Learn to Do: Using an Upside-Down Instructional Model

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Objectives

- Describe the upside-down instructional model and why it benefits learners and the larger organization
- Describe the “performance-centered” design structure and the impact on content and exercise “chunking”
- Describe how to change your design and development approach to implement this model
How many ways do we undercut the value of training, especially eLearning?
How do people learn things today?
How does e-(or traditional) Learning often teach things?
What underlying assumptions drive the typical tutorial model?

- Telling and explaining actually works
- If people can recall something, they “know” it
- Everybody needs to learn the “basics”
- Learners have to be monitored so they don’t cheat, take shortcuts, lose focus
“Flipping the classroom” has become something of a buzzword in the last several years, driven in part by high profile publications in *The New York Times* (Fitzpatrick, 2012); *The Chronicle of Higher Education* (Berrett, 2012); and *Science* (Mazur, 2009). In essence, “flipping the classroom” means that students gain first exposure to new material outside of class, usually via reading or lecture videos, and then use class time to do the harder work of assimilating that knowledge, perhaps through problem-solving, discussion, or debates.

In terms of Bloom’s revised taxonomy (2001), this means that students are doing the lower levels of cognitive work (gaining knowledge and comprehension) outside of class, and focusing on the higher forms of cognitive work (application, analysis, synthesis, and/or evaluation) in class, where they have the support of their peers and instructor. This model contrasts from the traditional model in which “first exposure” occurs via lecture in class, with students assimilating knowledge through homework; thus the term “flipped classroom.”
Looking at examples within the discipline-specific literature, Butler (1992) finds that medical students perceive the didactic lecture to be the least effective learning tool within lecture time compared to more interactive approaches. Michael (2006) provides a meta-analysis of active learning in relation to teaching physiology and finds a variety of evidence of its success, although without finding one definitive type of experiment being used to prove the success. Armbuster et al. (2009) investigate the perception and performance of students in an introductory biology course where active learning was introduced through students being required to solve problems in groups in class, and find that student engagement and assessment performance is significantly improved compared to previous versions of the course. Garfield (1995) reviews prior literature on learning statistics and finds the key determinants in improved student performance are active participation in activities (including in a small group setting) and feedback on performance in these activities. Sander et al. (2000) note that first-year students in medical, business and psychology disciplines expect to be taught by formal and interactive lectures but prefer interaction and group-based activities. Smith (1998) finds student performance in and perception of first-year statistics is greatly improved by “doing statistics” in the course.

Student Views on the Flipped Classroom Approach: Evidence from Australia
We can simulate the natural learning process.
For Example

DEMO
Questions/Concerns/Ideas?
Structure

Engagement – focus on application vs recall

“Cut to the chase” for experienced performers

More similar to job – transfer

Clarify and streamline performance

> “Tell”

1. Intro
2. Concepts
3. Simple Example
4. Complex Example
5. Application/Test
6. Summary

> “Do”

> “Tell”

1. Intro
2. Application/Test

> “Tell”

Concepts, etc. as needed
Performance vs Knowledge

**What are “liquidated damages?”**
Contract clauses that define damages for non-performance

**What is the penalty per day if we miss the deadline?**
Performance vs Knowledge

The customer says we have to finish by the original deadline. How should you respond?

Define "compression" and "acceleration" claim.
Design to Development

Methods

- Group meeting
- Observation
- Talk-through
- Interview

ASSIGNMENTS

Supporting Information, Knowledge, Skills

Basic/Introductory Concepts

Focus
**MPC: Reviewing and Updating the Project Schedule**

### Assignments

- **Given initial PM schedule, what work is planned for this month?**
- **Given delay of equipment and customer requiring the same completion date, how does this impact our work?**
- **Given delay of equipment, what would we do to adjust our work?**
- **Decide on strategy for compressing the work**
- **Track changes**
- **Note: Update start/end dates and get warning/info re: manpower requirements**
- **Note: Contract provisions re: OT Tech avail/not avail**

### Tutorial

**Overall schedule baseline and requirements for sign-off (often not avail)**

**Managing the Schedule**
- Free float
- Need for full project schedule
- Communication with customer
- Participation in update meetings

**Strategies for Delay**
- Push back
- Reconfigure the work
- Pre-fab parts of the project
- Overtime
- Change order
- Risk

**Adjust labor**
- OT for sub
- OT for internal labor

**Plan to project completion**

**Adjust materials orders**
- When needed onsite

**Change order**
- Estimate
- Ensure impact (no “free float”)
- Key wording (“reserve our rights”)
- See also “Changes” module

**Process**
- Post change in the Opportunity Log
- Price and propose early (don’t wait until the end of the project)
- Follow-up on open proposals

**Escalating to Legal Claim**
- Monitor response deadline
- May need to re-price if significant delay in response

### SME/Contact

**Intro Tutorial**

- **Overview of Scheduling**
- **Risks and Opportunities**
  - Define Risk
  - Define Opportunity
- **Coordination Meetings**
  - Importance
  - Minutes

### Project Size/Scheduling Tool options

- Spreadsheet
- MS Project or MS Project Server
- Other

### Site Visits and Update Meetings

- **Importance**
  - Learn about issues
  - Get concerns into minutes early

### Adjust materials orders

- When needed onsite

**Add delay risk – set dollar amount**

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Detection and Decision Making

**Inputs**
- Complaints
- Regulatory Requirement
- Recall
- NDA
- Process or Design Change
- Quality Issue

**Activities**
1. Review the Situation & Information
2. Perform Initial Risk-Based Analysis
   - G Mgmt
3. Need Health Hazard Analysis
   - G Mgmt or Investigation Owner
4. Need Immediate Product Hold
   - G Mgmt or Investigation Owner
5. Decide Next
   - Yes
   - No
6. Identify Additional Information Needed
   - Yes
   - No
7. Develop Recommendations for Field Actions
8. Field Action Decision
   - G Mgmt

**Criteria**
- Trends
- Regulatory
- Medical
- Level of Risk or Non-Conforming Product
- Critical event
- Safety of patient or end user
- Regulatory impact
- Appropriate inputs (e.g., Med, Blog)
- Start impact assessment
- Know where deployed
- Define appropriate scope of field
- Appropriate decision for recall
- Ready to recommend field action
- Sufficient information available
- List it's
- Correct action strategy
- Definition of Risk
  - Regulatory
  - Medical
  - Supply
- Initial impact
  - Scope
  - Impact assessment
  - Justification
  - Initial action
  - Containment
  - Correction
  - Long-term corrective action
  - Type of communication
- Field action owner identified
- Timely (must decide quickly as possible)
- Accurate
- Global
- Justification
- Risk-based
- Supported with factual justification
- Approval by management representative

**Notes**
- An example event could be an authorized product scenario, e.g., temperature excursion, delivery of a mislabeled shipment
- Need criteria for obligations to report
- Check for existing procedure (possibly N/A)
- Currently, the cycle time to complete the Health Hazard Analysis is too long
- A new tool form is needed for performing the impact assessment
- In some markets, it might be preferable to default to immediate temporary hold
- As additional information becomes available, you may increase the scope of the hold
- May need to request Health Hazard Analysis if not already performed
- The process needs to allow flexibility to include no recommendations
- Need ability to "fast track" decisions for serious issues
- Level of detail varies; this may require multiple iterations
- Cost cannot be a consideration when developing field actions
- Deciding not to initiate a field action will still require justification
- Facts need to be accessible
- Management Representative must be from corporate or regional

**Tools/Resources**
- System
- Database
- Prompt/Job Aid
- Coach/Expert
- Procedures/References
- QC Checklists
Applications
Extensions

“Typical” – all components stored in and delivered through the LMS
Extensions, continued

Portal – all components stored in and delivered through the LMS but can be accessed from the workplace via a portal.
Extensions, continued

Distributed – specific components stored in and delivered through the LMS with the remainder available as performance support in the workplace via a portal.
Q & A

- Describe the upside-down instructional model and why it benefits learners and the larger organization
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For More Information

Visit the website
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Check out our blog

Articles and presentations (including this one) under Resources

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References and Resources

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Speaker Background

Pete Hybert has been working in the field of human performance improvement and support since 1984 and a consultant since 1989. His clients include many well-known firms, including Eli Lilly, Siemens, Chrysler Financial, General Motors, AT&T, Fireman’s Fund Insurance, Hewitt Associates, Hospira Worldwide, Amoco, SPX Corporation, Huron Consulting, and others.

He has analyzed performance and designed and developed performance solutions for almost every type of business function and process. He has managed over two-hundred projects ranging from e-learning to group-paced simulations to performance-based qualification. He became a Certified Performance Technologist (CPT) in 2003.