Developing an E-textbook for the Consumer and Family Sciences Class: Challenges and Rewards

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Abstract

This report describes the self-publishing journey, challenges and methods of development, impact, the value of a self-published e-textbook in tenure decisions, and recommendations. This journey lead to the self-publishing of an e-textbook for iPad® delivery at a Midwest university.
for a course on electronic distribution and hotel management in the Consumer and Family Sciences curriculum. Factors leading to this decision included the context of the digital hospitality world, industry standards, technology use by students, lack of interest by major publishers, e-textbook and iPad learning research, and iPad technical and training support available to a cohort of faculty on campus.

Introduction

In 2011, the Consumer and Family Sciences curriculum at the authors’ institution was undergoing a refresh that involved multiple curriculum changes, including the introduction of classes covering topics such as strategic revenue management and electronic distribution within the hospitality track. In the lodging industry, revenue managers must manage, control, and direct income sources and capacity in response to supply and demand (Tranter, Stuart-Hill, & Parker, 2009, p. 121). Affecting demand are the distribution channels that provide the lodging industry with its business customers (Hayes & Miller, 2011). These distribution channels can be non-electronic or electronic. Non-electronic channels are those in which room rates and availability information are delivered to the buyer face-to-face or by voice. For example, voice delivery could be a potential customer calling a 1-800 number to make a reservation, where electronic delivery could be a potential customer going to the home page of a hotel chain and making a reservation or using online travel agents (OTAs) such as Priceline.com.

It was particularly important to initiate a course specific to electronic distribution for hospitality majors within the Consumer and Family Sciences (CFS) program targeted at the junior level. OTAs were gaining in popularity and functioning as marketing tools as well as booking and search engines (Blal, 2015; SkyTouch Technology, 2014; Sinha, 2015). For this reason, students entering the industry would require a greater level of understanding regarding the OTA major players in the hospitality industry. However, there were no textbooks available
specific to this subject matter. The need for rapid development of course materials, lack of interest from traditional publishers, and the campus context of support for mobile learning with iPad® technologies, catapulted two faculty authors into the self-publishing journey of an e-textbook in the iBooks® platform with which neither author had prior familiarity.

**Deciding to Self-Publish an E-Textbook**

The department chair and a junior faculty member decided that, in the absence of a textbook and other resources for content, they would need to compile a textbook. Major publishers in the hospitality area were approached to determine level of interest; however, the subject matter was considered too much of a niche market, and anticipated sales were not considered to be sufficient to warrant an investment of resources. Even if there had been preliminary interest, using the traditional textbook publishing process would require an investment of time that would delay the ability to launch the course in time for the next semester. A fully developed book proposal would require more than the authors could deliver in the time available, namely a suitable market analysis to establish potential sales, which in itself might not have been feasible, and a description of the competition to verify how the book would be differentiated from the rest of the market (Salkind, 2005). The time factor and lack of immediate interest from traditional publishers motivated the authors to explore other options.

Self-publishing was one of those options. It has become more widely available for customized classroom and course materials (Licher-Heath & Whittenbury, 2014). Self-publishing provides authors with expediency, control over content, and autonomy of decisions that would not be possible with a conventional publisher (Baverstock & Steinitz, 2013; Moxley, 2013). The authors also wanted the book to be interactive and to provide students with ‘real world’ experiences consistent with the rapidly evolving electronic distribution subject matter. An electronic format could readily facilitate this goal by allowing integration of features such as
multiple-choice quizzes in the chapters for self-testing, links to external materials, and industry participation via video interviews with professionals involved in electronic channel management. This approach can leverage both student comprehension and engagement during the learning experience (Dalton, 2014; Rockinson- Szapkiw, Courduff, Carter, & Bennett, 2013; Sun, Flores, & Tanguma, 2012).

An e-textbook format also would be easy to integrate into an online learning course platform, yet still remain independent of the learning management system to allow a continuity of access by other institutions looking to develop similar courses. Publishing behind a “publishers paywall” (Moxley, 2013, ¶1) would have restricted its availability to a wider audience. The authors also wanted to keep one basic unified textbook rather than having a hardcopy with electronic support, which is what many other publishers provide, such as Prentice-Hall (Bruner, n.d.) and McGraw-Hill (Kim, 2012). In fact, the blend of physical and digital content has been the growing trend in publishing (Sturdivant, 2007), but it also pushes up the costs of textbooks (Kim, 2012).

iPad Cohorts

At the time the co-authors were deliberating on the textbook format, the University also was introducing the MobileEDU (iPad) project for teaching faculty on campus. This project included a system of technology support from the university’s teaching and learning center and its technology support unit. The MobileEDU (iPad) Project had a cohort of 60 faculty involved, organized into smaller groups of 5-8 people that met together on a regular basis and was marketed as part of "Re-imagining IPFW's Academic Future: Project #mobileEDU…”” (IPFW News Release, 2011). Participants volunteered and were selected by the teaching and learning center for cross-disciplinary representation from more than a dozen programs. The underlying concept of advancing the use of iPads for teaching and learning was to allow students to “learn
on the go,” and as stated by the Chair and Professor of Physics, Mark Masters, the use of e-books “eliminates many of the previous boundaries” of traditional textbooks (Caviglia, 2012). In addition to regular meetings to exchange ideas, faculty used Facebook, Twitter, and Tumblr to share information on how to use iPad technologies in support of teaching, learning, and research.

The purpose behind the iPad project was to initiate communities of practice to engage faculty members in the adoption of new technologies, providing them training and opportunities to exchange ideas with each other. With this faculty cohort, the CFS department was able to explore information and technology about successful use of an e-platform for engaging and teaching students. The iPad project not only allowed an opportunity to experiment with the unfolding of dynamic e-text features, but provided a circle of support for dealing with the technology to implement the authors’ instructional strategies.

Shortly after the initial faculty cohort began, the campus bookstore provided a continuing grant to support the iPad project within the 2012 classes (IPFW News Release, 2012). This grant supported the authors’ goal of writing a customized e-textbook. However, due to the limited nature of the grant, the iPad was the only device allowed for launching the text. With this restriction, and in the absence of resources and time to support their exploration, other development software and output formats were not considered as viable options.

**Choosing a Publishing Platform**

The authors also needed to choose a publishing platform. They investigated iBooks Author, a tool that allows authors to craft material several ways. It creates a polished product, but it must be produced with a Mac App (iPad in Education, n. d.), and iBooks will not display on Android or Windows tablets. So, to get the most out of the iBooks format, every student needs an iPad. During the initial launch of the e-textbook, this was not thought to be a daunting limitation because of the context of university support for the MobileEDU (iPads) project. The campus was
committed to the iPad format and Apple representatives demonstrated the software. This level of support weighed heavily in the decision to use the Apple proprietary development software.

Nonetheless, for other authors or other projects, the choice of publication software and output format should be given a great deal of consideration as regards sustainability for future semesters, such as resource support versus requiring students to furnish their own iPads. The logistics of how future students will have the required technology devices, whether an iPad or other alternative, affects the textbook’s usability. In this project, use of iBook Author required every student to use the one device. While the campus provided iPads to the students for the first semester the course was run, and iPads were available to rent in subsequent semesters, many students were frustrated by the inability to use their own non-Apple devices. The computer labs on campus could not support the students because iPads were not included in the available equipment.

There are pros and cons to each platform option, and finding the one that provides the greatest ease of access increases usability for students (see Table 1). Some of the general issues to consider are:

- Do you want to publish strictly in electronic format or is a print option important?
- And, if so, why?; what is the cost of the software or publishing fees?
- Can the e-textbook be viewed with multiple devices and platforms?
- Can the book be disseminated outside the university?
- What assures continued long-term access for the textbook?

New options for self-publishing platforms become available regularly and the web includes comparison sites and reviews of the various companies and software. For example, Roger Riddell provides a report on 16 e-textbook providers (Riddell, 2013). And, Jane Friedman has a blog on How to Self-Publish Your Book that provides an introduction to major self-
publishing options and information to help choosing among them. Friedman’s blog is available at https://janefriedman.com/self-publish-your-book/.

An often overlooked option is the hosting of material on a university or organization website in pdf and video files that could be downloaded or viewed via the web. This option allows easy access to material on multiple devices or platforms and generally falls within the category of Open Textbooks or Open Access publishing (Find Textbooks, n.d.). Besides easy access, authors have the ability to quickly update portions of the text without having to reformat an entire book. Although this option lacks the ability to download and consume the material as a single ‘book,’ it can be saved in individual files if the student wishes to have offline access. However, universities and professional organizations often lack the publication software or expert assistant in formatting the files which may limit the quality of the final product and presentation. Sustainability is as much an issue for this option, too, since long term costs of hosting would require support by the author(s) or the institution (Burns, Lana, & Budd, 2013).

While textbooks are the ‘traditional’ method of disseminating course readings, most universities now have the e-textbook and other media and web options to support student learning. For example, most universities subscribe to a learning management system (LMS) through which students access the course curriculum and assignments. Such systems generally are password protected for student and instructor access and course materials cannot be shared with a wider audience.

After considering the options, the campus context and support, the authors chose the e-textbook for use with the iPads platform. The next step was reflecting upon and constructing the content and activities to include within this format.

**Constructing the E-Textbook**
To gain an industry perspective, members of the Hotel Electronic Distribution Network Association (HEDNA) were asked about what elements of electronic distribution would be important to include in the course and textbook. HEDNA, founded in 1991, was a logical resource because the organization uses multiple ways to share knowledge about hospitality distribution with its members who represent all areas of electronic distribution (HEDNA, n.d.). These members include managers in the lodging industry, managers of OTAs, and consultants to both areas. The June 2011 meeting of HEDNA in Barcelona, Spain, and collaboration with members attending this event, provided the opportunity for interviews with industry experts to include as video files in the e-textbook. The interviews were open so that each interviewee could provide an authentic perspective of the role of a professional who works with electronic distribution within this industry. These interviews provided, not only relevant content for the course, but added texture and realism from expert perspectives within the videos, a strategy that supports motivation among students during their study process (Cruse, 2006; Walsh, 2012).

The first step in writing and organizing the e-textbook was the same as a print textbook. Based on the responses and interviews from HEDNA, a preliminary list of chapter topics was developed. After narrowing the focus and grouping concepts of the chapters’ content, the main outline for the book took shape.

- Foreword
- Chapter 1 Introduction
- Chapter 2 Factors Influencing Reservations
- Chapter 3 Channels
- Chapter 4 Distributing Room Inventory
- Chapter 5 Mapping Services and Providers
- Chapter 6 Interacting Electronically
• Chapter 7 Distribution Costs

• Chapter 8 Conclusion, Impacting Occupancy

Within this outline, topics included defining the world of distribution; payments; online travel agents and their role in occupancy for hotels; and the role of the global distribution systems (GDSs). The videos embedded in these chapters included interviews from a hospitality technology consultant, an executive director of channel management and distribution, a managing director for an online hotel distribution company, a senior executive for global sales strategies, a chief operating officer for booking operations, a director of business development, a senior director of innovations with social media and OTA partnerships, a director of a global financial services and payments consultant company, and a senior executive for a hospitality services business with electronic distribution partners. This combination of topics and industry representatives provided students with the real-world context of electronic distribution for the hospitality industry.

These initial steps of gathering industry input and formatting an outline took nearly six months (see Table 2). Then during the university’s Winter break, the authors wrote the first few chapters. The Distribution Management class, was taught for the first time in Spring with draft copies of each chapter, sometimes in paper format. At this time, iPad support was not yet fully available through the campus MobileEDU (iPad) initiative, and students were limited to using their own devices, some of which included personal iPads. However, the course was “face-to-face” and has always been taught in that format. This initial teaching of the course with its new content could be thought of more as a transition period. Student assignments included weekly to semi-weekly reports, chapter critiques, and class discussions, all of which supported reflection on the content and learning about related industry expectations. The authors wrote new material for each week’s readings. This *formative evaluation* approach with feedback from the students provided the
authors with the ability to create an organic and responsive text when adding content for the upcoming weeks and revising it for the previous weeks. By working collaboratively with the first class on ideas, the e-textbook began to answer more questions than the authors had originally envisioned and clarify content because students had been forthright in expressing what was confusing and what additional questions they had about the individual topics. In this way, the vision shifted to a more student-focused work, a common goal and outcome of formative evaluation of instructional materials. As explained by Richards and DeVries (2011), this kind of process constructively involves both students and instructors in the “course improvement process” (p. 1). As expected, course evaluations were not stellar for this first run of teaching, not unlike the sigmoid-curve phenomenon in which initial performance typically is lower and greater overall improvement in an educational innovation can be expected over time (Amos, 2013).

Challenges and Consequences

For writing and production, putting the information into e-textbook form began during the summer of 2012, which also included active work during the university’s summer writing institute. The largest challenge was not the content, but understanding how to format the chapter text material so that it would transfer into the iBooks® system. This was complicated by most writing being done collaboratively from a distance and without either author having prior experience with the platform and the formatting challenges it presents (Sande, 2012). Each co-written chapter had to be edited to meet an exact set of standards to convert properly and match the formatting of the other chapters. For both authors, this was a labor intensive project that required the use of a MacBook® for the iBook platform supported by the campus iPad project.

For students, use of the iPad platform was easy to accommodate in the first year of teaching with the e-textbook, but harder in future years. Even with the tight restrictions on usage and return policies enforced by the teaching and learning center and campus technology services,
some equipment was inevitably damaged through accidents and eventually became outdated as technology improved. The initial collection of iPads used in the project was not available due to these factors in later semesters. It was at this point that the authors began to reconsider the choice of platform for future editions.

For any non-tenured faculty author, the development of an e-textbook might not be viewed as a valid form of scholarship within the campus community. Indeed, textbooks per se have been seen more as a commercial activity than true scholarship. Specifically, electronic publications are considered difficult to evaluate and have not been fully accepted as a legitimate form of scholarship (Bartenen, 2014; Sweeney, 2000). In the vast majority of cases, self-published work is given little weight during tenure and promotion decisions and can in some cases even harm a candidate (Tyson, 2014).

Similarly, teaching generally is rated lower than research in tenure cases (The New Media Consortium, 2015). While some argue that the “teaching versus research” debate should be expanded to include the scholarship of teaching and creation of classroom texts as a valid form of research, this position is not universally accepted (Boyer, 1990; Glassick, 2000). Thus, the development of an e-textbook, or any other book format can become a time-sink without added value for promotion and tenure (Alfred & Thelen, 1993; Roediger, III, 2004). Whether the impact is positive or negative depends on department standards, institution standards, and whether a faculty member goes up on teaching versus research in the promotion and tenure review process. Standards vary in what value will be placed where and faculty-authors should become aware of possible reception to the publication of any textbook.
Outcomes

The fully produced e-textbook successfully provided customized on-the-go learning for students in the CFS course. The authors were able to embed materials directly into the chapters and add hyperlinks to industry websites for additional information. For example, when discussing how Hilton hotels use their own website for reservation purposes, a link to their website was added and students could explore how the brand allows guests to make reservations.

The first semester’s progressive launch of the text including paper formats, and complications with introducing the new iPad technology to the students, led to student criticism of the iPad platform and a preference for a print textbook. However, students in the second semester, using the final form of the e-textbook in its complete electronic format, gave positive reviews for the e-textbook and iPad experience. Interviews with the HEDNA industry professionals were especially popular.

The authors continued to use the formative evaluation process, adapting to the students’ comments and questions, and in 2014, students expressed even more enthusiasm for the course content and the e-textbook. Many commented it was one of the most meaningful courses they had taken in the CFS program. However, by this time, the iPad support grant had ended and students were expected to provide their own devices. Only students with iPads or other Apple devices had access to the full content of the book. Android users were unable to download the full text and could not access the interactive materials. Thus, some students complained about the limited capacity of the iBooks platform for the e-textbook on any device other than an iPad. Although campus labs did not provide iPads, arrangements had been made for students who did not own iPads to rent them for use during the semester. But these arrangements were not enough to quell some students’ concerns.
The next step for the e-textbook will be a second edition. The authors would like to select a more universal platform or find a method to make the current platform accessible on multiple devices. The goal for the second edition will be to add updated video interviews and more interactivity. At this time, this concept for the 2nd edition is only a long-term vision and more research and collaboration in future months will flesh out the details.

**Recommendations**

In the self-publishing model, student costs can be kept low and content can be customized to meet the targeted learning outcomes for a course. Authors can integrate new ideas, information, and technologies more rapidly than with traditional publishers. Authors keep the rights to their intellectual property when self-publishing, rather than the usual arrangement where publishers hold copyright to the author’s work (World Intellectual Property Organization, n. d.). Whereas university policy may claim ownership of many of a teacher’s or professor’s course materials (Flaherty, 2013), no such question of ownership generally applies to a self-published textbook. Authors do not have to deal with typical publisher charge-backs against royalties for functions such as copy editing, proofreading, final editing, cover design, internal design, publishing, distribution, and marketing (Manning, 2014). But the trade-off is the cost of time to the faculty as author in doing these same functions.

Faculty authors need consider a cost-benefit analysis when making the decision to publish a textbook, in particular, an e-textbook. Different campuses may place different values on the enterprise. While publishing may offer great gains for student learning, junior faculty authors may want to gather alternative metrics for inclusion in a promotion and tenure package. That said, self-publishing an e-textbook should not be discounted as a viable and meaningful contribution to teaching, learning, and scholarship, although making that case may be a challenge if the institution does not share this view.
In fact, the faculty author could take on the role of advocate for reconsidering scholarship as demonstrated by impact on student learning. Faculty could establish how this kind of enterprise fits within the Scholarship of Teaching and Learning (SoTL) (Brew, 2011; Kreber, 2007). For example, besides showing the impact on students, a professional organization could endorse the work because of its credible relationship to the expectations in the industry, or review by peers in professional outlets could reveal elements of scholarship valued in higher education.

**Conclusion**

The traditional model for textbooks has consisted of publishers who depend upon a system of both academic labor and universities’ financial resources (Beverungen, Bohm, & Land, 2012). Stepping outside of this more traditional model, this self-published e-textbook project was designed to re-imagine instructional material and take advantage of mobile on-the-go learning technologies to create a textbook specific to an academic area that would not have been otherwise feasible. It has allowed integration of multimedia components within a single textbook format and created opportunities for engagement in the classroom. In the end, the students benefitted by receiving a dynamic, interactive set of learning materials made feasible simply because of the self-published e-textbook format. This is a high value in the quest for good teaching.

**References**


IPFW News Release. (2012). Follett’s gives $25,000 to Project #mobileEDU. Retrieved from https://www.ipfw.edu/news/detail.html?id=84b8112b-589a-4f2e-b8f5-8f03c5401ac1


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<thead>
<tr>
<th>Platform</th>
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<th>Distribution</th>
<th>Continual Access</th>
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<td>University Subscription</td>
<td>Typically restricted to university logins</td>
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<td>Usually open access. May be optimized for Google Discoverability.</td>
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<td>Variable Fees</td>
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Table 2: Evolution of Course Delivery and e-Textbook Development

<table>
<thead>
<tr>
<th>Time Period</th>
<th>Events and Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summer 2011</td>
<td>Decision to add new course to CFS curriculum.</td>
</tr>
<tr>
<td></td>
<td>Discovery of unavailability of any textbook for new course.</td>
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<td></td>
<td>Informal consultations with textbook publishers.</td>
</tr>
<tr>
<td></td>
<td>Deliberations on textbook format.</td>
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<tr>
<td></td>
<td>Deliberation on how to make content widely available.</td>
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<tr>
<td></td>
<td>Campus launch of MobileEDU (iPad) project.</td>
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<td></td>
<td>Reflection on self-publishing options.</td>
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<td></td>
<td>Reflection on authoring platforms.</td>
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<tr>
<td></td>
<td>Focus on iBooks Author because of usability with iPads.</td>
</tr>
<tr>
<td></td>
<td>Gathering of industry input.</td>
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<tr>
<td></td>
<td>Production of industry videos.</td>
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<td></td>
<td>Draft of first few chapters.</td>
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<tr>
<td>Spring 2012</td>
<td>Second year of MobileEDU (iPad) project.</td>
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<tr>
<td></td>
<td>Focus on iBooks Author because of usability with iPads.</td>
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<tr>
<td></td>
<td>Campus bookstore grant to support use of iPads.</td>
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<tr>
<td></td>
<td>Launch of course and formative evaluation of paper-based content.</td>
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<tr>
<td></td>
<td>Content revisions based on students’ comments and questions.</td>
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<tr>
<td></td>
<td>Small-scale introduction of iPad technology.</td>
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<td>Mediocre student evaluations.</td>
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<td><strong>Summer 2012</strong></td>
<td>Production of e-textbook in iBooks Author format. Integration of industry representatives’ videos. Integration of hyperlinks to industry websites.</td>
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<td>----------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
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<tr>
<td><strong>Spring 2013</strong></td>
<td>Second launch of course with e-textbook format. Launch of iPad support for students. Positive student evaluations.</td>
</tr>
<tr>
<td><strong>Spring 2014</strong></td>
<td>Third launch of course with e-textbook format. Launch of iPad support for students. Positive student evaluations. iPad grant support ended. Rental arrangements for iPads. Some students complained about need for iPad.</td>
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