digital Innovation Movement that brought together the whole university campus versus only academic departments. The movement transcended divisions to create a culture of innovation that capitalized on the digital technology that was already in place, but in smaller clusters around campus. By unifying the message, the university was able to collectively move a digital agenda forward.
- You must make a long-term commitment. Weather the early failures, commit the resources necessary, including funding, and stay the course.

Conversations with the 31 ACAO Digital Fellows following the launch of campus projects in winter 2018, plus the comments in their Year One reports, make it clear that the CAOs involved in the DF Program have both a new understanding about the power and potential of digital pedagogical resources in gateway courses, and a firm resolve to "stay the course" to advance the appropriate use of digital pedagogical resources.

#### Courseware

For many of the CAOs and faculty involved in the Digital Fellows Project, courseware – and specifically adaptive learning platforms – were a "journey of discovery." Some faculty and institutions had prior experience with various subject-specific instructional resources that were either developed on campus (or at another institution) or developed and promoted by commercial providers, including textbook publishers.

The courseware experience fostered excitement, and also anger and angst. No one application was "perfect." Some interesting applications were, at best an "80 percent solution" for various campus pilot projects. Moreover, as one CAO noted, "in order to implement courseware [effectively], course redesign is necessary; for some faculty this was a challenge." In other words, tinkering at the margins with a supplemental digital application or platform may be a deployment strategy that is doomed to fail – or at least fall far short of expectations. The nature and potential of the emerging digital platforms and resources implicitly require a larger effort at course redesign, rather than just minor or supplemental "retooling."

Many of the DF campuses experienced anywhere from modest to significant success with their pilot projects as measured by course retention, reduced in DFWIs, and other metrics. Yet in conversation and in comments on their Year One reports, the CAOs (often echoing their faculty), expressed clear concerns about impact, productivity, costs, and accessibility, as noted below:

- Some faculty new to the digital teaching environment are not fully aware of the impact, positive or negative, that digital learning tools can have on students.
- Stacking digital courseware costs onto existing courses increases cost per credit hour. The most desired courseware were products that were tailored to specific disciplines and course levels. Even for courseware that could be adopted across many academic levels and disciplines, the courseware added costs onto the course's existing instructional cost structure. These increases were sometimes added as lab fees or as textbook costs.
- A challenge to scaling adaptive learning to support an access and completion mission is the pricing model used by publishers and vendors. They all continue to demand a "price per student" as if the service they provide had the same production costs as paper textbook publishing. That continues to place the cost of adoption on the students and presents restrictions on how flexible our offerings can be. With adaptive learning software, we could have more flexible academic terms.
- Most of the digital courseware my faculty and I identified did not scale to increase faculty productivity. That is, they did not increase the number of students taught per faculty per course, or reduce the cost per credit hour of instruction. While we beleive that much of the courseware improved learning and facilitated greater student success, we did not see greater faculty/student productivity increases. Using digital courseware added cost to someone's budget without reducing cost per credit hour of instruction.
- Accessibility vetting must be done far in advance for software selection. One of the main obstacles that was
  encountered in content innovation was the procurement of software. The primary reason behind that delay was the
  need for a Volunteer Product Accessibility Template (VPATs). VPATs are critical as we strive to introduce a universal
  design for learning strategy in any digital pedagogies employed. The process however, is a lengthy one as it pushes
  vendors to sometimes make extreme modifications to their products when they are not able to.

### The Macro Issue: So What is Digital Learning?

Despite the explicit project focus on digital learning and pedagogical resources, some members of the DF group express continued to express uncertainty about the multiple meanings and multiple dimensions of *digital learning:* 

• Does anyone know what Digital Learning really means? Perhaps the biggest "aha" resulting from this experience is the recognition that there continues to be little clarity in what is understood when educators, both faculty and administrators, discuss digital learning.

The official definitions for (or explanations of) digital learning and digital learning often appear laden with jargon and may seem far removed from the real instructional experiences and classroom concerns of faculty and academic leaders. For some, the attempt to incorporate official (or referenced) definitions about "digital

learning" into policy papers and campus plans served as a reminder of Supreme Court Justice Potter Stewart's widely cited 1964 comment about of pornography: I can't define it, but I know it when I see it.

At one level, many of us can identify resources and experiences that seem to define digital learning. For example, the campus LMS is not an example of digital learning; rather, it is an application or platform for organizing course resources. In contrast, a scientific simulation or adaptive learning tutorial probably would quality as a digital learning experience.

### What Is Digital Courseware?

Digital courseware is a solution with the potential to support student-centered learning at scale in postsecondary education. While millions of students use digital courseware today in their college courses, significant opportunity remains for effective digital courseware use to support new teaching and learning strategies, improve course accessibility, and drive improvements in learning outcomes for postsecondary students. Courseware in Context

Digital courseware is instructional content that is scoped and sequenced to support delivery of an entire course through purposebuilt software. It includes assessment to inform personalization of instruction and is equipped for adoption across a range of institutional types and learning environments. Online Learning

Consortium

I cannot define it, but I know it when I see it.



Justice Potter Stewart Jacobellis v. Ohio (1964)

But these are just parts – in some ways only small components – of a much larger *gestalt* in which the whole learning experience should be more than just the sum of the (digital and other) parts. One CAO clearly articulated the critical importance of the what we might call the *digital learning gestalt*:

• The most significant learning experience for me has been the development of a more sophisticated understanding of what "digital learning" and "courseware" mean. More than simply providing me an expanded vocabulary, the experience has helped me to understand that sophisticated use of digital pedagogy is not using digital tools to mimic traditional classroom instruction. Sophisticated use involves changing the way students learn inside and outside of the classroom. Digital tools including can foster deeper levels of learning. They can facilitate the individualization of instruction even in large section classes and provide opportunities to intervene earlier and more effectively with students who are struggling.

#### **Project Outcomes – A Preliminary Accounting**

What then were the identifiable outcomes of Year One of the Digital Fellows Project? A compressed list of Year One Year achievements following the selection of the Fellowship recipients (in June 2017) and seven months after the (mid-academic calendar year) launch of 31 campus pilot projects is, in itself, impressive: 84 courses involving 103 faculty and some 7500 students at 31 institutions. The preliminary campus evaluation data suggest that many of these pilot projects saw gains on various traditional metrics for student learning and outcomes: higher course completion rates, lower DFWI numbers, etc. But these course numbers provide only a top-level overview of short-term impact and benefits.

A second set of metrics might focus on the financial ROI for this initiative. At many of the participating institutions, modest campus grants (\$6,000) to support mid-year pilot projects that launched in January 2018 were a catalyst for significant additional investments of personnel and financial resources. A preliminary estimate in summer 2018 suggests that that the Digital Fellows project generated an additional \$8.1 million in new institutional commitments to support course redesign and campus investments in digital learning across the 31 DF campuses.

Scaling represents a third set of metrics for the DF initiative. All 31 institutions participating in the Digital Fellows Project have clear plans to expand their digital pedagogy pilot projects to more courses and additional departments. The success of the initial pilots has generated interest among other faculty, and led CAOs and department chairs to commit money and personnel to support course redesign and deploy various digital pedagogical applications.

And for the 31 CAO fellowship program participants, one year into the Digital Fellowship experience clearly resulted in:

- a broader, deeper, and more sophisticated understanding about the potential benefits and the potential challenges involved with digital pedagogical resources;
- a new (or renewed) appreciation and deeper understanding for the critical role of faculty in course and curricular redesign intended to foster student success; and
- a new (or renewed) appreciation for the critical role of the provost/CAO in supporting curricular innovation. CAOs report their (often new or renewed) willingness to "stand up and stand with faculty" who were interested in curricular innovation and digital pedagogies was a critical signaling mechanism to deans, department chairs, to faculty, and other senior campus officials.

The DF Program's final report (scheduled for release in fall 2019) will provide additional campus data, project metrics, and a project narrative documenting the impact of the institutional pilot projects and the overall impact of Digital Fellows Program. But even with the benefit of additional data from the final campus and project report, it still may too early to assess the DF Program's longer-term impact and benefits on the students, faculty, institutions, and CAOs participating in this initiative. The long-term impact DF Program, lance din January 2017, may be more readily apparent in three-five years (by 2020-2022).