



TIME FOR CLASS:

LESSONS FOR THE FUTURE OF DIGITAL
COURSEWARE IN HIGHER EDUCATION

PART 3: CHARTING A PATH FORWARD
TO REDEFINE COURSEWARE

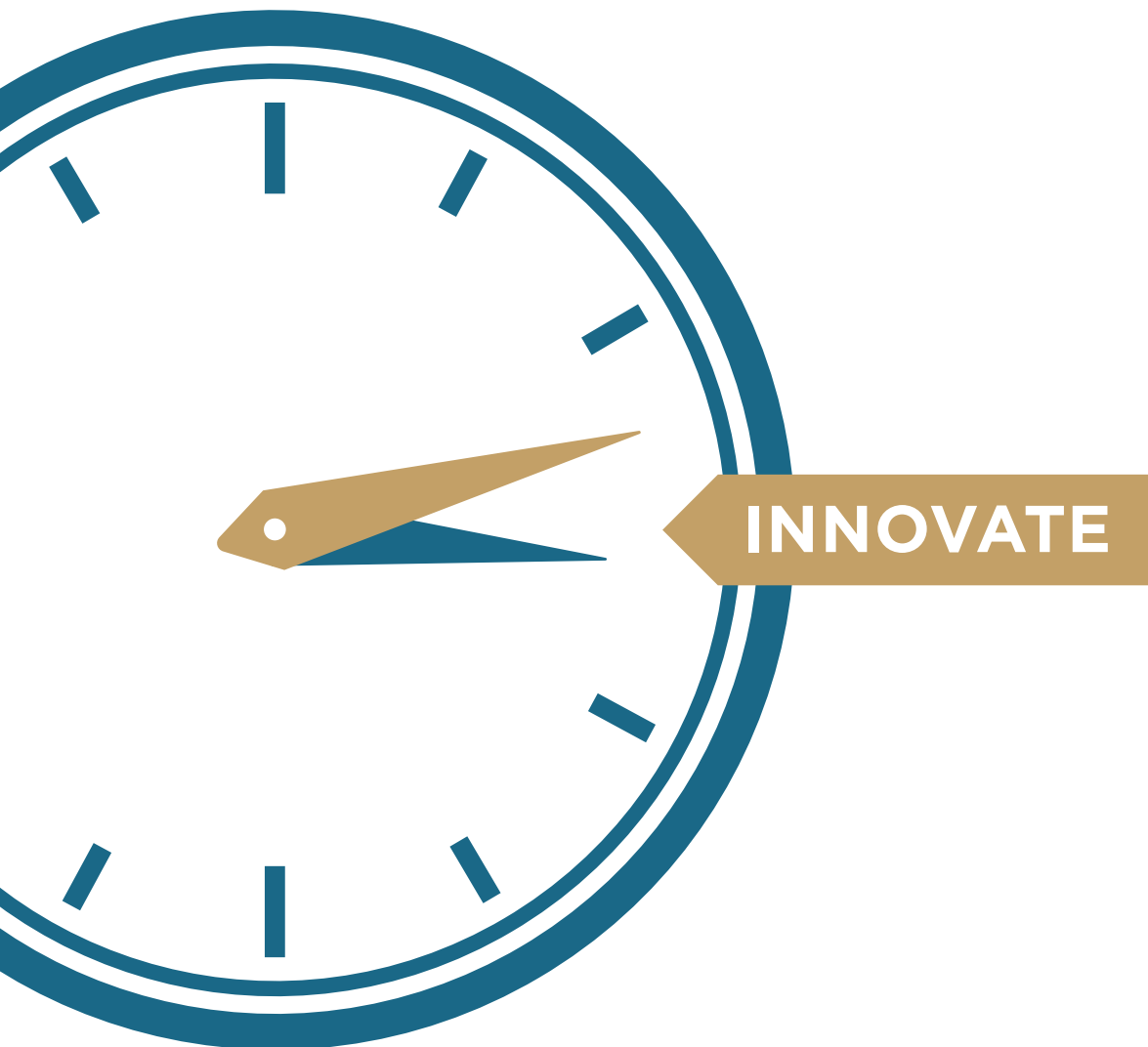


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PART 3: CHARTING A PATH FORWARD TO REDEFINE COURSEWARE

In July and August 2014, Tyton Partners (formerly Education Growth Advisors), with support from the Bill and Melinda Gates Foundation, developed and administered two surveys to national samples of postsecondary faculty and administrators. The objective of these surveys was to better understand the current level of adoption of digital courseware in US postsecondary education, as well as to collect practitioner perspectives on digital courseware use and barriers to further adoption.

*We define digital courseware as **curriculum delivered through purpose-built software to support teaching and learning**. We received over 2,700 responses from faculty and administrators, providing a new lens into the classroom and new insights on dynamics impacting the use of digital courseware in postsecondary education. Alongside these two surveys, Tyton Partners analyzed over 120 products from across the courseware supplier landscape through company surveys, interviews, and secondary research.*

Through this series of three issue briefs, we present the findings from our research and propose tools that will support both institutions and suppliers.

Part 1: Faculty Perspectives on Courseware

Part 2: Evolution of Courseware Suppliers

Part 3: Charting a Path Forward to Redefine Courseware

Executive Summary: *Pressure is mounting in the postsecondary education ecosystem to improve the quality of teaching and learning, while increasing accessibility and affordability for students. While it is widely accepted that educational outcomes are better when instruction is personalized to students' needs and objectives, effective personalized learning has historically been achieved in a face-to-face context that is instructor-intensive, a model that doesn't fit today's demand for more flexible learning experiences for millions of students.*

Digital courseware has the potential to alleviate the pressures building in postsecondary education through scalable, personalized instruction; however, the category as a whole has not delivered on its promise. Our comprehensive scan of the market revealed that digital courseware enjoys high awareness and significant use by postsecondary faculty, but leaves many users woefully dissatisfied and also faces considerable barriers to further adoption. In the face of increasing demands on the postsecondary system, these findings are a call to action for institutions and suppliers to redefine digital courseware and to catalyze improved teaching and learning.

In this paper, we will explore two decisions made in the institutional context that impact postsecondary courseware adoption – the decision to purchase digital courseware and the selection of digital courseware for a particular class. We will then provide insight into who is making or influencing these important decisions through a set of profiles highlighting key attributes and preferences of different groups of faculty. We will also provide suggestions to stakeholders interested in improving user satisfaction with digital courseware and lowering the barriers to ongoing adoption. We propose that if vendors and institutions take a more targeted approach to addressing faculty dissatisfaction, then courseware as a category will be on a path toward reinvention.

FINDING THE DECISION MAKER IN DIGITAL COURSEWARE ADOPTION

In their efforts to drive courseware adoption and impact, stakeholders frequently seek to understand who the ultimate decision makers for courseware purchase and selection are within an institution. Some stakeholders believe that decisions are made and courseware is implemented in a top-down manner, and thus pursue strategies to drive adoption at the institution or administrator level. Other stakeholders seek to build support from the ground up, in hopes that early adopters will evangelize the masses. Both sets of stakeholders are working toward a common goal through different approaches, and based on our summer 2014 research on digital courseware adoption, both groups are going about it in the right way – *sort of*.

Findings from our survey of over 2,700 postsecondary faculty and administrators suggest that while institutional leaders play an important role in courseware adoption decisions, particularly around the purchase of courseware, faculty also have significant influence, and that the level of centralized decision making can vary materially by institution. The fact that there are multiple decision making models, and that various stakeholders are involved in each model, may slow the expansion of courseware adoption and impact by obscuring the picture of who is making decisions and what exactly they are seeking in a courseware product.

INSTITUTIONAL COURSEWARE ADOPTION DECISIONS

In a postsecondary institution, there are four key decisions that play into the adoption of courseware – the choice to purchase courseware, the selection of courseware for a class, and determinations by faculty about the role of courseware in a class, and determinations by students about how to use it. Of course, these decisions aren't a linear series; rather, they are interrelated and iterative, each with the potential to impact whether courseware is finally adopted and able to drive outcomes for students. In this paper, we will provide a look into two of these four decisions – the decision to purchase courseware and the selection of courseware for use in a course.



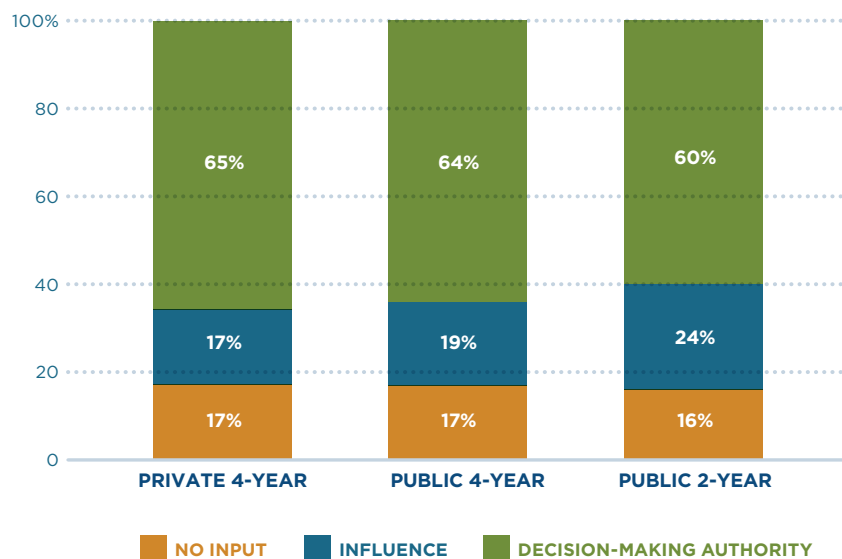
When faculty and administrators were asked in our 2014 survey, “Which best describes the level where digital courseware purchasing decisions are (would be) made at your institution?” with six options to choose from (Institution, College, Department, Course, Individual Faculty, and Other¹), 43% of faculty and 48% of administrator respondents selected the institution level. Another significant percentage of respondents indicated that purchase decisions are made at the department level (31% of faculty and 28% of administrators), and about a quarter of both groups of respondents chose the individual faculty level. Analysis by institution type shows higher rates of centralized institution-level decision making at private four-year and public four-year institutions, while two-year institutions have greater decision-making power at the department level.

1. Survey respondents were able to select more than one level in their response.

Despite purchase decisions most often being made at the institution level, there are a number of individual stakeholders and stakeholder groups influencing those decisions. When asked, “Who are the top influencers for decisions on digital courseware purchasing for your institution? (Select up to 3),” 48% of faculty and 58% of administrators indicated faculty as one of their choices. Other positions that carry weight as top influencers according to at least 25% of survey respondents are deans, department or program chairs, provosts, and directors of distance education. Institutional stakeholders that do not appear to exert as much influence on purchase decisions, based on the survey results, include presidents, chief information officers and chief technology officers, faculty senates, and finally, at the bottom of the list, students. The top influencers identified by faculty and administrators do not vary materially by institution type.

Another decision made in the institutional context is the selection of courseware for use in a given course. Of the over 1,300 faculty respondents to the survey, 54% indicated that they had used digital courseware in at least one of the courses they taught during the prior academic year. Of those who had used digital courseware in the prior academic year, 84% reported having decision-making authority or influence over the selection of courseware used in their courses. Of those who had not used digital courseware during the prior academic year, over 95% reported having decision-making authority or influence over the selection of academic materials used in their courses. Both findings point to the decisive role that faculty members play in the selection of the academic materials, including digital courseware, that ultimately reach postsecondary students.

FACULTY ROLE IN THE SELECTION OF DIGITAL COURSEWARE



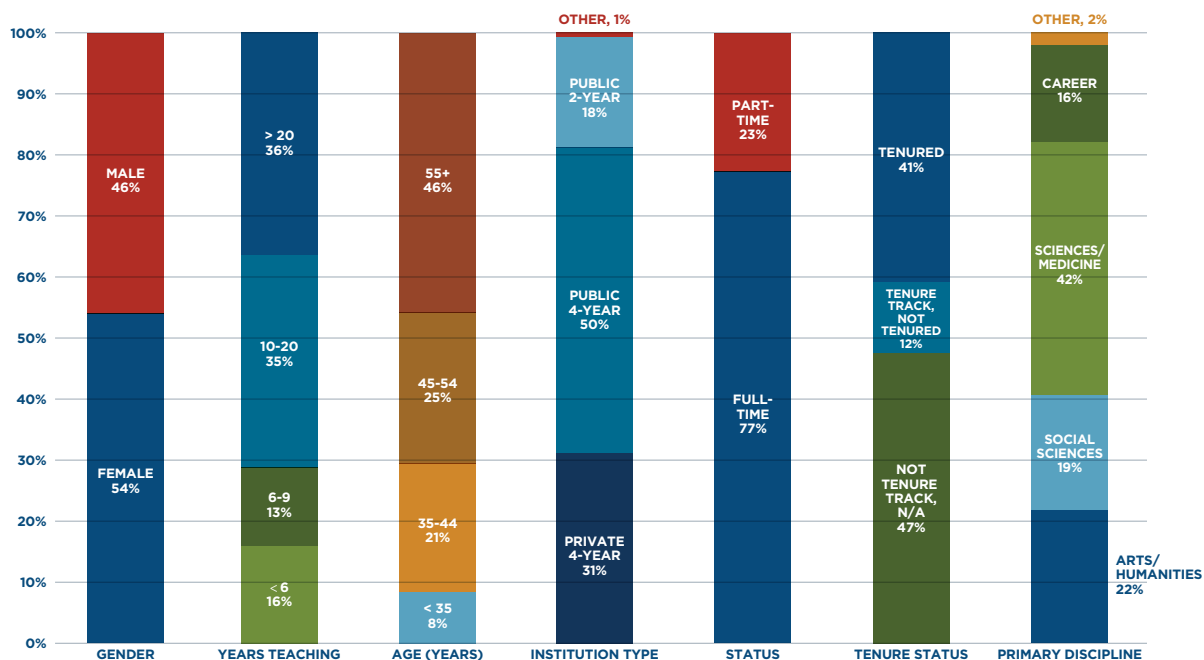
Note: Data in chart includes only faculty who indicated that they used digital courseware in a course during the previous academic year.

The survey findings on these two decisions suggest that postsecondary faculty are potentially the most influential stakeholders impacting courseware adoption decisions at an institution. ***In light of faculty members’ influence on both purchase decisions and the selection of materials for courses, it is crucial for vendors and institutions to understand this group of decision makers in order to improve satisfaction with digital courseware and ultimately broaden the adoption and impact of the category as a whole.***

GETTING TO KNOW THE DECISION MAKERS

The US postsecondary faculty population comprises an estimated 1.5 million individuals,² and data collected through our nationally representative faculty survey confirms that this is a diverse group with a range of teaching experiences that vary in terms of discipline, mode of instruction, career track, and institutional environment. Assuming that these individuals all have the same needs and preferences for their instructional tools and methods would be folly, but seeking to understand and cater to their unique, individual needs also presents a major challenge for the institutions they call home and the vendors seeking to serve them.

SUMMARY OF FACULTY RESPONDENT DEMOGRAPHIC DATA



* Data in chart may not sum to 100% due to rounding

Despite the diversity of individuals captured in the survey sample, we found a number of similarities in their attitudes, preferences, and courseware aspirations. Through cluster analysis, we were able to group 90% of the over 1,300 faculty respondents into four statistically significant segments, based on their responses to a number of survey questions. Many of these questions sought to identify perceptions about the potential outcomes of digital courseware usage and preferences for instruction (see appendix 1 for details). The resulting segments depict four unique and relevant faculty personae – Off-the-Shelfers, Lecturing Skeptics, Unconvinced Do-It-Yourselfers, and Enthusiastic Do-It-Yourselfers – that are present across institution types and disciplines.

The persona profiles below are designed to assist postsecondary stakeholders seeking to better understand the individuals influencing courseware purchase and selection. Each of the profiles includes the following:

- Faculty demographic data
- Faculty perceptions on digital courseware and preferences for instruction

2. National Center for Education Statistics, "The Condition of Education: Characteristics of Postsecondary Faculty," May 2014, http://nces.ed.gov/programs/coe/indicator_cuf.asp.

OFF-THE-SHELFERS: 21% OF SAMPLE

Off-the-Shelfers are more heavily concentrated in public two-year institutions and career-focused disciplines. These individuals value ease of use and implementation and are less inclined to develop their own curriculum than their peers. We believe that their cost sensitivity, as shown in the barriers to adoption analysis later in the paper, is connected to this institutional and discipline concentration.

DEMOGRAPHICS



74% WORK FULL-TIME



31% HAVE WORKED < 10 YEARS



47% ARE TENURED OR TENURE TRACK

PRIMARY DISCIPLINES



- ARTS/HUMANITIES
- SOCIAL SCIENCES
- SCIENCES/MEDICINE
- CAREER
- OTHER

INSTITUTION TYPE



GENDER

MALE (40%)

FEMALE (60%)

CLASSROOM TYPE

ONLINE

36%

BLENDED

47%

FACE-TO-FACE

73%

PERCEPTIONS

AS A PROFESSOR, I...

AM AWARE OF DIGITAL COURSEWARE AND HOW IT IS USED

AWARE

SOMEWHAT AWARE

UNAWARE

AND WITH REGARD TO COURSEWARE, I

VALUE THE POTENTIAL IMPACT

NEUTRAL

AM SKEPTICAL

AND THIS IS MY APPROACH TO...

TECHNOLOGY ADOPTION

NEW/UNPROVEN

NEUTRAL

WELL-PROVEN

DELIVERING INSTRUCTION

LECTURE

NEUTRAL

FACILITATION

TEACHING METHODS

PROVEN

NEUTRAL

EXPLORATORY

CURRICULUM

DEVELOP MYSELF

NEUTRAL

USE 3RD PARTY

EDUCATIONAL CONTENT

CUSTOM/OPEN EDUCATIONAL RESOURCES

NEUTRAL

COMMERCIALY AVAILABLE

DATA IN THE CLASSROOM

DATA INFORMS INSTRUCTION

NEUTRAL

DON'T USE

LECTURING SKEPTICS: 31% OF SAMPLE

Of all of the segments, Lecturing Skeptics are the faculty most likely to deliver instruction through a lecture format, least likely to instruct online, and tend most toward proven teaching methods. These are the more traditional drivers of the teaching and learning process, to whom digital courseware has yet to prove itself. Lecturing Skeptics are more likely to teach in arts and social science disciplines than members of other segments - areas where the creation of effective digital courseware is generally considered to be more challenging.

DEMOGRAPHICS



79% WORK FULL-TIME



28% HAVE WORKED < 10 YEARS



61% ARE TENURED OR TENURE TRACK

PRIMARY DISCIPLINES



- ARTS/HUMANITIES
- SOCIAL SCIENCES
- SCIENCES/MEDICINE
- CAREER
- OTHER

INSTITUTION TYPE



GENDER

MALE (51%)

FEMALE (49%)

CLASSROOM TYPE

ONLINE

15%

BLENDED

23%

FACE-TO-FACE

87%

PERCEPTIONS

AS A PROFESSOR, I...

AM AWARE OF DIGITAL COURSEWARE AND HOW IT IS USED



AND WITH REGARD TO COURSEWARE, I



AND THIS IS MY APPROACH TO...

TECHNOLOGY ADOPTION



DELIVERING INSTRUCTION



TEACHING METHODS



CURRICULUM



EDUCATIONAL CONTENT



DATA IN THE CLASSROOM



UNCONVINCED DIYERS: 25% OF SAMPLE

Unconvinced DIYers want control over curriculum decisions and are open to how courseware might facilitate this; however, they are not yet convinced that the cost of using courseware is worth the potential benefits.

DEMOGRAPHICS



82% WORK FULL-TIME



24% HAVE WORKED < 10 YEARS



59% ARE TENURED OR TENURE TRACK

PRIMARY DISCIPLINES



- ARTS/HUMANITIES
- SOCIAL SCIENCES
- SCIENCES/MEDICINE
- CAREER
- OTHER

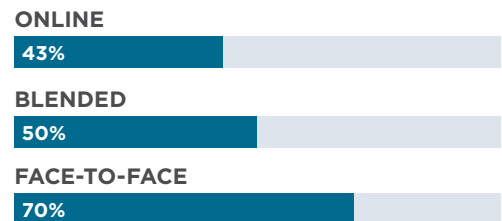
INSTITUTION TYPE



GENDER



CLASSROOM TYPE



PERCEPTIONS

AS A PROFESSOR, I...

AM AWARE OF DIGITAL COURSEWARE AND HOW IT IS USED



AND WITH REGARD TO COURSEWARE, I



AND THIS IS MY APPROACH TO...

TECHNOLOGY ADOPTION



DELIVERING INSTRUCTION



TEACHING METHODS



CURRICULUM



EDUCATIONAL CONTENT



DATA IN THE CLASSROOM



ENTHUSIASTIC DIYERS: 13% OF SAMPLE

Enthusiastic DIYers look very similar to Unconvinced DIYers in their perceptions and preferences, but they report higher satisfaction with digital courseware than their peers (see page 13). An interesting distinction between the groups is that a minority of Enthusiastic DIYers are tenured or tenure track (39%), while a majority of Unconvinced DIYers fall into those categories (59%). In addition, a greater portion of Enthusiastic DIYers have been teaching for fewer than 10 years.

DEMOGRAPHICS



71% WORK FULL-TIME



34% HAVE WORKED < 10 YEARS



39% ARE TENURED OR TENURE TRACK

PRIMARY DISCIPLINES



- ARTS/HUMANITIES
- SOCIAL SCIENCES
- SCIENCES/MEDICINE
- CAREER
- OTHER

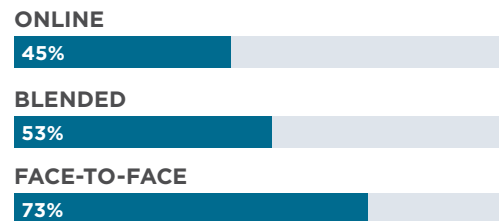
INSTITUTION TYPE



GENDER



CLASSROOM TYPE



PERCEPTIONS

AS A PROFESSOR, I...

AM AWARE OF DIGITAL COURSEWARE AND HOW IT IS USED



AND WITH REGARD TO COURSEWARE, I



AND THIS IS MY APPROACH TO...

TECHNOLOGY ADOPTION



DELIVERING INSTRUCTION



TEACHING METHODS



CURRICULUM



EDUCATIONAL CONTENT



DATA IN THE CLASSROOM



In line with the barriers to courseware adoption discussed in the first paper in this series, which categorized faculty respondents by type of institution, the top barriers to adoption reported by members of the faculty segments revolve around classroom-level concerns, including courseware’s impact on faculty time, control over instruction and course experience, and technical integration challenges. Unlike the barriers reported by institution type, efficacy of digital courseware does not rise to the top five barriers to adoption for every segment. A segment-level analysis reveals that two segments, Unconvinced DIYers and Enthusiastic DIYers, do not see efficacy concerns as a top barrier to adoption, while the other two segments, Off-the-Shelfers and Lecturing Skeptics, continue to seek evidence of courseware efficacy.

The fact that “additional time required for faculty” was the most frequently reported barrier by three of the four faculty segments should raise a red flag for the market. Across many industries, including education, a fundamental component of technology’s value proposition is its ability to drive productivity gains for users. Findings from our survey indicate that, whether perception or reality, courseware is failing to deliver this value; in fact, time is more often considered a cost of use.

TOP BARRIERS TO ADOPTION BY FACULTY SEGMENT

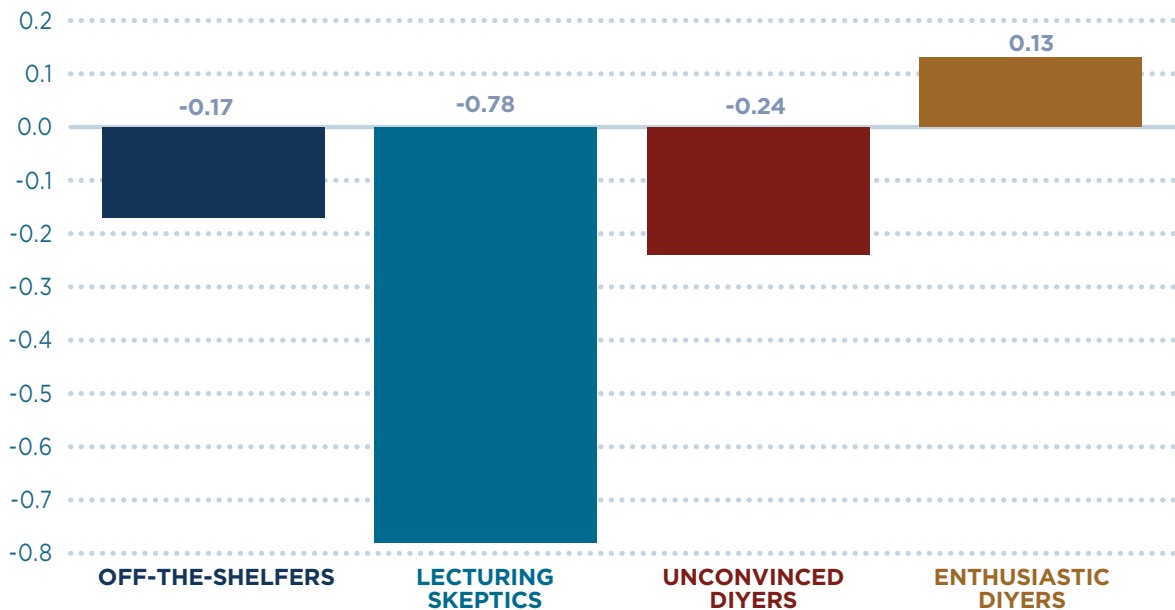
	OFF-THE-SHELFERS	LECTURING SKEPTICS	UNCONVINCED DIYERS	ENTHUSIASTIC DIYERS
1	ADDITIONAL TIME REQUIRED FOR FACULTY	LACK OF ALIGNMENT WITH MY PHILOSOPHY OF INSTRUCTIONAL DESIGN	ADDITIONAL TIME REQUIRED FOR FACULTY	ADDITIONAL TIME REQUIRED FOR FACULTY
2	TECHNICAL INTEGRATION CHALLENGES	EFFICACY OF DIGITAL COURSEWARE IN IMPROVING LEARNING OUTCOMES	POOR IMPLEMENTATION SUPPORT FOR INSTITUTIONS AND FACULTY	TECHNICAL INTEGRATION CHALLENGES
3	ADDITIONAL COST TO STUDENTS	ADDITIONAL TIME REQUIRED FOR FACULTY	TECHNICAL INTEGRATION CHALLENGES	RESISTANCE TO SHIFT IN INSTRUCTIONAL METHOD
4	EFFICACY OF DIGITAL COURSEWARE IN IMPROVING LEARNING OUTCOMES	REDUCED CONTROL OVER COURSE CONTENT AND STUDENT EXPERIENCE	RESISTANCE TO SHIFT IN INSTRUCTIONAL METHOD	ADDITIONAL COST TO STUDENTS
5	ADDITIONAL COST TO INSTITUTION	LACK OF RELEVANT COURSEWARE	ADDITIONAL COST TO STUDENTS	ADDITIONAL COST TO INSTITUTION

CLASSROOM-LEVEL BARRIERS

OTHER BARRIERS

Unsurprisingly, members of the four faculty segments vary widely in their level of satisfaction with courseware products, as measured by a Net Promoter Score (NPS).³ When faculty survey respondents were asked whether they would recommend their courseware product to a friend or colleague at their own or another institution, only one of the four segments, Enthusiastic DIYers, exhibited a positive NPS, meaning that a greater portion of the group would be promoters of courseware than would be detractors. The scores from the other three segments, Off-the-Shelfers, Lecturing Skeptics, and Unconvinced DIYers, range broadly in levels of overall dissatisfaction, with Lecturing Skeptics' satisfaction reported to be the lowest of all.

NET PROMOTER SCORE BY SEGMENT



3. A Net Promoter Score is evaluated by asking "How likely are you to recommend this [product, service, or company] to a friend or colleague?" with 10 being "very likely" and 0 being "not at all likely." People responding 9 or 10 are considered to be promoters of the product, those who select 7 or 8 are neutral, and respondents indicating 6 or below are considered to be detractors. The NPS is calculated by subtracting the portion of respondents that are detractors from the portion that are promoters, and it is a metric used by companies across industries as an indicator of customer satisfaction.

A CALL TO ACTION

By understanding the needs and preferences of faculty and designing responses accordingly, institutions, vendors, and other postsecondary stakeholders looking to broaden the adoption of digital courseware will be in a position to *redefine courseware* by changing the way it impacts and is perceived and understood by faculty. Below are recommendations for institutional and supply-side stakeholders to create targeted responses with the greatest potential to drive satisfaction and broaden courseware adoption and impact.

INSTITUTIONAL STAKEHOLDERS

Institutional leaders should understand the courseware decision-making dynamics at their own institutions and think through the implications that those dynamics have for digital courseware adoption. Ideally, courseware purchase decisions should be made with consideration for and input from the faculty members who will be most impacted by them, and in an environment conducive to adopting new curriculum and technologies. If your institution is making its courseware purchase decisions centrally, is there a case to be made for delegating the decisions to a smaller unit level, where there may be an opportunity to better customize the courseware products purchased to the needs of faculty and, in the process, drive greater faculty ownership of the outcome? If your institution makes courseware purchase decisions in a more decentralized fashion, are the decision makers well positioned to adopt and implement new and innovative solutions?

One way to begin this discussion is to ask leaders at your institution the following questions:

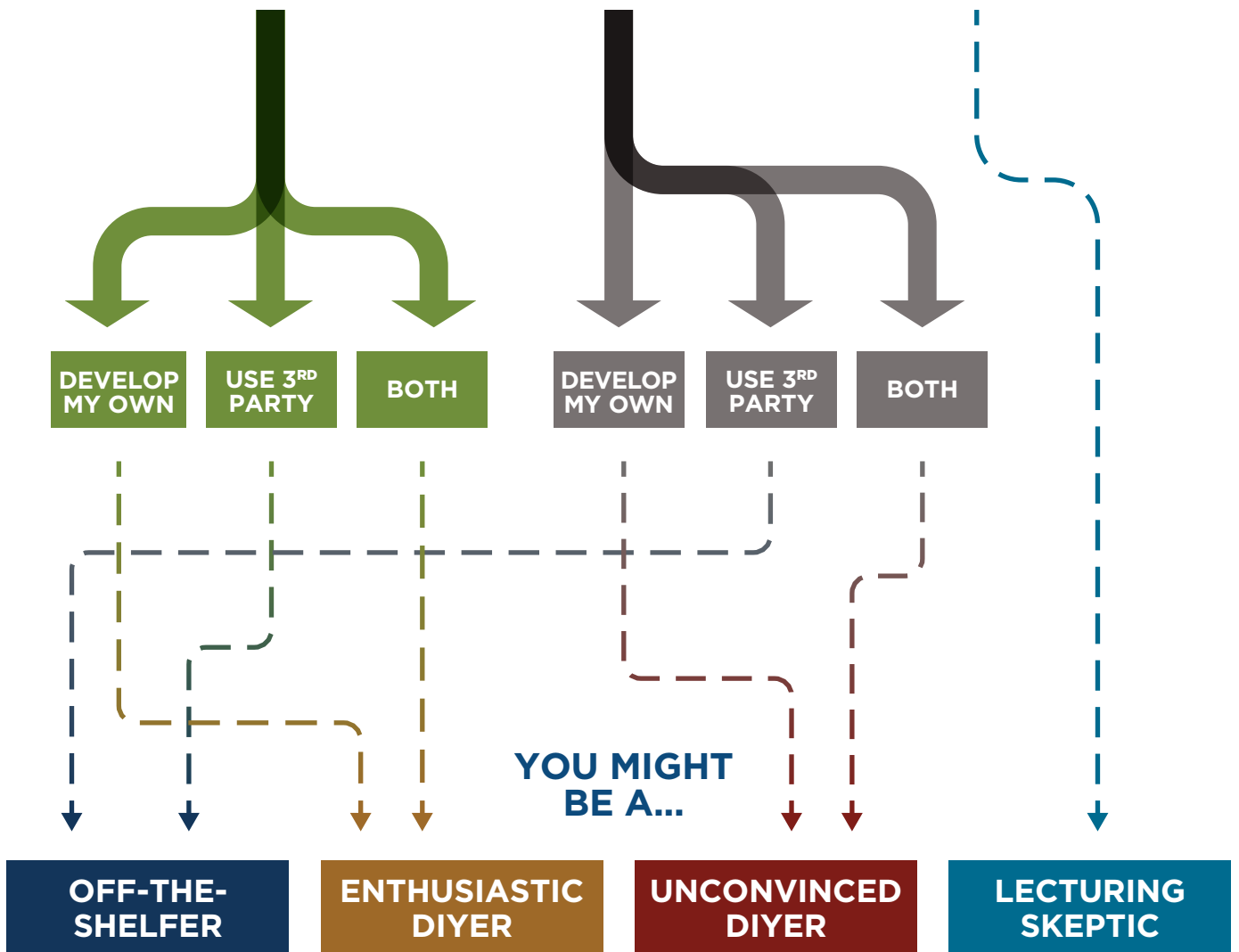
- Where are courseware purchase decisions made at our institution?
- Why are decisions made at this level? Is there flexibility to move these decisions to another level to be closer to the needs of faculty?
- Who are the key influencers of these decisions? How are their perspectives collected and what weight do they carry in the ultimate decision?
- What are our institutional conditions for adoption? How does adoption of courseware align with institutional objectives and faculty motivations, and what support exists for adoption and implementation of courseware?

At whichever level courseware purchase decisions are made at your institution, we suggest getting to know the group of faculty affected, whether that is all faculty at an institution or the faculty in a single department. One way to do so is to identify which personae best represent the individual faculty members. These personae can act as a guide for identifying which product attributes to look for and which adoption barriers to be most aware of when making decisions about courseware purchase, selection, and use. To place your faculty in the segments, start by asking a few questions to understand their preferences and perspectives on instruction with digital courseware. While our cluster analysis looked at many factors (details are provided in appendix 1), we offer below a simplified set of questions for use with faculty.

WHAT IS YOUR PERSPECTIVE ON DIGITAL COURSEWARE?



WHAT IS YOUR PRIMARY APPROACH TO CURRICULUM?



Once your faculty are aligned with a particular segment, courseware decisions should take into account their preferences and concerns. We have included a few considerations below for each segment:

- **Off-the-Shelfers:** Consider course-complete offerings that easily plug into the existing systems to which your faculty are accustomed. This will reduce the time required from faculty to put together curriculum and come up to speed on the product. Be sensitive to faculty willingness to pass on additional material costs to students by evaluating lower-cost options as available.
- **Lecturing Skeptics:** In the absence of better evidence of efficacy, it will be a challenge to drive (willing) courseware use among this segment. Instead of using force through top-down adoption efforts, consider approaches that support elective faculty-level adoption. Mechanisms like challenges, micro-grants, and innovation fellowships act as incentives for experimentation by providing a protected space and time to explore something new. Positioning this experimentation with a focus on measurement of outputs such as student outcomes or faculty productivity may also help to strengthen the case for greater adoption among Lecturing Skeptics by building a body of evidence around efficacy.
- **Unconvinced DIYers:** Seek courseware products that enable some customization – at a level that allows faculty to maintain control of the course content and experience but does not require a major time investment for up-front content development. Also, when evaluating vendors, look for those that emphasize service and training as part of their offering. A commitment to supporting institutions and faculty in these areas will be important to mitigate concerns over implementation and integration issues.
- **Enthusiastic DIYers:** Similar to the approach recommended for Unconvinced DIYers, focus on courseware products that allow for some customization without requiring a major time investment. Enthusiastic DIYers have some sensitivity to cost, so the use of lower-cost options that may leverage open educational resources may be an attractive option. Also, seek courseware tools that are multi-purpose and multi-functional, allowing faculty to maintain the reins by controlling when and how they integrate courseware into their instruction.

COURSEWARE SUPPLIERS

Faculty have emerged as an institutional stakeholder group with significant influence on courseware adoption decisions; however, current efforts to develop and offer courseware products that meet this group's needs have mostly failed. Faculty are broadly dissatisfied by the offerings in the market, and it's no mystery why - with all the fanfare in the education sector around personalization, there seems to be little discussion of **personalizing teaching and learning tools to meet the needs of the instructor**. We believe that tomorrow's courseware market leaders will be successful in identifying and reacting to the needs of their target faculty markets, ultimately evolving their products and support services to fit those needs. Below are a few suggestions to get started:

Identify your target customer segments: Using the preferences and barriers outlined in our faculty persona profiles, seek to identify the groups of faculty that may be best suited to your product and service offerings. Then map where those faculty members are in terms of factors like institution type, academic discipline, and professional association membership.

Fine-tune your offerings: Based on the target segments identified, what are the most relevant barriers to broadening adoption? Can you specifically show prospective users how their top barriers are addressed? What are the attributes that you think will be most valued by your target faculty users? Do you have the capability to develop those attributes, or can you partner to deliver them? Recognize that your courseware solution may not be everything to everyone, but that there is an opportunity to be the best-in-class solution for some segment(s) of the market.

Be direct: Faculty members are either making the decisions leading to courseware adoption or influencing those decisions; therefore, the onus is on suppliers to make sure that the right faculty are familiar with their products before decisions are made. Identify opportunities to educate faculty directly about your product as part of the sales and marketing process. Using what you learned about your target segments, deliver a message that illustrates how your product addresses their needs and concerns. Then, once a product is in the hands of faculty, mitigate concerns about the courseware learning curve and loss of control in the classroom by supporting faculty with time-saving best practices and strategies for customizing the instructional experience.

Note: *We recognize that emerging courseware suppliers may need to take a different approach than established providers to execute the recommendations presented here to reach faculty. For emerging players, "be direct" may include attendance at conferences where you can reach many faculty members at once, as opposed to outreach to individual faculty members, as some established publishers are able to do. Partnership for product integration or distribution is a particularly relevant strategy for emerging players, as it may allow them to partner for the business development and distribution pieces of the courseware adoption process. Additionally, seizing smaller-scale opportunities for pilots on campus or developing a faculty-level champion for your product are effective mechanisms to support your business development efforts on campus.*

FINE-TUNING YOUR OFFERINGS AND MESSAGE BY FACULTY SEGMENT

OFF-THE-SHELFERS	LECTURING SKEPTICS	DIYERS
<p>By virtue of their willingness to use third-party content, this segment constitutes a strong target for courseware vendors that can improve the user friendliness of their products by reducing the faculty time required to get up to speed and integrate the products with existing systems. Beware of cost sensitivity among faculty, and think through pricing models that limit the variable cost per student.</p>	<p>With nearly 50% of this group reporting that they are skeptical of courseware's potential to deliver outcomes, this segment is unlikely to adopt courseware at scale without unequivocal evidence of efficacy. If progress is to be made with this group, it will come from the ground up, one faculty member at a time. To enable this, support institutional partners in their small-scale pilot programs and work together to measure outcomes in ways that are timely and replicable in order to generate evidence of efficacy down the road.</p>	<p>The DIYers' need for control must be recognized if you are to penetrate this market. By developing courseware products that allow for customization, particularly flexibility to incorporate open educational resources and other low-cost materials, and that do not require major time investments up front for implementation, integration, and maintenance, vendors should be successful in tapping this large group.</p>

CONCLUSION

Across this three-part series, we have shared insights on the current state of the digital courseware landscape and its historical trajectory, with the objective of building market knowledge to inform the future evolution of the space. Below are three key takeaways from our analysis:

High awareness and adoption of digital courseware by postsecondary faculty stand in stark contrast to broad dissatisfaction with courseware and significant barriers to ongoing courseware adoption. Primary faculty concerns revolve around courseware's impact on their time and their control over classroom experiences, as well as uncertainty regarding digital courseware's ability to improve learning outcomes. Additionally, faculty frequently face a lack of incentives and implementation support that could encourage and enable effective use of innovative digital teaching and learning tools. Ultimately, these factors do not add up to a compelling value proposition for many current and potential adopters.

The landscape of digital courseware solutions is diverse and complex, with hundreds of products delivering an array of attributes aligned to the various use cases at institutions. The market has evolved significantly since the introduction of textbook bundles; however, as each new generation of solutions enters the market, newer products do not displace those from prior generations, contributing to a landscape that is ever-expanding and increasingly complex. As a result, courseware as a category is not well defined or understood, making it difficult for most new products to gain traction and meaningful market share. Additionally, the prevailing marketing and distribution channels for courseware products are expensive to develop and maintain, making the adoption of new, innovative products, often from smaller companies, even more challenging.

There is a multi-faceted set of decisions, decision makers, and influencers that determine courseware adoption in many postsecondary institutions. This complexity likely contributes to slow adoption of new solutions, by adding to suppliers' challenges in getting the right information to the right stakeholders. The most influential group in courseware adoption decisions is faculty, many of whom are open to digital courseware but have yet to find solutions that fit their needs. By understanding faculty preferences and objectives for courseware use, suppliers have the opportunity to better target their products and services to users' needs, and institutions can revise their policies to support faculty use of courseware. Together, vendors and institutions have the chance to reinvent digital courseware as an effective and valuable tool to personalize learning at scale.

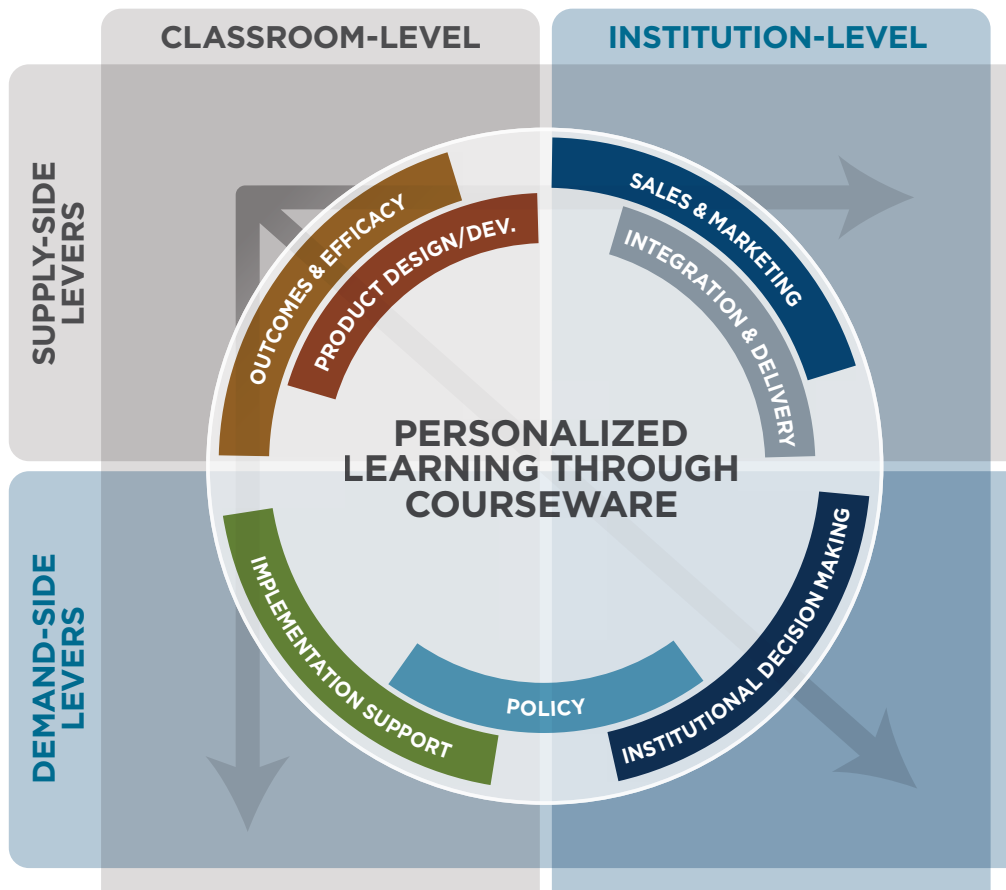
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For digital courseware to deliver personalized learning at scale in postsecondary education, stakeholders across the ecosystem will have to work to close the gap between courseware supply and courseware demand. Currently, the supply side does not have clear insight into the needs and preferences of the primary users and decision makers, while the demand side does not understand the contours of the supplier landscape well enough to identify the best solutions for their needs. Our recommendations across this series aim to help institutional customers and courseware suppliers to close this gap and, in the process, redefine the courseware category as a whole.

Courseware will be redefined through targeted product, service, and institutional policy changes that transform how courseware interacts with and impacts faculty, and that, as a by-product, shift how faculty and institutional leaders perceive the adoption of digital courseware solutions. Clearly, this redefinition will not occur overnight. However, if faculty concerns about classroom-level issues can be tackled through improvements to product

design, and the resulting changes positively impact the faculty experience, a key hurdle to many of the institutional and system-level challenges will have been addressed. This will open the door to the pursuit of mechanisms that aggregate institutional demand and foster ongoing improvement and innovation in the courseware space - moving the effective discovery, adoption, and use of digital courseware from a model scenario to one that is accessible for all institutions that seek it.

THE PATH TO REDEFINE COURSEWARE STARTS IN THE CLASSROOM



The delivery of personalized postsecondary education broadly and without access barriers is key to providing opportunities for social and economic advancement to millions of students. Collaboration from stakeholders across the courseware ecosystem, working systematically to close the supply-demand gap, is essential to making this ambitious goal a reality.

APPENDIX 1: FACULTY SEGMENTATION ANALYSIS METHODOLOGY

The faculty segments were developed through a cluster analysis of faculty responses to survey items. The survey items that were used to determine the clusters are listed below:

Please rank your level of agreement with the following statements regarding the use of digital courseware at your institution and in your courses. (Select Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, or Strongly Agree)

- Faculty are encouraged to use digital courseware
- Using digital courseware increases collaboration between instructors within my department

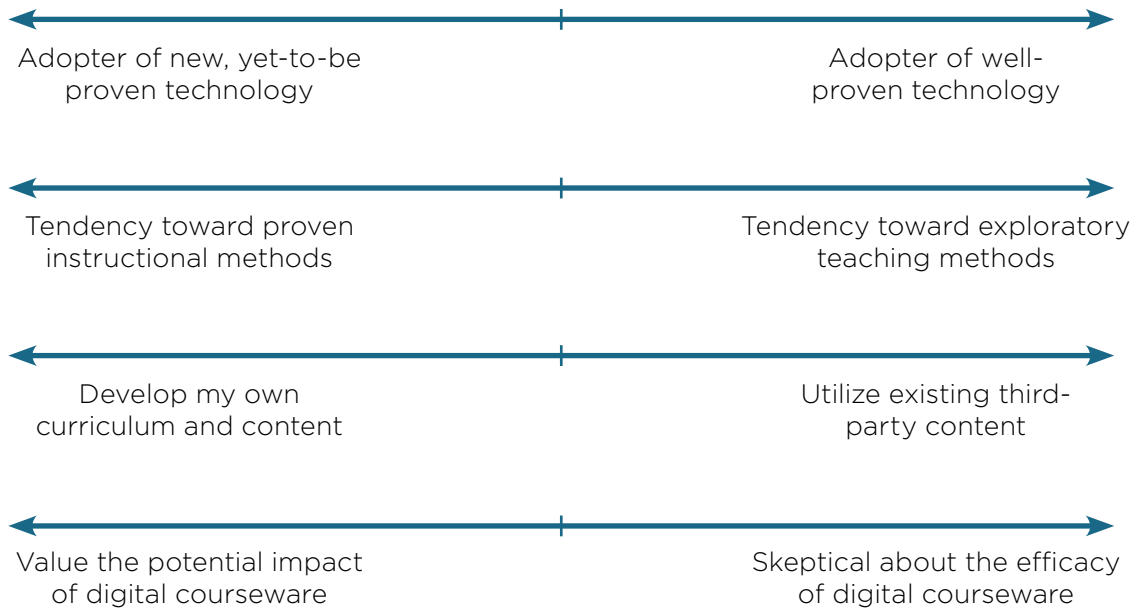
Please rank your level of agreement with the following statements regarding outcomes from the use of digital courseware. (Select Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, or Strongly Agree)

- Reduces the cost of instruction.
- Improves student engagement.
- Helps my institution recruit students.
- Saves time for faculty.
- Requires more time from faculty.

How do you think the students in your classes would respond to the following statements? Students' use of digital courseware... (Select Strongly Disagree, Disagree, Neither Agree nor Disagree, Agree, or Strongly Agree)

- Provides them with a more personal learning experience
- Offers them greater schedule flexibility
- Offers them a more rigorous course of study

In order to help us understand your instructional style, please use the sliders below to indicate where your instructional tendencies and preferences fall on these dimensions:

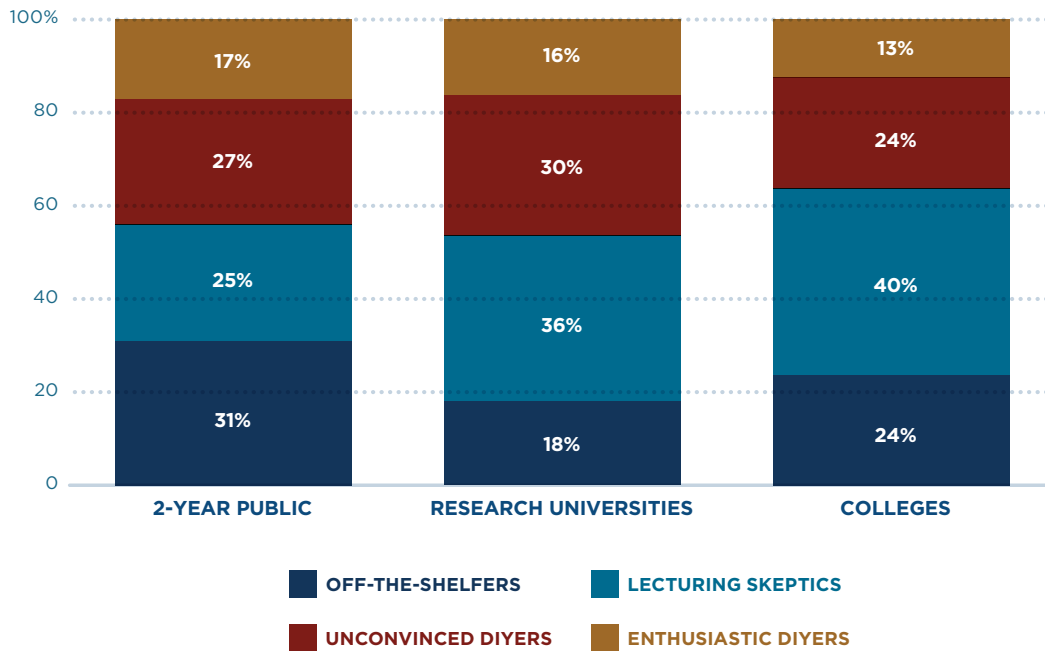


APPENDIX 2: FACULTY SEGMENTATION ANALYSIS SUMMARY DATA

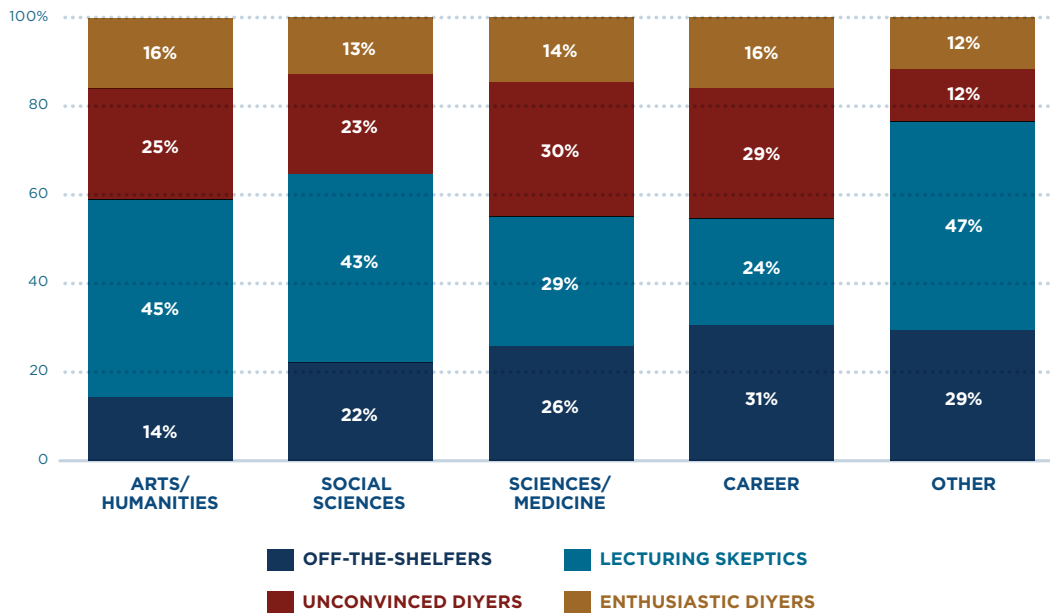
For ease of comparison, we have provided summary charts below featuring highlights from the faculty segmentation analysis.

	OFF-THE-SHELFERS	LECTURING SKEPTICS	UNCONVINCED DIYERS	ENTHUSIASTIC DIYERS
Percentage of Total Faculty Respondents	21%	31%	25%	13%
Portion Who Value the Potential Impact of Courseware	52%	3%	78%	86%
Top Three Barriers to Adoption	<ul style="list-style-type: none"> • Additional time required for faculty • Technical integration challenges • Additional cost to students 	<ul style="list-style-type: none"> • Lack of alignment with my philosophy of instructional design • Efficacy of digital courseware in improving learning • Additional time required for faculty 	<ul style="list-style-type: none"> • Additional time required for faculty • Poor implementation support for institutions and faculty • Technical integration challenges 	<ul style="list-style-type: none"> • Additional time required for faculty • Technical integration challenges • Resistance to shift in instructional method
Net Promoter Score	-0.17	-0.78	-0.24	0.13

FACULTY SEGMENTS BY INSTITUTION TYPE



FACULTY SEGMENTS BY DISCIPLINE



* Data in chart may not sum to 100% due to rounding

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- Kevin Bell, Executive Director of Curriculum Development and Deployment, College of Professional Studies, Northeastern University
- Dr. Meg Benke, Professor, School for Graduate Studies, Empire State College, State University of New York
- Dr. Christine Geith, Executive Director, MSUGlobal, Michigan State University
- Dale Johnson, Senior Business Analyst, Arizona State University
- Dr. Vince Kellen, Senior Vice Provost, Analytics and Technologies, University of Kentucky
- Dr. David Shulman, Campus President, Broward College Online - Florida's Global Campus

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Finally, any errors, omissions, or inconsistencies across this series are the responsibility of Tyton Partners alone.

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ABOUT TYTON PARTNERS

Tyton Partners, formerly Education Growth Advisors, is the leading provider of investment banking and strategy consulting services to the global knowledge sector. Built on the tenets of insight, connectivity, and tenacity, Tyton Partners leverages in-depth market knowledge and perspective to help organizations pursue solutions that have lasting impact.

As an evolved advisory services firm, Tyton Partners offers a unique spectrum of services that supports companies, organizations, and investors as they navigate the complexities of the education, media, and information markets. Unlike most firms, Tyton Partners understands the intricacies and nuances of these markets and plays an integral role in shaping the efforts that drive change within them. The firm's expertise is predicated on its principals' years of experience working across market segments – including the preK-12, postsecondary, corporate training, and lifelong learning sectors – and with a diverse array of organizations, from emergent and established private and publicly traded companies, to non-profit organizations, institutions, and foundations, to private equity and venture capital firms and other investors.

Tyton Partners leverages its deep foundation of transactional and advisory experience and an extensive global network to make its clients' aspirations a reality and catalyze innovation in the sector.

For more information about Tyton Partners, visit tytonpartners.com or follow us at [@tytonpartners](https://twitter.com/tytonpartners).

This white paper, *Time for Class: Lessons for the Future of Digital Courseware in Higher Education* is the final of three publications in this area.

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