Evidence-Based Instructional Improvement at Scale

Edward O’Neill, Yale University
Bonnie Anderson, Harvard Graduate School of Education

March 23, 2016
3:10 PM - 4:00 PM
Room 550
Introductions

who we are and why we are here
Bonnie Anderson
Manager of Learning Design and Analytics
Teaching and Learning Lab
Edward R. O’Neill, Ph.D.
Senior Instructional Designer
Center for Teaching & Learning
Yale University
Digital platforms create opportunities and feedback loops that both unify and complexify previously stratified and linear processes in ways that are enriching—if you are ready for the journey.
What’s in it for you?

What processes would you & your institution like to scale up?

What digital platforms does/could/should your institution use?
Three Sections

1. Background: Problems Faced
2. What Did We Do & How?
3. Takeways.
Section 1/3: Background

What was the challenge you faced?

content & platform

Using technology to scale & re-use improvements in teaching & learning creates benefits but requires thinking on (at least) two levels.

#scalability #reusability #portability
Using Data To Improve Instruction: Scaling a Successful Campus Program

Challenge: Expand access to an extremely popular, campus-based program.

Parameters: Teachers and educational leaders work through the program in school-based teams during the summer.
Extremely popular Summer Institute:

100+ people/yr
$3495/person
+ Travel
+ Lodging
Overcoming space and time with technology
Using Data To Improve Instruction: Podcasting as a ‘Vernacular Medium’

Teachers Talking to Teachers about Teaching
Plan Your Own Vernacular Media Research Project

● How many of you do institutional research on teaching?
● How many of you would like to draw out best practices for teaching at your institution?
● How many of you actively produce ‘vernacular’ media (Youtube, podcasts) --for yourself or for work?

Edward O’Neill
Challenges (i)

- Yale believes it has great teachers. But what does that mean? Qualitatively. How can this be ‘verified’?
- What does great teaching look, sound, and feel like? And can it be replicated?
Challenges (ii)
Knowledge about teaching is hard to share.

- Cognitively, it’s:
  - more a know-how than a know-what;
  - procedural, not explicit.
- Culturally: the classroom is still a cloister.
Design and research methods provide principles, but principles change dynamically even as they define and become a part of the results.
The Collaborative Design of a Team-Based Learning Experience

Challenge: Expand access to an extremely popular, campus-based program.

Parameters: Teachers and educational leaders work through the program in school-based teams during the summer.

Solution: A 5-day, Online, High-Touch “Retreat”
It Takes a Village

- Administration and Logistics
- Instr Design & Storyboarding
- Technology Needs Analysis
- Writing - Scripts/Assessments
- Graphic Design & Multimedia Dev
- Video Capture & Post Production
- Custom Tool & Course Site Dev
- Course Facilitation & Support
- Pre-, Mid-, and Post- Course Evaluation
### The Meeting Wise Checklist — Full Version

<table>
<thead>
<tr>
<th></th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PURPOSE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Have we identified clear and important meeting objectives that contribute to the goal of improving learning?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>2. Have we established the connection between the work of this and other meetings in the series?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td><strong>PROCESS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Have we incorporated feedback from previous meetings?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>4. Have we chosen challenging activities that advance the meeting objectives and engage all participants?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>5. Have we assigned roles, including facilitator, timekeeper, and note taker?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>6. Have we built in time to identify and commit to next steps?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>7. Have we built in time for assessment of what worked and what didn’t in the meeting?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td><strong>PREPARATION</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Have we gathered or developed materials (drafts, charts, etc.) that will help to focus and advance the meeting objectives?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>9. Have we determined what, if any, pre-work we will ask participants to do before the meeting?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td><strong>PACING</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Have we put time allocations to each activity on the agenda?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>11. Have we ensured that we will address the primary objective early in the meeting?</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>12. Is it realistic that we could get through our agenda in the time allocated?</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

---

**Start of meeting: Video**

- Facilitator starts by asking Time Keeper to set time.
- Facilitator reads objectives.
- Facilitator checks in with team members about pre-work.
- Notice that all team members have the agenda open on a laptop.
- Facilitator reviews role assignments.
- Facilitator reads plus/deltas
  - Team celebrates plusses and shares a laugh.

---

*Copyright © by the President and Fellows of Harvard College. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or any information storage and retrieval systems, without permission in writing from the publisher. Published by Harvard Education Press, an imprint of Harvard Education Publishing Group.*
A Welcome Message from Dr. Kathryn Boudett
Solution: Podcasting

#scalable (consumption)  #reusable  #portable

Podcasting becomes a (vernacular) medium for doing institutional research using ethnographic methods.
Ethnography is etic rather than emic:
it’s the ant’s-eye view of a Möbius strip--not this equation:

\[ \log(r) \sin \left(\frac{1}{2} \theta \right) = z \cos \left(\frac{1}{2} \theta \right). \]
Re-thinking the Research Model for the Digital Age: Linear vs. Circular

<table>
<thead>
<tr>
<th>linear model</th>
<th>non-linear, iterative model</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Choose a research question.</td>
<td>● Research questions are emergent.</td>
</tr>
<tr>
<td>2. Choose a research method.</td>
<td>● The research method is flexible.</td>
</tr>
<tr>
<td>3. Gather data.</td>
<td>● Data gathering goes on &amp; on.</td>
</tr>
<tr>
<td>4. Analyze and share the results.</td>
<td>● Analysis is both intermittent and on-the-fly, and reporting is constant.</td>
</tr>
</tbody>
</table>

**linear model**
- Choose a research question.
- Choose a research method.
- Gather data.
- Analyze and share the results.

**non-linear, iterative model**
- Research questions are emergent.
- The research method is flexible.
- Data gathering goes on & on.
- Analysis is both intermittent and on-the-fly, and reporting is constant.
Hattie’s description of the expert (vs. experienced) teacher ends up matching the profile of our interview subjects.

Expert teachers....
1. ...use deep representations of teaching and learning to solve problems,
2. ...create an optimal classroom climate;
3. ...monitor learning and develop & test hypotheses,
4. ...attend to affective attributes of education and are themselves passionate about teaching,
5. ...make student mastery and self-regulation key goals in part by adjusting the task difficulty to the student.
Section 3/3: Takeaways

What did we get out of it?

Digital ‘results’ are both processes and re-usable products which may operate and proliferate at individual and institutional levels.
The Learning Loop
Daily Meetings and Nightly Feedback

Step 1:
1. Effective meetings, norms, understanding work styles, buy-in foundation for productive collaboration around data and instruction.

Value Feedback:
1. Data-driven is a direction not only true.
2. Capitalize on work already happening at Harvard, but also identifying ways to strengthen work with Data Wives.

Addressing Obstacles:
1. Timing of agenda items – facilitator can adjust around time, can adjust in the meeting, and be willing to be a little unstructured.
2. Helping the stakeholder participants – facilitators back in role as scribe and back up role/scribe step in.

Key points from Feedback:
1. Great progress! Congratulations on making it to the last day of the online institute!
2. Yesterday was key.
3. Great conversations to explore responsible data use.
4. Developed a plan to help your school faculty build a sense of community.
5. Connect a focus area and identified teams that could engage in Data Wives.

Final Call:
1. Encouragement about getting more concrete plans together to launch this process in your setting.
2. Reflection that it’s hard to do this work without the full team, and there are a lot of distractions for a small school. This is a challenge we are working through too.
3. Some frustration that the agenda does not do more framing for the purpose of the day. Encourage you to go back to the book, and the MOOC, and the mini-assessment.
Plus -

We all worked very hard at finishing our tasks at a high level of quality.

I appreciate everyone’s ambitiousness.

I found the data checklist useful.

Delta -

This is a process, not a race.

We are a little distracted after all of our hard work.

We are moving quickly because we see the light at the end of the tunnel and are eager to reach it.
Plan Your Own Vernacular Media Research Project

• At Yale, what we learned was not structured the way we expected.
• As you hear what we learned, would those dimensions apply to what you want to study?

Edward O’Neill
‘Every good teacher is good in her own way.’

--not Tolstoi

● Expert teaching is uniquely individual.
● Yet some common underlying themes and even methods emerge.
Expert teachers:

share common **habits**, perform using *disparate* (not discrete) **personae**, share some common **methods**.
habits

1. responsible
2. can change
3. student as center & agent
4. storify the discipline
5. perform learning
6. sweat details
7. serve others

personae

1. storyteller
2. information transmitter
3. systematizer
4. analyzer
5. provocateur
6. taskmaster
7. coach
8. facilitator
9. friend
10. entertainer
11. evangelist
12. mystic
13. holy fool

method

Team-based
Collaborative
Perspectival
Iterative
[Sshuffled]
Jigsaw
Q&A

- What more do you need to know from us?
- How can we enable your success?
- What are you doing that’s similar?
Evidence-Based Instructional Improvement at Scale

Edward O’Neill, Yale University
Bonnie Anderson, Harvard Graduate School of Education

March 23, 2016