In the following report, Hanover Research provides an overview of the digital course material landscape and information on digital course material vendors, highlighting their features and services as well as challenges and success factors for implementation.
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive Summary</td>
<td>.................................................................................................................</td>
<td>3</td>
</tr>
<tr>
<td>Key Findings</td>
<td>..................................................................................................................</td>
<td>3</td>
</tr>
<tr>
<td>Section I: Overview of Digital Course Material Providers</td>
<td>..............................................................................................................</td>
<td>5</td>
</tr>
<tr>
<td>Comparison of DCM Providers</td>
<td>................................................................................................................</td>
<td>5</td>
</tr>
<tr>
<td>Notable Characteristics of DCM Providers</td>
<td>.............................................................................................................</td>
<td>7</td>
</tr>
<tr>
<td>Ambassador</td>
<td>...............................................................................................................</td>
<td>7</td>
</tr>
<tr>
<td>Courseload</td>
<td>...............................................................................................................</td>
<td>7</td>
</tr>
<tr>
<td>CourseSmart</td>
<td>.............................................................................................................</td>
<td>7</td>
</tr>
<tr>
<td>Follett</td>
<td>..................................................................................................................</td>
<td>8</td>
</tr>
<tr>
<td>McGraw-Hill Connect</td>
<td>...........................................................................................................</td>
<td>8</td>
</tr>
<tr>
<td>Pearson</td>
<td>..................................................................................................................</td>
<td>8</td>
</tr>
<tr>
<td>Yuzu</td>
<td>....................................................................................................................</td>
<td>8</td>
</tr>
<tr>
<td>Section II: Institutional Profiles</td>
<td>................................................................................................................</td>
<td>10</td>
</tr>
<tr>
<td>Boise State University, Idaho</td>
<td>........................................................................................................</td>
<td>10</td>
</tr>
<tr>
<td>Clemson University</td>
<td>...........................................................................................................</td>
<td>15</td>
</tr>
<tr>
<td>Temple College</td>
<td>...............................................................................................................</td>
<td>19</td>
</tr>
<tr>
<td>Berkeley College, New Jersey/New York</td>
<td>......................................................................................................</td>
<td>22</td>
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<tr>
<td>Indiana University</td>
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<td>23</td>
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</tbody>
</table>
EXECUTIVE SUMMARY

In the following report, Hanover Research provides an overview of prominent digital course material vendors and services, identifying their distinguishing characteristics and drawbacks. The second section of this report profiles the experiences of five institutions that have implemented digital course materials, three of which Hanover Research interviewed for this report.

KEY FINDINGS

- **Institutions typically integrate digital course material platforms within their learning management system (LMS), such as Blackboard or Canvas.** Learning management systems allow professors to link students directly to digital course materials from their syllabus or course calendar, thereby enabling students to quickly access and engage with digital materials. Many digital course material systems are compatible with major LMS providers, allowing integration of their content within the LMS platform. While this ostensibly leads to efficiencies and convenience, the institutions profiled in this report often experienced difficulty smoothly integrating digital course material platforms into their existing LMS systems.

- **Most digital course material providers have partnerships with multiple publishers, which sometimes can be modified or negotiated to fit the needs of institutions.** These providers give instructors flexibility in their choice of texts, although digital texts frequently command higher rates when purchased without supplemental, bundled content. In some cases, institutions have been able to negotiate lower prices directly with publishers, particularly when the institutions can guarantee a baseline amount of campus sales of digital course materials.

- **Several research studies and institutional surveys have indicated that current college students often prefer hardcopy books to digital texts.** While other digital course materials — such as podcasts, videos, or interactive learning environments— have distinct advantages over paper, several profiled institutions found during the piloting stage that many students still strongly prefer traditional textbooks. While this trend may shift for coming generations, research has suggested that current college students are accustomed to the traditional modes of study that they grew up with.

- **Besides familiarity with hardcopy textbooks, a number of other factors influence students’ preference for traditional media.** Institutions that have implemented digital course materials have found that in contrast to their initial expectations, student perceptions of the price difference between digital and hardcopies is often not significant enough to compensate for the opportunity costs associated with buying a digital text. Specifically, these costs include: limited or capped accessibility to digital texts; the inability to trade or sell digital texts at the end of a course; and the inconvenience of reading on a laptop or desktop. Furthermore, while some
vendors recently began supporting mobile device access, many do not offer this capability. However, students tend to prefer reading digital texts on phones, tablets, and e-readers over laptops and desktops.

- **Institutions interviewed for this report had mixed or negative experiences with Pearson’s services in particular.** Contacts indicated that Pearson MyLab and other bundled services do not work as well as demonstrated. Specifically, interviewees independently corroborated that Pearson’s software runs slowly in classroom settings, particularly when entire classes attempt to access e-texts. Additionally, Pearson tends to oversell bundled digital material packages and its aim to provide a wider range of supplemental offerings, such as pre-designed assessments, has come at the expense of the quality of these materials.
SECTION I: OVERVIEW OF DIGITAL COURSE MATERIAL PROVIDERS

For more than a decade, publishers have been actively developing and improving their digital course materials (DCMs). However, many institutions only began to integrate DCMs in the classroom since the launch of Apple’s iPad in 2010. The iPad, which broadly popularized tablet computers, changed public perception of the possibility and desirability of e-texts.

Nevertheless, some research has shown that many millennials still prefer the ink-and-paper reading experience to digital, despite the fact that millennials often choose digital for their other media purchases and uses. A 2013 study about UK students between ages 16 and 24, for example, revealed that a preference for paper persists, particularly for books. In fact, the study found that “62% prefer physical books,” while a significant portion, 45 percent, are unable to read e-books because they do not currently own the necessary device(s).

The following section provides a comparison of prominent DCM providers with a brief overview of each provider.

COMPARISON OF DCM PROVIDERS

There are a large number of providers that offer and manage access to digital course materials. The majority of these providers focus on digitized copies of textbooks, which often include digital-only content, such as audio or video supplements, web extensions of in-class learning, text-specific assessments, slide decks, and other materials. Providers of these materials include — but are not limited to — the following:

- Ambassador
- Courseload
- CourseSmart (recently acquired by Vital Source)
- Follett

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3. Unless otherwise specified, “e-Text” in this report refers to a range of digital education products, including digital textbooks, supplementary videos, reinforcement websites, and other related technologies.
5. Ibid.
- McGraw-Hill Connect\(^\text{10}\)
- Pearson\(^\text{11}\)
- Yuzu (previously Barnes & Noble’s NOOK Study)\(^\text{12}\)

Hanover Research summarizes the various features and offerings of each provider in the tables below.

**Figure 1.1: Features and Data Services by Provider**

<table>
<thead>
<tr>
<th>PROVIDER</th>
<th>WEB READING PLATFORM</th>
<th>ANNOTATION TOOLS</th>
<th>MOBILE APP</th>
<th>OFFLINE READING</th>
<th>USAGE DATA &amp; ANALYTICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambassador</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Courseload</td>
<td>Y</td>
<td>Y</td>
<td>Y(^*)</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>CourseSmart (VitalSource)</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Follett</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>McGraw-Hill Connect</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Pearson</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Yuzu</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
</tr>
</tbody>
</table>

Source: Vendor websites

*Is currently offered as part of an early adopter program, and has limited functionality.

**Figure 1.2: Additional Services by Provider**

<table>
<thead>
<tr>
<th>PROVIDER</th>
<th>ONLINE BOOKSTORE</th>
<th>MULTIMEDIA (E.G. VIDEO)</th>
<th>MULTIPLE PUBLISHER RELATIONSHIPS</th>
<th>CUSTOM TEXTS</th>
<th>CAMPUS BOOKSTORE MANAGEMENT</th>
<th>UNDERGRAD &amp; GRAD TEXTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambassador</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Courseload</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>CourseSmart (VitalSource)</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Follett</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>McGraw-Hill Connect</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Pearson</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
</tr>
<tr>
<td>Yuzu</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Y</td>
</tr>
</tbody>
</table>

Source: Vendor websites

**As the information above demonstrates, none of the providers offer all of the features identified.** That said, each provider offers a different range of services to meet different institutions’ needs. For example, Courseload focuses on helping institutions make the transition to operating on a majority e-text-based model, while Follett assists institutions in comparing sales of traditional print with those of digital materials to determine student preferences and demand. Ambassador offers both of these capabilities as part of its customized services.

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\(^{11}\) Pearson Education. http://www.pearsonmylabandmastering.com/northamerica/

\(^{12}\) Barnes & Noble College Booksellers. https://college.yuzu.com/
NOTABLE CHARACTERISTICS OF DCM PROVIDERS

Below, Hanover Research briefly summarizes distinguishing characteristics of prominent DCM service providers.

AMBASSADOR

Unlike many digital-first or digital-only providers, Ambassador also offers traditional bookstore and library management services, supply chain management, and DCM implementation advisory services. Ambassador has a number of service models that allow institutions to customize services that meet their needs. Notably, its SourceOne bookstore supply chain management solution integrates with LMS systems and allows institutions to track and forecast student spending on books and other materials.

Ambassador also has public partnerships with a wide variety of education-related organizations, including the Association of Private Sector Colleges and Universities, the Campus Management Corporation, and 14 others.

COURSELOAD

Courseload’s business model depends on “aggregated demand,” a model whereby all students pay a per-course access fee for the e-texts required for each class. This fee is often charged as a part of semester or course tuition. By distributing the cost of digital course materials across the entire student body and guaranteeing publishers a 100 percent sell-through rate, Courseload is able to negotiate a far lower price for students while still maintaining publishers’ revenue. Furthermore, when the cost of textbooks is included in the course or semester fee, students know how much they will be spending on texts for a given course before enrolling, allowing them to budget more effectively for the semester.

COURSESMART

In March of 2014, CourseSmart was acquired by competitor Vital Source. The press release states:

CourseSmart’s strengths in inventory, instructor sampling and analytics will be integrated with Vital Source’s reader platform and global, scalable distribution network. By combining the two organizations, Vital Source will offer the world’s largest digital content catalog and provide better digital content solutions for the higher education community.

Because of this recent change, the organization appears to be in a period of transition.

18 Ibid.
**FOLLETT**

Follett offers a range of hardcopy and digital course materials services. eFollett is its online inventory and sales system, which handles digital and hardcopy textbook rentals and purchases for campuses in and outside its network. On campuses where Follett is partnered with the bookstore, eFollett can manage the entire rental/purchase process, maintaining an eFollett domain for a specific institution’s bookstore.

Follett’s Virtual Campus is a digital course materials platform that includes an online bookstore, a reading platform (CafeScribe), and a distribution system that “provides required course materials directly to students as part of their tuition and fees.” Follett maintains relationships with 7,000 publishers, giving faculty access to a wide range of texts.

**MCGRaw-Hill Connect**

McGraw-Hill’s Connect platform allows students to access and interact with their McGraw-Hill course materials. McGraw-Hill indicates that it is fully compatible with all learning management systems (LMS) and offers students access to the texts they have been assigned for a given course.

**PEARSON**

Pearson offers a range of digital course materials, including both turnkey texts and course-customized materials. Although its promotional materials are not specific about the full range of custom solutions offered, examples include audio or video publication of course lectures through Pearson portals and Pearson’s MyLab and Mastering software for specific textbooks and courses.

**YUZU**

Yuzu — previously NOOK Study — is a new digital education platform released by Barnes & Noble in the summer of 2014 for web browsers and iPad. While incompatible with previous versions of digital texts offered by Barnes & Noble, the goal of Yuzu is to provide a consistent experience across multiple classes and years of schooling. The system allows students to organize their reading materials by term and course, indicating that students

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21 “Virtual Campus – Smart for Your Students.” http://follettvc.com/higher-education/smart-student/


25 Ibid.

26 “Organize, Read, and Annotate.” Yuzu. https://yuzu.com/

have access to their course notes, annotations, and texts from each class as they advance through a given discipline.
SECTION II: INSTITUTIONAL PROFILES

BOISE STATE UNIVERSITY 28

Boise State University (BSU) is a public university that offers the full range of post-secondary degrees. Its 1,163 faculty serve 22,344 students, 19,477 of whom are undergraduates. 29

Hanover Research interviewed Brad Hollenbeck, Instructional IT Specialist with Boise State’s Online MBA program, to discuss BSU’s use of digital course materials. BSU first began offering its online MBA just over a year ago, and has experienced strong enrollment since. 30

In his role at BSU, Hollenbeck supports MBA students and faculty in the use of software and hardware that enable and support student learning.

CANVAS AND COURSELOAD

BSU uses Canvas as its learning management system (LMS) and Courseload as its provider and distributor of digital course materials. 31 Hollenbeck helps faculty learn to use Canvas and Courseload effectively in order to improve digital aspects of their course design, increase student engagement, and, ultimately, improve student outcomes.

Hollenbeck notes that student and faculty response to Canvas has been very positive. Although the other divisions of BSU run BlackBoard as their LMS, the online MBA program had the opportunity to change providers when the planning phase began two years ago. In order to help make the decision, representatives from both BlackBoard and Canvas came to BSU to describe and demonstrate their products to the MBA faculty. As a result, the overwhelming majority of faculty preferred Canvas. According to Hollenbeck, this was because of Canvas’s integrated grading features. Furthermore, Canvas provides faculty with a platform to read, annotate, and grade essays and short-answer questions on a rubric, and submit those grades directly to the gradebook. The system can also process multiple-choice and fixed-answer assessments.

From an administrative standpoint, the major advantage of using Canvas as the MBA’s LMS was its deep integration with Courseload, BSU’s digital course materials provider. Hollenbeck explained that, through Canvas’s integration with Courseload, professors are able to annotate and generate deep links within course materials to provide students quick

28 Unless otherwise noted, information in this profile was gathered from: Hollenbeck, Brad. Instructional IT Specialist, Boise State University. Phone conversation with Hanover Research. July 17, 2014.
30 “Master of Business Administration.” Boise State University. http://degree.boisestate.edu/Programs/1155/Master-of-Business-Administration
access to information. For example, a professor can include deep links to each reading assignment listed on the syllabus. Those links would then take the student directly from the syllabus on Canvas to the relevant section of the book on Courseload. Hollenbeck explained that some setup is required to make this transition seamless, but that once established, it provides a very efficient way for professors to organize and distribute digital course materials. Furthermore, faculty who had used BlackBoard elsewhere at BSU or other institutions expressed concerns with its usability and inconsistent functionality. For example, faculty complained that they were unable to distinguish between the elements of the course page that were private to their account and the elements that were visible to students. This caused problems when faculty intended to publish a document publically or privately, but had mistakenly done the opposite, revealing private data or preventing students from receiving valuable information.

According to Hollenbeck, **BSU selected Courseload as its digital course materials provider because Courseload already has relationships with a number of publishers.** Other digital course materials providers that BSU researched during the planning process — including Pearson — limit the institution to texts of a single publisher or a smaller range of publishers. In BSU’s case, no single publisher met all of its needs, whereas Courseload has established relationships with multiple publishers and could even host content from BSU’s own publishing partnerships.

While Courseload already has pricing agreements established with a number of publishers, Hollenbeck noted that **sometimes BSU has negotiated directly with a publisher who already had an arrangement with Courseload, to further lower its prices for BSU students.** These negotiations may include a price cut on a text or set of texts already available on Courseload; institutions may also negotiate the distribution of a text not previously included on the Courseload platform. According to Hollenbeck, Courseload’s digital texts usually cost less than 50 percent of the hardcopy edition, although some are even less expensive. **BSU was able to negotiate these prices by combining e-text pricing into student tuition,** thereby guaranteeing a certain amount of revenue for the publishers and allowing them to lower prices to the greatest extent possible.

The digital text distribution provided by Courseload offered a number of advantages to BSU. First, **by including the cost of the required MBA texts in tuition, BSU was able to ensure that students have access to the texts they need on the first day of class.** It also removed the logistical burden placed on professors to ensure students have the required materials.

Second, the digital course materials distributed through Canvas and Courseload provide useful analytics about student engagement. Metrics include sign-ons, time spent on various pages, and links accessed, allowing professors to measure the percentage of students who read the required material and to proactively address areas of confusion or disengagement.

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32 Deep links work much the same as normal hyperlinks: the user clicks it, and they are taken to a different webpage. The difference between deep links and normal links is that, instead of taking you to the top of a webpage or document, a deep link takes you to a specific point within a larger document.
within the curriculum. Professors can also tag assignments with intended goals and outcomes, allowing them to more easily track student progress.

Third, Courseload’s annotation feature allows faculty to provide context for students via marginalia, highlighting, and providing links to external resources. By allowing students to learn from a text that has been customized, students spend more time focused on the most important content and concepts of the course. While Hollenbeck acknowledges that convincing veteran faculty to adopt the practice of annotating course materials has been challenging, many faculty take advantage of the ability to streamline student readings, summarize important takeaway points, and provide students with in-line highlights of essential information for the course. While BSU faculty are trained to use these features of Courseload at the beginning of the academic year, using the full range of features is entirely optional.

A final advantage of Courseload is the materials it provides to professors who teach common classes (e.g., Economics 101) and use common textbooks. According to Hollenbeck, many of BSU’s MBA professors use the PowerPoint slide decks and assessments that come pre-packaged with many of Courseload’s digital course materials. Professors may customize the slideshows or assessments to meet their class’s specific needs, but these materials often provide a good foundation on which to build. They can be especially useful for professors who often do not use slideshows because of the time-intensive design process.

**CHALLENGES**

**Despite these advantages, digital text distribution is not without its challenges.** Many students need some level of technical support, especially early in the semester, to figure out how to access the class texts. This is particularly true when courses require students to work with multiple texts from multiple providers. Likewise, faculty also need extensive technical support and training. Additionally, students and faculty often express concerns regarding restricted access to texts after a course has ended. Unlike hardcopy books, digital texts usually become inaccessible after a fixed period of time (typically 180 or 365 days) due to the digital rights management (DRM) software included with digital copies.

**Furthermore, services like Courseload require students to have an active internet connection and an approved account to access specific materials.** The requirement of an active internet connection can prove particularly problematic when students want to read texts while travelling or commuting, or other locations where internet is less consistently available. Although they can provide up-front savings for students and institutions, digital course materials provide less long-term value than hardcopy versions, particularly if students need to refer to them in the future.

Another issue with Courseload and other digital course material providers is mobile availability. Hollenbeck said that the top complaint from students regarding their digital materials is the inability to read them on their smartphone, tablet, or e-reader because of
DRM issues and/or the lack of an appropriate mobile app. Currently, most digital course material providers only license their texts for display on desktop and laptop computers, or mobile devices. However, Courseload has addressed the problem and is actively developing an app for both iOS (Apple) and Android (Google), the two major smartphone operating systems. However, the app is currently offered as part of an early adopter program, and institutions have to be participating in the program to make it accessible to their students.33

Copyright and use licensing are two interrelated issues BSU has also had to address during the transition to digital course materials. According to Hollenbeck, current contracts between digital course material providers and publishing houses specify that the reader will access the materials on a traditional laptop or desktop web browser. Mobile devices such as iPhones, iPads, and Kindles are not covered by this stipulation. As a result, contracts with publishers often need to be renegotiated to reflect the new use paradigm. Furthermore, because students are able to download the PDF files that some publishers use to distribute digital copies of their texts for offline reading, the university has a responsibility to the publisher to ensure that students are not sharing logins or copies of these password- and copyright-protected files.

**NEGOTIATION WITH PUBLISHERS**

Hollenbeck also said that negotiations with publishers unaccustomed to digital publishing can be challenging. Oftentimes, publishers will hesitate to reduce their prices to a competitive rate for digital texts because they are unaccustomed to negotiating around the near-zero costs of digital distribution. BSU’s campus bookstore has been integral in strengthening BSU’s negotiating position when convincing publishers to bring down their prices to compete in a digital market. By using the bookstore’s historic sales data, BSU was able to project the number of digital and physical copies that would be sold annually with significant accuracy, which gave BSU better bargaining power to bring the price of digital copies down. By using this technique, **BSU was also able to re-negotiate with Courseload’s publishers to get an even lower price on digital content distributed through Courseload.**

For students and faculty who are uncomfortable with the transition to digital, **Courseload’s terms of service with BSU allow for printing of up to 50 pages of a text at a time.** For BSU’s MBA program, the bookstore does not stock hardcopies of all of the texts, partially because all students receive digital copies of some of the texts. However, at the undergraduate level, the bookstore maintains a stock similar to what it had before the introduction of Courseload, partly because student preference for digital texts is not unanimous.

**OUTSIDE CONSULTATION**

When deciding which LMS and DCM providers would best serve its needs, BSU worked with a company called Academic Partnerships, which provides consultation on university-wide

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33 “Courseload Mobile.” Courseload. https://courseload.mindtouch.us/Courseload_Mobile
Hollenbeck indicated that, with the help of Academic Partnerships, BSU was able to take existing academic content and modify it for a digital distribution context.

**Lessons Learned**

The implementation process at BSU was swift and successful. Canvas sent an implementation specialist to BSU’s campus during the beginning of the process, which provided much-needed assistance for professors as they were shifting their classes into the new digital format. The specialist trained faculty and support staff about the program’s features, its integration with Courseload, and how the professors could integrate the services effectively. Additionally, the Canvas specialist helped create a basic course framework that could be repeated across nearly all classes. This gives students a consistent experience on the platform and helps them locate certain types of information.

However, Hollenbeck identified several significant obstacles they encountered during the implementation process. The biggest challenge that his team had to overcome was integrating the existing student database system with Canvas and Courseload. The transition process was expected to take only a few days, but ended up taking months because of the programs’ incompatible database structures. However, after identifying an effective way to make the systems “talk” to one another, the services have worked well together.

Another unexpected delay came in the form of publisher negotiations. Hollenbeck said that he had expected publishers to be better prepared to negotiate for digital-only or digital-first contracts, but found that many were not. As a result, negotiations lasted far longer than expected, intensifying BSU’s implementation schedule. Hollenbeck also noted that Courseload is still in the process of renegotiating many of its existing contracts with publishers to accommodate mobile devices.

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Clemson University

Clemson University (Clemson) is a public four-year university located in Clemson, South Carolina. Clemson’s 1,282 faculty serve 20,768 students, 16,562 of whom are undergraduates.

Hanover Research spoke with Cynthia Haynes, the Director of Clemson’s First-Year Composition program and an Associate Professor of English. Haynes directs curriculum in the first-year composition program, makes textbook decisions, and has used e-texts and other digital resources in her classes since 1999.

Transition to e-texts

Haynes expressed mixed feelings about the transition to e-texts, a sentiment that is shared by many students in her program. Specifically, digital course providers make a number of attractive promises, such as: All students will have access to the required texts on the first day of class; instructors can edit or add to books as they see fit; instructors can guide student reading and learning through annotation and other digital techniques; and publishers usually offer extra materials with a given text, such as pre-made slide decks, learning extension websites, and assessments designed by the publisher or author.

However, regarding these extra materials bundled with e-texts, Hayes cautions that all of the publishers she has worked with — including McGraw-Hill, Norton, and Pearson — “overpromise and under deliver.” She explained that, with the added costs of these extras to the base price of the e-text, there often is little difference in price between the digital and hardcopy versions. Removing the add-ons from the e-text purchase agreement decreases the price, but publishers often negotiate aggressively to maintain the bundle.

Hayes explained that, given the number of options — buying the text, renting the text, purchasing the hardback new with digital access, purchasing the hardback used without digital access, digital-only access, and so on — students express confusion over which version to buy. This confusion can add further delays to purchasing the required text, when students are required to do so on their own time. While data are not yet readily available, Hayes believes that the majority of students and faculty at Clemson still prefer — and ultimately decide to buy — the print version.

Hayes believes that there are two obstacles preventing students from making the transition to digital. First, the price difference between the digital and hardcopies is too small for students to justify purchasing the digital version, especially when the digital version expires and cannot be traded or resold at the end of the course. Second, the vast majority of current college students are still accustomed to reading books on paper. Although tablets

35 Unless otherwise noted, information in this profile was gathered from: Haynes, Cynthia. Director, First-Year Composition and Associate Professor of English. Clemson University. Phone conversation with Hanover Research. July 21, 2014.
36 “College Navigator: Clemson University.” NCES. http://nces.ed.gov/collegenavigator/?q=clemson&s=all&id=217882
and e-readers have been mainstream for more than five years, current college students grew up reading paperbacks. **Haynes argues that lifelong learning and study habits for the current generation of college students are unlikely to change unless the digital edition is significantly better than the physical in terms of cost and content.**

When considering the move to e-texts, Clemson was able to negotiate a deal with McGraw-Hill and other publishers that allowed interested faculty access to 12 free e-texts for all of their students. Students supported the cost-saving measure, but reported mixed experiences with the e-texts. Students expressed discomfort with reading on laptops and frustration over the inability to access their course materials from their smartphones or tablets.

**TECHNICAL CHALLENGES**

Haynes explained that Clemson’s first-year composition class used Pearson’s My Comp Lab writing program for a number of years prior to 2013. However, **Haynes said that working with Pearson on technical issues was “a constant uphill battle.”** She noted that, being a publisher, Pearson is “simply not in the technology business.” She explained that, while Pearson’s software worked well in the demos, it did not behave the same way in a real classroom environment, becoming unusably slow during certain tasks. She found Pearson’s tech support to be unavailable when needed, and unresponsive in fixing bugs or increasing server capacity. Clemson used My Comp Lab and My Writing Lab for several years before allowing their subscription to lapse.

By way of example, Haynes explained that when students are asked to access materials in class and many of them navigate to the same content simultaneously, the system stops, occasionally kicking users off to free up server space. Unless students come to class with their materials pre-loaded, they often have trouble accessing them.

**LEARNING MANAGEMENT SYSTEM INTEGRATION**

Clemson operates an institution-wide distribution of Blackboard’s LMS. According to Haynes, Pearson, McGraw-Hill, and Norton all maintain idiosyncratic ways of distributing their content through Blackboard. However, because of the technical complications that frequently arise when integrating two different programs, “Blackboard and [the publisher] are both implicated whenever there is an access issue.” According to Haynes, although each service promises to streamline content delivery and the programs may work well independently, combining the various functionalities together on a shared platform like Blackboard or Canvas can create more problems than it solves. She also said that publishers vary in their level of support for Blackboard, with some providing seamless integration (Norton) and others having more problematic implementation processes. However, Haynes notes that the Clemson faculty have expressed dissatisfaction with Blackboard, and intend to move to a different LMS within the next few years.
TEXT QUALITY

Because e-texts are usually adapted from the hardcopy book by the original author(s), Haynes has not observed content quality issues with e-texts. However, she noted that the quality of teaching resources included with the e-text varied by publisher and author, with some authors investing significant effort in the online resources, and others treating it as a lower priority. According to Haynes, some publishers allow prospective customers to evaluate supplemental materials before requiring their students to buy them, and she recommends professors take the time to do this.

However, Haynes notes that her staff had little to no interest in using the content bundled with the e-text, regardless of its quality. One cause of this under-use is a lack of time among instructors. Haynes also claims that students have not been using the bundled digital resources for two reasons: instructors often have not used the materials themselves; and the online learning resources are inconsistently designed, with some providing extensive interactive learning opportunities, and others merely linking to resources online.

PUBLISHER EXPERIENCES

Haynes has worked with McGraw-Hill, Pearson, and currently uses a Norton text in her classes. She described her experience with McGraw-Hill as supportive and responsive. When requesting additional content to teach students about the technical aspects of setting up their own blog for a project, McGraw-Hill prepared and published several videos on their student platform. Haynes explained that, in contrast with Pearson’s high-tech offerings, McGraw-Hill’s digital content was more basic. This included several web-based grammar diagnostics, supplementary essay content, and samples of student work. However, she also noted that because McGraw-Hill’s supplementary content was less technically ambitious, it also worked much better than Pearson’s.

Haynes used Pearson’s My Comp Lab and My Writing Lab web apps as supplements to the main text for several years. However, after years of unresolved technical issues, inconsistent support, and student complaints about data loss, she renegotiated her department’s Pearson contract to exclude all bundled extras, and requested separate ISBN orders for the hardcopy and digital copies of the text.

After Pearson, Clemson started using a Norton text. Haynes has generally had a positive experience with Norton, which, unlike Pearson, does not charge for content bundled with the digital editions. However, Norton’s bundled content is less extensive than Pearson’s.

Regardless of the publisher, Haynes found that her staff was generally uninterested in using the bundled teacher resources, like PowerPoints and lecture notes. While individual reasons for this differ, the two dominant concerns were a lack of knowledge about the resources available, and a perceived loss of faculty ownership of the course content.
**STUDENT ENGAGEMENT**

Haynes explained that with digital course materials, as with many aspects of a class, student engagement is largely influenced by the instructors’ attitudes and beliefs. Because instructors are typically older, less technically adept, and less interested in digitizing their classroom, Haynes believes that students’ attitudes and preferences follow suit. According to Haynes, Clemson’s online engagement data show that students often do not use the supplementary digital resources included with the text, unless explicitly assigned to do so.

Haynes argued that students still strongly prefer the paper edition when given an option, although she did not have institutional data available to support this claim. This finding has been supported by recent research at other institutions. For example, at Andrews University in Michigan, 503 students were given a choice between an e-text edition and hardcopy, and 96 percent of those students chose hardcopy.37 Anecdotally, Clemson students reported eye strain and frustration with reading on a laptop. Haynes heard similar reports from students in the classroom and from distance learners.

**LESSONS LEARNED**

Haynes indicated that one major unforeseen problem with the transition to e-texts came during the negotiation phase with publishers. Publishers have repackaged and upsold new editions with relatively minor changes for decades. The major change with the transition to e-texts has come from the bundling of supplementary resources with the main texts. Haynes explained that faculty who author textbooks have been pressured by publishers to produce supplementary resources for release online, but these faculty often do not have enough time or motivation to properly develop or maintain them. As a result, publishers upsell products that are incomplete or of lower quality than the e-text itself.

Haynes “has had to push really hard” in negotiations with publishers to unbundle the e-text from the supplementary materials, which she believes do little to improve teaching or learning. Another lesson learned during the transition to e-texts is that today’s students are surprisingly hesitant about transitioning to digital in regards to textbooks. Reading comfort certainly plays a role in student reservations towards DCMs, but Haynes argues that the bigger deterrent is the high opportunity cost of using an e-text. Because e-texts cannot be reread or resold at the end of the semester or year, students do not have the opportunity to recoup some of their investment.

Similarly, it was difficult to convince faculty to adopt DCMs, which can have unintended negative impacts on students. For example, the faculty at Clemson were given a two-hour training on how to set up their Blackboard page and how to link to their reading assignments. Haynes explained that many faculty did not do this (or did not do it correctly), causing access issues.

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TEMPLE COLLEGE

Temple College (Temple) is a community college in Temple, Texas. Its 294 faculty serve 5,533 undergraduate students in both in-class (77 percent) and distance (23 percent) contexts.39

Hanover Research spoke with Lesley Keeling-Olson, the chair of Temple’s Criminal Justice department. Keeling-Olson explained that Temple piloted an e-text program several years ago, but received such an overwhelmingly negative reaction from faculty and students that the program was terminated after only a year. However, Temple still uses web-based platforms for several applications in the classroom and some professors give students the option of purchasing e-texts.

PUBLISHER EXPERIENCES

Keeling-Olson worked with three providers of digital course materials during the initial pilot and after: McGraw-Hill, Pearson, and Oxford. She noted that McGraw-Hill and Oxford’s web offerings tended to work better than Pearson’s, in part because they required students to use a separate website and did not integrate with Temple’s LMS, which regularly caused problems with compatibility and access to Pearson materials.

Of the three, Keeling-Olson has the most experience with Pearson. In addition to using its e-texts in the classroom, Temple used some of Pearson’s “course cartridges” to give students access to multimedia lectures online.40 However, in a usability study, students became frustrated and discouraged with having to leave their LMS (Desire2Learn) to access the materials, login to Pearson’s platform, and then find the video or content they requested. According to Keeling-Olson, students needed to load eight intermediary pages to get from a link in Desire2Learn to the content on Pearson’s website. Because of this inconvenience, students often did not view the content at all.

Keeling-Olson, who used to serve on Pearson’s advisory board, argued that Pearson is “too big for its own good.” She believes that its support for e-texts and web services are limited, that it pushes too hard in negotiations for Temple to buy the bundled web services, and that the pricing for the web services are scaled unreasonably, jumping from $5 for the first semester to $65 for the second. Furthermore, she lamented the lack of quality control regarding supplemental materials published online, such as the premade quizzes. Like Haynes at Clemson, Keeling-Olson also reported that Pearson web services do not function well in a live classroom setting. She took issue specifically with Pearson’s Course Connect platform and its My Criminal Justice Lab offering.

38 Unless otherwise noted, information in this profile was gathered from: Keeling-Olson, Lesley. Criminal Justice Department Chair, Temple College. Phone conversation with Hanover Research. July 21, 2014.
Temple College reported more positive experiences with McGraw-Hill, although Keeling-Olson noted that McGraw-Hill made it equally challenging to purchase an e-text without the supplemental digital content. In her experience, the easiest publisher to work with has been Oxford. As a not-for-profit publisher, Oxford generally charges less for its digital course materials than its competitors. Its supplemental materials are also offered for free online, although the quality of the materials is entirely dependent upon the author(s) of the book. However, when encountering a problem using an Oxford premade assessment within the Desire2Learn LMS, technical support reformatted the questions to work within the system.

**E-TEXT PILOT**

Keeling-Olson described Temple’s e-text pilot as highly problematic. Students and faculty expressed dissatisfaction and frustration with the e-texts with regard to access, usability, and cost. As a community college, Temple’s student population is generally older than a traditional four-year college, although even Temple’s younger students preferred hardcopies for class. In fact, while the e-text pilot had been designed as a cost-saving measure, Temple lost money on it because a significant number of students printed out complete copies of their course books.

Students found the annotation software unable to serve their needs. Furthermore, they disliked being required to pay extra for the online supplemental materials, which were infrequently assigned for class.

A pilot exit survey asked students their preferred type of textbook for subsequent year(s) of study. According to Keeling-Olson, requests for hardback books without course-specific customizations were nearly unanimous. Students wanted the flexibility to resell the books at the end of their course, the hardcopy version to have in-hand during lecture, and preferred the simplicity of pulling a book off the shelf to clicking through webpages to access the text.

**LESSONS LEARNED**

Keeling-Olson cautioned against buying the digital tools and content bundled with e-texts: “Just because it is available does not mean everyone is going to want to use it,” she explained. Unless faculty express a strong interest in the supplemental materials that accompany certain texts, supplemental materials generally only compete with the content that faculty have already developed for their course. As a result, faculty are far more likely to choose their own content.

Keeling-Olson also noted that many classrooms and lecture halls simply are not equipped to meet the technical demands of a full room working online simultaneously. Wi-Fi access points may have insufficient bandwidth to handle student load, and many classrooms do not have enough outlets for students to plug in their laptops and/or tablets if necessary. While she had anticipated this technical challenge, the extent to which it affected class time productivity was more pronounced than expected.
Temple instructors were also unprepared to deal with the classroom management issues associated with having laptops in class. For example, when disengaged students visit sites like Facebook, it distracts those around them. Temple did not block these types of websites in academic buildings, which led to a number of issues where students were accessing personal websites during class time.
BERKELEY COLLEGE

Founded in 1931, Berkeley College (Berkeley) operates nine campuses in New York and New Jersey. Its faculty and staff serve over 8,000 students.41

After observing a rapidly increasing preference among some students for digital textbooks in 2009, Berkeley began requiring that all textbooks used for instruction have a digital version available.42 Berkeley appointed an evaluation team to assess what they would need from a digital course materials provider. The team identified the following features that would adequately serve Berkeley’s need:

The digital course materials provider...

- Provides a single sign-on through Blackboard
- Enables students to interact with materials in ways that extend beyond highlighting
- Ensures that students have access to all course content at the start of each term
- Gathers data that can be used in performance evaluations and material assessments43

Berkeley’s team selected Courseload, which was well-received by faculty and 74 percent of students who used it in the pilot program. According to a profile of the implementation prepared by Courseload,

Following the implementation of Courseload and other retention-related efforts, Berkeley College saw an increase in total student retention of 7 percent in its online program, with retention for new students in the same program increasing 12.5 percent.

A Berkeley College Online survey following initial implementation found that approximately 90 percent of faculty believed that having digital course materials available through Courseload offered the same or greater value for their students as a traditional textbook.44

To cover the costs associated with digital course materials, Berkeley College students were charged a flat per-course fee, regardless of how many digital materials a given class required. This allowed students to predict their spending per semester more effectively and enabled an even distribution of costs for all students, rather than up-charging students whose classes happen to use a large number or expensive set of digital course materials.

Indiana University

Indiana University (IU) is a public university system with campuses throughout Indiana. It serves 115,412 students across its campuses, the majority of whom are at the Bloomington and Purdue campuses.

During Educause’s 2012 conference, the Vice President of Contracts and Business Development at McGraw-Hill described Indiana University’s need and solution in the area of digital course materials.

According to Osborne, the average college student is expected to spend $600—$1,000 on books per semester. Because of the rapidly increasing costs of college tuition, approximately 70 percent of students reported having skipped buying a textbook to save money. Colleges and universities have looked to e-texts as an opportunity to create savings for students.

To provide these savings, Indiana University adopted what has been called an “institutional toll booth” model for e-text rentals across all of its campuses. In short, every student pays a flat fee that allows them to access all e-texts required for their coursework while they are at IU.

IU uses Courseload’s platform and publisher arrangements to distribute digital course materials to its students. Courseload has existing relationships with Pearson, McGraw-Hill, Wiley, Elsevier, Harvard Business, MacMillan, WW Norton, Flatworld, Cengage, and others. IU students access their Courseload materials through Canvas, the university’s LMS. Courseload and Canvas have strong mutual integration, reducing the complications associated with integrating multiple publishers’ independent systems into an existing LMS.

In addition to Courseload, IU partnered with Internet2 to secure better prices on e-texts. Internet2 is a non-profit organization of universities and corporations that helps broker mutually beneficial arrangements. Osborne explained that most institutions negotiate directly with publishers relative to the list price of the text in question. By working with Internet2 and Courseload, IU was able to reduce the costs of its e-texts far below what other institutions have paid for the same files.

Osborne notes that one less-discussed benefit of the transition to e-texts is the increased range of accessibility options for students with disabilities. Digital texts can be read aloud by computers at various speeds, words can be presented one at a time or in small groups, and text can be presented in fonts designed to accommodate dyslexic or visually-impaired students.


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