



●●●○ BELL

4:21 PM



The Adoption Curve: How Professors Learn About Change

John Watts
Managing Director
Strategic Communications
FTI Consulting

Kate Economou
Senior Director
Strategic Communications
FTI Consulting

The study of why and how people adopt new ways of doing things goes back decades. Innovation and marketing experts like Everett M. Rogers (*Diffusion of Innovations*, 1962) and Geoffrey A. Moore (*Crossing the Chasm*, 1991) made “early adopters” and “laggards” familiar terms to describe those who do or do not embrace the new.

Researchers have found that the process by which people choose (or don't choose) to use new tools or techniques follows a predictable pattern. First comes *awareness*, through a colleague or friend or by other means. Next comes a personal decision about whether the new method is *right for me*, which spurs a trial period for a portion of the population. And third, the question of whether the trial tips to adoption depends on an individual's *intrinsic motivations* and *external supports*: What are a person's goals? What networks and peer groups does he or she belong to? What, if any, broader supports like institutional backing or workplace training might influence adoption?

Leveraging these insights is crucial to promote the adoption of desired and beneficial changes, and the front lines of higher education, in particular, could be a fertile area for the application of new instructional techniques. The higher education sector is critical to the nation's economy. It trains the next generation of knowledge workers. The quality of that training translates directly to employment, economic productivity, income levels and national competitiveness in the global marketplace. Given the importance of higher education, it's no surprise that access to education, and the adoption of the most effective teaching methods, is of great concern to policymakers. However, the diversity of the nation's educational

system — which is one of its great strengths — also makes broad-based change difficult.

With regard to access, for example, in January 2015, President Obama **proposed** making two years of community college free for **students who qualify**. The idea is that the program would save students money on tuition as they earn the first half of a bachelor's degree or learn the technical skills needed in the workforce. It also seeks to address the concern that too many American college students are amassing burdensome debts that can act as a disincentive to pursue higher education despite its manifest long-term benefits to individuals and the overall economy.

Meanwhile, almost all colleges are changing the way they educate students. The spread of hybrid classes (which combine computer-based instruction with face-to-face teaching) and external content delivered via video (sometimes with interactive capabilities for students or, in some cases, via massive open online courses) means that students are receiving information in unprecedented ways. Teaching methods, supported by a variety of new tools, also are evolving. Classrooms, once dominated by lectures delivered from a lectern, now are incorporating group projects and (to a lesser extent) team teaching. Feedback, both from faculty to students and from students to faculty, can be facilitated by digital tools. And older students –

including military veterans and adults seeking to retrain for a changing job market – are joining younger students in the classroom. Finally, the faculty itself is changing, with large numbers of part-time or adjunct instructors teaching in institutions of all types.

The View from the Lectern

With so much change, and the pressure to make higher education pay off for students, educational institutions and the economy, it's critical to address the question of how best to teach students and to take advantage of advances in instructional techniques. But for all the new tools available, adoption of newer student-focused methods still has a long way to go. As Figure 1 illustrates, while a significant proportion of faculty members have heard of many emerging techniques, far fewer end up trying or adopting them; FTI Consulting's research, conducted for the Bill & Melinda Gates Foundation, found that most techniques remain unused in 40 percent to 60 percent of classes.

Understanding what drives faculty members (defined as full-time professors and part-time instructors) to adopt or not adopt new teaching methods and tools will allow policymakers to gain deeper insight into the challenges and opportunities for improving postsecondary education and to have a fact-based discussion on how to achieve gains.

Figure 1. The Adoption Ladder Is Hard To Climb

The data below show results from a quantitative survey of 3,971 college instructors asked about their awareness of certain new teaching techniques and whether they have tried or adopted them in courses. While in most of the examples below more than 40 percent of the faculty members were familiar with the techniques, few of them had adopted the techniques in their classes.

Specific innovations and techniques trialed and adopted	Not familiar enough to rate this	Familiar but not relevant or have not tried	Trialed	Adopted
Using “clickers” or other means such as electronic quizzes to obtain student responses in real time	11%	64%	10%	12%
Showing short online video lectures to students before the class session, while in-class time is devoted to exercises, projects, or discussions (flipped classroom)	6%	47%	17%	29%
Using open-source (free) courseware or similar instructional materials to augment content	14%	42%	16%	27%
Using external (paid) courseware or similar instructional materials to augment content	18%	49%	10%	20%
Hybrid courses with more than 30% delivered online and in-person	8%	58%	11%	20%
Delivering fully online course	9%	57%	7%	24%
Incorporating group projects	2%	20%	18%	56%
Team-teaching classes across two disciplines or two typically distinct subjects within a discipline	13%	63%	12%	10%
Using standardized assessment tools to gauge student performance	9%	48%	12%	27%

Coloring calls out most significant items in each column

Unless otherwise specified, data are pooled across all two-year and four-year institutions and part-time/full-time faculty

In the survey, faculty members were asked to think about a specific course they teach and to answer questions with respect to techniques used in that course.

40% - 60% of class sections have faculty who are not using key techniques

Source: FTI Consulting, “U.S. Postsecondary Faculty in 2015: Diversity in People, Goals and Methods but Focused on Students,” January 2015

Heads of the Class

An FTI Consulting analysis of approximately 4,000 professors throughout the United States showed that some are more receptive and likely to adopt new teaching techniques than others. The percentages below indicate the size of six groups relative to the entire population, with “The Teachers” and “The Executors” most likely to be champions of new methods and “The Principled Opponents” and “The Research Minded” least likely. Analyzing faculty groups in this way can help policymakers target leading adopters of techniques that are known to improve student outcomes.

23%

The Teachers

- Students are their priority
- Connected and networked
- Use digital tools
- Higher on health sciences

19%

The Executors

- In tune with students
- Participate in committees / workshops
- High usage of digital tools
- Higher on health sciences
- Much higher full-time

12%

The Willing

- In tune with students
- Participate in committees / workshops
- High usage of digital tools
- Higher on health sciences
- Much higher full-time

26%

The Disconnected Skeptics

- Little student interaction
- Unrewarded by / low favorability toward institutions
- No plans to increase digital tools
- Disengaged from discipline and networks
- Don't see benefits of adoption

13%

The Principled Opponents

- In tune with students
- Participate in committees / workshops
- High usage of digital tools
- Higher on health sciences
- Much higher full-time

7%

The Research Minded

- Least student focused
- Disconnected from teaching colleagues
- Least likely to use digital tools

Source: FTI Consulting, “U.S. Postsecondary Faculty in 2015: Diversity in People, Goals and Methods but Focused on Students,” January 2015

On behalf of the Bill & Melinda Gates Foundation, FTI Consulting designed and carried out research that provides a fresh lens through which decision makers can view faculty members’ attitudes about endorsement of new teaching tools and the factors that influence educators’ behavior. The results of this research mean that institutions, administrators and policymakers now can understand how to encourage the adoption of these beneficial tools and techniques. And because the nature of the educator’s job — that is, a front-line service provider with a great degree of autonomy and a potentially large influence on outcomes — applies to providers in other fields (such as medicine), the approaches identified in this study are relevant to many industries.

Academia has long studied its own sector, and so there is a great deal of research detailing faculty and student perspectives on the learning process. An ample supply of educational innovations and new techniques are being implemented in today’s classroom. Examples include 1) clickers that students can use in a lecture hall to share their views and 2) flipped classrooms, whereby students are given information on a subject (often through a video lecture) before their class convenes, with classroom time devoted to projects and discussions. (For more examples, see “New Tools for School,” page 7.) A separate body of work examines student outcomes and the factors that influence them. But research on the intersection of these studies – where faculty attitudes about their own work converges with educational innovations and student outcomes – has been lacking until now.

In the report for the Gates Foundation (“[U.S. Postsecondary Faculty in 2015: Diversity in People, Goals and Methods but Focused on Students](#)”), FTI Consulting conducted secondary and both qualitative and quantitative primary research to create a fresh lens through which to view instructors’ attitudes and tendencies. Our qualitative research involved reviewing more than 300 academic papers on faculty goals, student outcomes and innovation in the education sector to survey current thinking on how faculty members’ attitudes and behaviors influence student outcomes. We then conducted online focus group discussions with 116 current

Figure 2. Faculty Attitudes on Select Criteria by Segment



Source: FTI Consulting, "U.S. Postsecondary Faculty in 2015: Diversity in People, Goals and Methods but Focused on Students," January 2015

faculty members or administrators to document and analyze their views. Our quantitative research included an online survey of close to 4,000 faculty members working in all fields (sciences, pre-professional and liberal arts), types of schools (public, private, two-year and four-year colleges, nonprofit and for-profit) and faculty types (full time, part time, tenured and non-tenured). Finally, we interviewed experts in postsecondary education and established an advisory board of leading researchers and academics who study aspects of postsecondary education to assess the quality of our findings.

A New Lens for Analyzing Faculty Decisions

FTI Consulting found that traditional lenses — that is, cutting data by institution type (such as a two-year community college or a four-year private university) and other demographic information about faculty and students

— were less valuable, yielding less actionable insight than analyzing faculty members’ personal attitudes about their work, their perceptions of institutional support, and the quality and type of their professional networks. This shows the relevance of the Rogers-Moore framework, which predicts that the diffusion of innovation happens very much at the individual level.

Different factors coalesce to influence faculty members’ willingness to learn about innovative instructional methods, incorporate new ideas in their work, and promote non-traditional concepts about teaching and learning to their peers and campus leaders. Our research revealed that non-demographic factors that greatly influence professors in the adoption of new teaching tools and methods include:

Opinions of colleagues and whether colleagues were visibly adopting new techniques

-  Availability (or the lack) of time and resources
-  Ability to execute a new teaching tool or model
-  Knowledge about the proven benefits of implementing a new tool or pedagogical technique
-  Specific discipline of the educator. Our research found that some fields are more likely to use newer teaching tools than others. For example, nursing faculty members lead in the adoption of standardized assessment tools and the implementation of flipped classrooms.

Our research found that policymakers are in a better position to influence change if they have a clear understanding of the context in which faculty members operate, how highly they rank teaching on their personal agendas and the practices utilized by other educators in their networks.

New Tools for School

Examples of in-class innovations and new techniques that higher education has been using in recent years:

- 

Classroom clickers. Also called student response systems, these can be smartphone apps or small devices that students use to select an answer to a question the professor poses in class.
- 

Hybrid teaching. Classes are delivered through a combination of in-person and online means.
- 

Flipped classroom. Students view a video version of a lecture prior to attending class; classroom time then can be devoted to practicums that build on the lecture material.
- 

Service learning. This approach combines classroom instruction with community service experience.
- 

Courseware. Computerized course materials, often online, are used to engage students in simulations and other interactive learning experiences.
- 

Standardized assessments. These are tools used to determine whether students are absorbing course material.
- 

Online teaching. Classes are delivered completely online; in some cases, all students interact at the same time, but, in most cases, students access information at their convenience.
- 

Team teaching. Two or more faculty members, sometimes from different disciplines, teach the same section of students to enrich the content educational experience.

Winning Faculty Hearts and Minds

The new lens through which our study allowed us to see how professors select teaching techniques makes it clear that it is critical for policymakers to understand faculty attitudes when attempting to influence and manage change. Our research framework showed professors' attitudes toward their work — their hearts and minds — are the crucial variables. For example, when faculty members consider making changes to their courses, the most important factors that drive their choices are the degree to which (a) they personally focus on student needs, (b) they feel supported by their institution and (c) they have tried new techniques and actively discuss teaching methods with their network of colleagues.

The FTI Consulting analysis of approximately 4,000 faculty members produced data that allowed us to segment faculty into groups based on their views toward teaching students, whether they participate in teaching committees and workshops, whether they use digital tools in their classrooms, and how they prioritize their research

work, among other factors. We analyzed the groups' tendencies to adopt new teaching techniques and found that some are more receptive and likely to do so than others.

We identified six groups and found that two of them (which we labeled “The Teachers” and “The Executors”) represent 42 percent of all faculty members. These two groups are most likely to adopt new techniques. Two other groups, “The Willing” and “The Disconnected Skeptics,” may be viewed as prospective adopters of new techniques, and two segments, “The Principled Opponents” and “The Research Minded” (those most focused on their own research work and more likely to be tenured, full-time professors at doctoral-granting institutions) are unlikely to adopt new techniques, the latter as they specifically are less student focused and perceive less institutional support. (See “Heads of the Class,” page 4.)

Figure 2 shows the segments and the relative emphasis each group places on activities such as interacting with students, networking with peers and trying new techniques. The research

found that in relation to their peers, “The Teachers” and “The Executors” place a greater emphasis on interacting with students, as well as networking with peers and trying new techniques. On the other end of the spectrum, “The Research Minded” place comparatively little emphasis on interacting with students and learning about or trying emerging teaching methods.

FTI Consulting also identified ways that faculty could be supported and encouraged to adopt new teaching techniques, including:

- 

Connecting current adopters and those apt to adopt new techniques with each other at faculty meetings or teacher workshops
- 

Documenting and communicating the benefits of new techniques to encourage further adoption.
- 

Supporting the creation of cross-institution sharing networks, disseminating how-to lessons and espousing the benefits of new techniques. These can be facilitated through academic disciplinary societies

or the institutions themselves and can include support tools such as repositories of course materials like the [Open Learning Initiative](#) at Carnegie Mellon.

 Enabling and encouraging prospective adopters of new techniques to join support networks and gain access to information and training resources that will help them succeed. In many instances, the basic infrastructure for this already exists within professional and disciplinary societies. For example, the [American Accounting Association](#) provides faculty development resources, and many institutions make teaching and learning centers available to faculty. However, the use of these resources will require more effective institutional support and connection of faculty to these resources through a variety of networks.

 Communicating through leading institutions in their disciplines, professional societies and similar organizations the benefits of these new techniques, documented by

researchers, to slow or resistant adopters. For example, researchers at [Ithaka S+R](#) found that students in a hybrid format (computer-guided instruction accompanied by a one-hour face-to-face teaching session each week) did just as well as students who took a traditional in-class course, and the newer technique reduced instructional cost in the long run. This example of a test-controlled experiment, unusual in studying educational approaches, provides useful evidence for educators considering computer-assisted methods.

Graduation Day

By using both qualitative and quantitative research techniques to study a diverse population within a profession, FTI Consulting was able to understand what drives professors at various institutions to adopt new technologies and to identify ways to help other faculty groups advance on the adoption curve.

This method for assessing a population of professionals, and determining their

potential for adopting new ways of working, has the potential to help leaders in other industries undergoing significant change and attempting to implement new processes, approaches and tools. Healthcare, for example, clearly is analogous. Like professors, doctors and nurses have great latitude in making choices about the tools and methods used in their work. Medical professionals are exposed to new techniques that may produce better results and have a positive impact on outcomes. But hurdles, such as time and resource constraints, may stand in the way for many. Even so, as authors like Rogers and Moore have pointed out, there always will be both “early adopters” and “laggards” among them. The key is to identify who’s who and then work to help those more likely to embrace the future. ■

John Watts

Managing Director
Strategic Communications
FTI Consulting
john.watts@fticonsulting.com

Kate Economou

Senior Director
Strategic Communications
FTI Consulting
kate.economou@fticonsulting.com

For more information and an online version of this article, visit ftijournal.com.