2017

EdTech Decision-making in Higher Education: Summary

Working Group B Report to EdTech Efficacy Research Academic Symposium May 3-4, 2017, Washington, DC

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The study "EdTech Decision-making in Higher Education" investigates the decision-making inputs, processes, and practices around the acquisition of technology to facilitate teaching and learning at colleges and universities. This summary of findings and recommendations, a more detailed report, and a repository of resources for EdTech decision-makers is available at: www.edtechdecisionmakinginhighered.org.

Working Group Leader

- Fiona Hollands, Associate Director and Senior Researcher, Center for Benefit-Cost Studies of Education, Teachers College, Columbia University
  fmh7@c.columbia.edu

Working Group Members

In alphabetical order (by first name):

- Alison Griffin, Senior Vice President, External and Government Relations, Strada Education Network
- Amy Bevilacqua, Chief Innovation Officer, American Public University
- Bill Hansen, President and Chief Executive Officer, Strada Education Network
- Bror Saxberg, Chief Learning Officer, Kaplan, Inc.
- David Kim, Founder CEO and Director, Intellus Learning
- Deborah Quazzo, Founder and Managing Partner, GSV Advisors
- Emily Kinard, Strada Education Network
- Fred Singer, CEO, Echo360
- Jerry Rekart, Director of Research and Analytics, College for America, Southern New Hampshire University
- Kristin Palmer, Director of Online Learning Programs, University of Virginia
- Mark Triest, formerly President, Intellus Learning, now at Digarc
- Matt Chingos, Senior Fellow and Research Director, Urban Institute
- Maya Escueta, Researcher, Center for Benefit-Cost Studies of Education, Teachers College, Columbia University
- MJ Bishop, Director, William E. Kirwan Center for Academic Innovation, University System of Maryland
- Phil Hill, Partner, MindWires
- Stephanie Moore, Assistant Professor & Director of Online Initiatives, Curry School of Education University of Virginia
- Whitney Kilgore, Chief Academic Officer, iDesign

Goals of EdTech Decision-making in Higher Education

I) Understand the various factors and information sources that influence decisions about educational technology acquisition and use in higher education.

II) Provide transparency regarding the steps and stakeholders involved in the EdTech decision-making process in higher education.

III) Identify and showcase best practices in EdTech decision-making processes to share with other higher education leaders and EdTech providers.

IV) Identify ways in which education researchers, higher education decision-makers, EdTech providers and funders can collaborate to serve the best interests of learners.

Research questions

Research questions for "EdTech Decision-making in Higher Education"

1) What sources of information are higher education leaders and faculty currently using to make education technology acquisition decisions?

2) How is research used in their decision-making processes?

3) Do institutions of higher education (IHEs) conduct their own investigations or research into how well EdTech products currently being used work?

Methodology & Participants

We interviewed 52 EdTech decision-makers (Presidents, CIOs, Directors of IT or eLearning, Deans, Faculty etc.) from 43 IHEs between September 2016 and April 2017. Participation was solicited from both 2-year and 4-year IHEs, for-profits and non-profits, and public and private IHEs.

The interviews elicited information on who participates in decision-making about EdTech to facilitate and support teaching and learning; where these decision-makers obtain information on EdTech products and trends; and what individuals or organizations they perceive to be opinion leaders, change makers, or innovation leaders in EdTech.

Interviewees were asked to identify an EdTech decision in which they had recently participated, and to answer a series of questions about the goals of the decision, the stakeholders affected, and the decision-making process itself. Questions also addressed the role of research in EdTech decision-making and whether the IHEs conduct any of their own investigations into how well EdTech products work.

Findings & Insights

Background information sources on EdTech products and trends

1. The most common source of ongoing information about EdTech products and trends for EdTech decision-makers is colleagues at their own or other IHEs (mentioned in 96% of interviews), followed by vendors (80%), professional associations or consortia (67%), and consultants (53%).
2. Research organizations and institutes, technical assistance centers, and think tanks were mentioned in less than 10% of the 45 interviews as a source of EdTech information.
3. The most common medium for gathering information on EdTech products and trends is network events such as conferences and consortium meetings (mentioned in 93% of interviews).
4. Written publications are also a common source of EdTech information: newspapers or newsletters (mentioned in 62% of interviews), partially or non-peer reviewed journals or papers (mentioned in 56% of interviews), and trade magazines or practitioner publications (mentioned in 44% of interviews) were more often mentioned than peer-reviewed academic journals, which were listed in only 9% of interviews.
5. Social media and other online sources such as blogs, websites, and Twitter are increasingly replacing more traditional sources of EdTech information.
6. Opinion leaders, change makers, or innovation leaders in EdTech are most likely to be individuals at IHEs (mentioned in 49% of interviews), business or organizational leaders (31%), and universities (29%).

Goals for EdTech acquisition and use

A common theme that arose was the question of whether decision-makers start with identifying pedagogical needs and then proceed to look for technology tools to address them, or alternatively, start with EdTech tools and proceed to search for problems to solve. Most interviewees argued for the former approach but acknowledged that the latter is quite common. Pragmatically, several interviewees suggested that EdTech considerations need to cycle between identifying needs and knowing what solutions are potentially available.

The most common goals mentioned for the acquisition of EdTech were:

a. Supporting a variety of pedagogical and assessment strategies including collaboration among students and faculty, interactivity of content, authentic assessment, active learning, individualization of instruction, competency-based education, and virtual reality.
b. Improving operational efficiency and reducing costs.
c. Improving user experience by modernizing or upgrading functionality of existing systems.
d. Increasing capacity to serve students online.

Decision-making processes

1. At public and non-profit institutions, decision-making for major EdTech acquisitions tends to be protracted, inclusive, and “consultative” with faculty having a strong voice in decisions in addition to professional staff and, in some cases, students. The length of deliberations can be an impediment to change in a fast moving field.

2. For-profit IHEs tend to have swifter, more centralized decision-making processes with faculty and student buy-in often sought only after a decision is made. But inadequate consideration of user needs and preferences can lead to suboptimal implementation.

3. User input is primarily gathered via scheduled meetings, participation in committees or taskforces, surveys, and during vendor demos.

4. Smaller EdTech purchases are increasingly being made by individual faculty members or departments, often leading to redundancy in tool functionalities, to multiple licenses with the same vendor, and to click-through agreements being signed without due care being given to regulations and student data privacy.

5. Decision-makers each listed a median of 6 decision criteria against which they evaluated the EdTech options discussed in the interview. Criteria commonly used to select EdTech products and services fall into 5 main categories:
    a. Features and functionality, mentioned in 95% of interviews.
    b. Feasibility of implementation, mentioned in 82% of interviews.
    c. Cost or ROI considerations, mentioned in 82% of interviews.
    d. User experience or usability, mentioned in 61% of interviews.
    e. Vendor capacity and relationship, mentioned in 41% of interviews.

6. To assess how well each EdTech option being considered met the IHE's selection criteria:
    a. 73% of the decisions discussed involved a cost assessment, either a straightforward evaluation of affordability (41%) or, especially among the for-profit IHEs, an ROI analysis or balancing of costs vs. benefits (32%). Few IHEs considered total cost of ownership.
    b. 64% of the decisions were informed by vendor demos or showcases.
    c. 59% of the decisions involved evaluation or vetting by IT.
    d. 48% of the decisions involved an evaluation of vendor responses to a formal RFP, RFI, RFQ, or list of requirements.
    e. 39% of the decisions involved piloting one or more alternative products with the IHE's faculty and students.
    f. For only 11% of the decisions were impact on student engagement, completion, retention, or other student outcomes explicitly mentioned. Impact on actual learning was rarely discussed.

7. Four-year, for-profit IHEs were much more likely than others to quantify input to inform decision-making, e.g.,
    - Scoring or rating each EdTech option on each criterion
    - Weighting decision criteria to assign different levels of importance
    - Using a rubric or scoring sheet to evaluate or rank the product or vendor
    - Creating a scoring summary, decision-matrix, or "rollup" view to facilitate final decision-making.

8. In 2/3 of the cases, a final decision for the product or strategy being discussed was made by one or more administrators. In only six cases a vote settled the outcome.

9. Interviewees often stressed that selecting EdTech is the easy part of acquiring new technologies – the hard part is the change management needed for successful implementation and the provision of ongoing training and support.

Role of research in EdTech decision-making

1. All interviewees stated that they conduct research when making EdTech decisions. Research was defined in many different ways including:
    a. Conducting student, staff, and faculty interviews, surveys, or focus groups (mentioned in 40% of 45 interviews)
    b. Reviewing student outcomes after implementing a strategy or product (38%)
    c. Reading industry, consortium, or trade publications, reports, or white papers (33%)
    d. Participating in site visits/asking peers or references what products they use and for feedback on products (31%)
    e. Reading vendor-provided information/literature/materials/white papers/case studies/efficacy studies (31%)
    f. Reviewing data analytics based on own platform or tool use data (24%)
    g. Reading forum, blog, or internet reviews about tool; gathering information via social media; internet searches (24%)
    h. Conducting a pilot (22%)
    i. Reading articles/reports/literature reviews/annotated bibliography/research materials on product (sources unspecified) (20%)
    j. Reading scholarly papers or journals (18%)
    k. Conducting investigations at own research centers or institutional research units (16%)
    l. Conducting comparison studies (16%)
    m. Conferring with consultants (13%).

2. Many interviewees pointed out that there is a dearth of rigorous research on EdTech products and strategies.

3. Results of pilot studies are rarely shared outside of an IHE except upon request by another IHE.

4. The term “efficacy research” did not mean anything to one third of the interviewees. Definitions among those for whom the term was familiar varied widely with 68% including the impact of a product or strategy on student outcomes while others focused more on use as intended or meeting goals related to functionality or efficiency.

5. Among those familiar with the term, efficacy research was more often than not considered irrelevant to EdTech decision-making given:
    a. The length of time it takes to complete vs. the fast pace of technology change
    b. Differences in context between the research site and population, and the decision-maker’s location.

6. In thirty-five interviews (78%), participants indicated that their IHE conducts its own investigations or research into how well EdTech products currently being used work. These studies varied widely in goals and methodological rigor with a few resulting in peer-reviewed publications but most not being shared publicly.

Results were often used for continuous improvement of instruction or for deciding whether to continue or scale up use of the EdTech product or strategy.

For those IHEs who did not undertake such investigations, the reasons were related to costs, time, capacity or "bandwidth."

Recommendations

For EdTech decision-makers

i. Beware of living in an echo-chamber: talk to people outside of higher education.

ii. Make sure decisions are being led by clearly identifiable pedagogical needs rather than simply by what technology is out there.

iii. Involve stakeholders, including faculty, staff, and students early in the decision-making process to build buy-in and avoid bumpy rollouts. This may include using creative ways of understanding faculty challenges during the needs assessment phase.

iv. Check your roadmap is compatible with your vendor's roadmap.

v. Streamline and standardize the EdTech procurement process to improve efficiency of acquisitions across campus; consider developing standard Terms and Conditions for EdTech vendors.

vi. Be sure to consider all ancillary costs of EdTech acquisitions such as training, new hires for implementation, infrastructure upgrades, and bandwidth requirements.

vii. Anticipate and plan change management strategies as part of the EdTech selection process.

viii. Focus on the functionalities that faculty and students can realistically use and don't overwhelm users with all functionalities of new EdTech at once.

ix. Be prepared for multiple rounds of training; provide refreshers as the technology evolves.

x. Consider using Net Promoter Score to gather faculty and student feedback on EdTech being used, in addition to more traditional surveys.

xi. Step up the rigor of pilots by comparing results for students using the new product or strategy vs. similar students not using it, or by conducting more than one pilot in different contexts or with different user groups.

xii. Consider multi-site pilots with other IHEs.

xiii. Develop valid and reliable measures of learning rather than simply assessing pass rates, retention, and completion.

xiv. Encourage faculty and project managers to share EdTech pilot and study findings in a repository to share with other IHEs.

xv. If you want to be innovative, provide incentives and make sure the culture accommodates error as well as trial.

For researchers

i. Move away from simply asking whether EdTech is helpful or unhelpful. It's here to stay, so focus on what pedagogical strategies it can support and how to use it better to improve student learning and other outcomes.

ii. Help identify solutions to the current grand challenges of higher education, e.g., maintaining the student's attention span; increasing retention and completion; simultaneously serving students with widely varying levels of preparation and self-motivation; reducing costs while maintaining quality of education; providing ongoing opportunities for "skilling up;" improving the transparency of credentials.

iii. Use cases and studies of real-world implementations are more useful to decision-makers than experiments conducted under special conditions.

iv. Differentiate findings by context and types of student.

v. Find valid ways to measure actual student learning.

vi. Investigate success factors for scaling up implementation of EdTech interventions.

For vendors

i. Do your due diligence on the IHE and tailor your pitch to their specific needs.

ii. Transparency around products is critical - be clear about what is currently functional and what is aspirational.

iii. Aim for mutually beneficial relationships with "partners," rather than simply offering a product to "clients" or "customers."

iv. To build long-term relationships and customer loyalty, be prepared to customize your product to meet user needs.

v. Stay open to the idea that researchers at IHEs may have an intellectual and non-commercial interest in opening up the black box of EdTech products and helping to improve them.

vi. Consider a pro bono exchange with schools for EdTech research – you provide the EdTech and support for free, they do the research for free and publish it.

For funders

i. Fund a hub for sharing results of EdTech pilots and investigations among IHEs, fund independent researchers for peer-reviews, quality ratings and assessments of applicability to other contexts.

ii. Incentivize grantees to build in time and resources to share their internal study findings with other IHEs.

iii. Develop a tiered system of funding to support EdTech research at amounts appropriate to the level of higher education investment in the product/strategy.

iv. Encourage IHEs to focus on measuring student learning.

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