March 17, 2016

- The webcast will begin shortly.
- There is no audio being broadcast at this time.
- An archive of this webcast will be available on the WCET website next week.
Learning to Adapt 2.0: The State of Adaptive Learning in Higher Education Today

March 17, 2016
Learning to Adapt 2.0: The State of Adaptive Learning in Higher Education Today

- Welcome.
- Use the question box for questions and information exchange.
- Archive, PowerPoint, and Resources available next week.
- Follow the Twitter feed: #WCETwebcast.

Megan Raymond
Manager, Events and Programs, WCET

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Overview

Introduction
• Niki Bray, WCET Fellow

Adaptive Learning Trends and Research
• Gates Bryant
• Brian Fleming

Institutional Stories
• David Pinkus
• Kevin Bell

Q&A

Conclusion
Questions from the Audience

- If you have a question, please add your questions to the question box. We will monitor it and have time for Q&A at the end of the presentations.
Moderator

Niki Bray

- Adaptive Learning Fellow
- WCET
Presenters

Kevin Bell
- Executive Director of Curriculum Development and Deployment & Senior Fellow for the Lowell Institute / Lecturer
- Northeastern University

Gates Bryant
- Partner
- Tyton Partners

Brian Fleming
- Principal
- Tyton Partners

David Pinkus
- Higher Education Consultant
Gates Bryant, Brian Fleming

Partner
Tyton Partners

Principal
Tyton Partners
Adaptive Learning: Defined

Adaptive learning solutions take a sophisticated, data-driven, and in some cases, non-linear approach to instruction and remediation, adjusting to a learner’s interactions and demonstrated performance level and, subsequently anticipating what types of content and resources a learner’s needs at a specific point in time.
What Makes it “Adaptive?”

Examples of inputs that may influence an adaptive learning experience:

- Learner confidence level / self assessment
- Time to complete learning exercises
- Performance on questions within a learning objective
- Mastery of prior learning objectives
- Learning style preference
- Past performance of students with a similar learner profile
- Elapsed time since last interaction with relevant content
Five Emergent Themes Facing Adaptive Learning Today

While institutions have more experience with adaptive learning through product pilots, the path to broader implementation is uncertain

Applications of Adaptive Learning Technology Are Expanding

The Role of Faculty is Changing with the Emergence of “Adaptive Teaching”

Adaptive learning is a relevant option for competency-based education, but only in specific use cases

Adaptive Products Are Building New Feature Sets in Response to Institutional Demand
At the Macro Level, Use Cases Fall Under Either Whole Course Delivery or Supplementary Tools

The extent to which faculty are looking for turn-key solutions versus highly customizable open solutions is also a primary consideration.
An Early Indicator of Real Progress in CBE Will Be Via More Sophisticated, Authentic Assessment Options

Vendors’ Means of Supporting Authentic Assessments*

- Does Not Support: 14
- Upload Results of External Assignments: 10
- Contextualized Simulations: 6
- Portfolio Creation: 5

Less CBE Credibility → More CBE Credibility

*Note: Some vendors support authentic assessments in multiple ways. Total does not sum to 31
Sources: Primary Research Interviews; Tyton RFI; Tyton Partners analysis
The Majority of Vendors are Utilizing OER in Their Adaptive Product Feature Suite

*Note: Vendors, on average, reported the use of 2-3 different sources of content
Sources: Tyton RFI; Tyton Partners analysis

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<th>Full Course Delivery</th>
<th>Supplemental</th>
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<td>38%</td>
</tr>
</tbody>
</table>

n=31
David Pinkus

Higher Education Consultant
Adaptive Learning in the Trenches

David Pinkus
Chief Innovation Officer
Western Governors University
ABOUT WGU

- Founded in 1997 by US Governors
- Online, fully accredited, nonprofit university
- Serving working adults—20s to 50s
- 70,000+ students, 50,000+ graduates, 1,800+ faculty in all 50 states
- Grant bachelor’s and master’s degrees in high-growth fields: Business, Education, Information Technology, and Healthcare

“WGU is an affordable, online, nonprofit institution that measures the success of its students—most of them working adults—not by credit hours but by demonstrated mastery of a subject. While such programs [like WGU’s] are now the exception, I want them to be the norm.”  
-Arne Duncan  US Secretary of Education

“I’m impressed by the results in places like Western Governors University. Its low-cost online programs rely on competency-based progression, not class time or credit hours. It uses external assessments to evaluate student proficiency.” –Bill Gates  Why American Colleges Have to Change

“WGU gives students the ability to really assemble the complete package, from the subject matter to the specific skills to the certification that gives employers confidence when they’re making a hiring decision.” –Brad Smith  General Counsel & Executive VP Microsoft

“WGU allows our nurses to develop a higher level of competency and the higher level of skill we rely on to ensure that we provide excellent patient care.”  
-Cynthia Mercer  Senior VP and CAO Mercy

Western Governors University
A Top 50 Company
The Adaptive Paradox

• “Adaptive” is an abused buzzword. Is it Adaptive content, assessment or remediation?
• Adaptive Courseware completion is mastery (B+/A).
• ergo time between assignments and course duration are the most important variables.
• If mastery happens too quickly, students get bored; if it takes too long, they fall behind and get frustrated.
• Difficult (unfair?) to map to a 12-week course with weekly assignments.
The Adaptive Paradox

- It fits in nearly perfectly with CBE:
  - Non-traditional students are the “new normal.”
    Different initial knowledge and learning rates.
  - Mastery (Competency) is the goal.
  - Time is a variable; optimized by improving learning efficacy.
- Non-CBE institutions/course have to evaluate:
  - Duration between assignments/milestones
  - Extra work/time to get some students from C to A
  - How to provide individualized/focused instruction
The Investment -

- Adaptive investment is **significant**. Either or All:

  - **Multiple forms of content**
  - Publisher & OER
  - Many, many, many more **HIGH QUALITY** questions

  - Comprehensive Knowledge Graphs.
  - Machine Learning Promising, but needs **LOTS** of data
The Return on Investment

• There is no ROI unless:
  • Lots of students are enrolled in this course, either at your institution or several, across multiple faculty who agree to share curriculum/syllabus.
  • The variability of student initial knowledge is large and the content is non-trivial.
  • You are committed to continuous improvement
  • You understand version control and can manage multiple concurrent course versions or changing versions in reasonably fluid manner. If the word “git” means nothing to you, stop now.
Learning Outcomes

• The proof is in the pudding
  • U. Texas ”Statistically significant learning gains were seen in those who used the chemistry model” – D2L/LeaP adaptive pre-semester course
• ASU CogBooks
• WGU Statistics, etc.
• Helps to explain value to students, and faculty 100% believing in and promoting the benefits
Scalability

• *This is less a consequence than a premise.*
• You have to enter the adaptive value-proposition with scalability in mind – both for users and creators.
• WGU’s experience has been that self-contained adaptive courseware experiences hosted externally have been very performant.
• The authoring scalability is a function of each platform and your version control.
In Summary

• ROI is dramatically improved when bound to CBE and reusable courseware
• Outcomes better when Mastery is the focus, time is somewhat variable, and faculty promote the benefits / advantages.
• Scalability is a function of provider, SSO, their maturity, your load testing and contract/SLA negotiation 😊

Universities keep asking if students are college-ready, but how many Universities are student-ready?
Kevin Bell

- Executive Director of Curriculum Development and Deployment & Senior Fellow for the Lowell Institute / Lecturer
- Northeastern University
Reporting Solutions

Performance Dashboard
- Course Overview
- Class progress
- Individual student learning paths

Module Progress Reports
- Class’s module completion status
- Identify students at risk
- Identify concepts which need attention

Assessment Progress Reports
- Class’s assessment completion status
- View individual student’s assessment completion status, attempts & score
- Identify assessments questions which need attention
- Identify questions within an assessment which need attention

User Analytics
- Time Spent
- Engagement
- Outcomes
- Activity
- Progress
- Grades
Module Progress Reports

Instructor can view:
- Class’s module completion percentage
- Progress of individual students, within a module

Class’s Module Completion Percentage

Students with lower completion rates may need attention

Students with higher number of Learning Activities marked as “Needs-Revision” may need attention
Assessment Health Check Reports

Instructor can view:
Assessment completion Summary of the entire class for a particular course at a module level

Percentage of students in the class who have passed/skipped/not-viewed or in the process of completing the assessments
Instructor can view:
Class’s assessment completion status, scores and number of attempts

1) Show Attempts displays the number of attempts made by the Student against an assessment
2) Show Score displays the Student scores against an assessment

Color of the assessment block conveys the individual student’s assessment status – whether he/she has passed/failed.skipped/not-viewed

Sorts the report based on the selection criteria applied. For example, by clicking on “Failed Most", report will be sorted to display the students who have failed in most of the assessments
Assessment Health Check Reports

Instructor can view:
- Answers given by the Student, date & time of each attempt
- Compare it with the answers given by the rest of the class
- First Attempt Report

Answers given by the class in their first attempt. Questions where majority of the class has answered incorrectly in their first attempt may need attention.

Answers given by the student along with the date & time of attempt.

Details of how the rest of the class has fared in this question.
User Analytics

Instructor can perform detailed User Analytics on any of below metrics

Details of various criteria which can be selected by the instructor under 'Time Spent' metric

Metrics against which detailed user analytics can be generated
After the filter is applied, Instructor can view high level details of the Students satisfying the criteria.

List of Students which meet the criteria selected by the instructor.

Number of students satisfying the instructor applied criteria and where they are (module name) within the course.
User Analytics - Time Spent

Instructor can view in-depth details of the selected Student against the Time Spent metric.
Questions and Answers
Contact Information

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Join us for a Google Hangout on Air on April 21

Conversation about Connecting Credentials

- Join us for a live [WCET Google Hangout](http://bit.ly/WCETHangout_April) to learn more about the ongoing efforts to move the connected credentials conversation from a national dialogue to pragmatic approaches.

- The Hangout will be an informal conversation between Dr. Deb Everhart, Strategic Advisor with ACE, and Cali Morrison, Manager of Communications at WCET.

Learn More and Stay Connected

WCET Leadership Summit:
21st Century Credentials: Learners + Institutions + Workforce
Learn More and Stay Connected

WCET Annual Meeting
Call for proposals is open until May 9
Additional Information and Resources

- Access to the resources discussed during this webcast, including the archive, will be available next week.
  - [http://wcet.wiche.edu/events/webcasts](http://wcet.wiche.edu/events/webcasts)
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