Quality Improvement in an Academic Organization: A Lean Approach
Learning Objectives

- Describe steps in a Lean project that led to an improved teaching assistant orientation
- Identify Lean tools used to improve the teaching assistant orientation process within an academic organization

Disclosure Statement:
The presenters have no personal financial relationships with commercial interests relevant to this presentation to disclose.
Background of Lean

Manufacturing Systems

Health Care Settings

Academia

(Hakim, 2014; Houchens & Kim, 2014; Lean Enterprise Institute, 2009)
What is Lean?

1. Specify value from the customer’s perspective
2. Identify and eliminate waste
3. Create flow without interruptions
4. Pull value into the process
5. Pursue perfection

(Lean Enterprise Institute, 2009)
Using a Lean Approach in Academia

✓ Higher education has customers
✓ Education’s mission is to add value to the end customer
✓ Customers have “wants” and expect certain outcomes
✓ Processes across the university could be analyzed from a value perspective
Teaching Assistants

Undergraduate Clinical Teaching Staff

- Faculty: 87.5%
- TA's: 12.5%

Cost Comparison for 2 Credit Clinical Course

- 1/4 Time Grad TA
- 1/2 Time Grad TA
- Clinical Faculty
Defining the Problem

The policy/process for Teaching Assistant (TA) Orientation was not clearly delineated.

- Inadequate Orientation Process
  - Inconsistency
  - Student Frustration
  - Unclear Expectations
  - Lack of Accountability
Project Goals

• The purpose of this project was to redesign the process of TA orientation in the school of nursing using Lean principles to improve flow and reduce waste.

• This project focused on the time period from when the TA had been accepted as a graduate student through being matched with and starting as a teaching assistant in a course.
Measuring the Current State

Graduate Student Admitted

- TA Interest
  - No
  - Yes

- Clinical Need
  - No
  - Yes

- Available Fiscal Resources
  - No
  - Yes

Potential Match

- Interview
  - No
  - Yes

- Reference Check
  - No
  - Yes

- Do Not Hire
- Hire (1/4 or ½) TA

TA Orientation
Voice of the Customer Survey

Number of TAs that attended orientation(s)

- School of Nursing
- Purdue University

The chart shows the number of TAs who attended orientation(s) at the School of Nursing and Purdue University, with a comparison between those who did attend (Yes) and those who did not (No).
5 Why’s: There is an inconsistent completion of orientation by the TAs entering the School of Nursing (SON).

1. The TAs have competing priorities upon entrance to SON.
2. They are overextended between family, work, school, and TA responsibilities.
3. The TA position is then added to all of their current responsibilities.
4. Unrealistic expectations of self
5. SON expectations are unclear
Improving the Process

1. TA Hired
   - TA Orientation
     - Job Description Review
     - University Orientation
       - SON Orientation
         - FERPA Certification
           - Business Office
     - TA Functioning
   - TA Performance Review
     - Termination
   - Continue as TA
Solutions to Root Cause

- Attending mandatory orientation
- Completing FERPA training
- Meeting with designated key faculty
- Reading the TA handbook
- Reading the revised TA job description
- Signing a responsibility contract

The orientation packet is stored in an electronic folder that can be easily accessed by TAs.
# Timeline

## Tasks

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### Key

- **Complete**
- **In progress**
- **Late**
Measurable Outcomes

• 100% of tools for TA orientation were created and uploaded into the SON shared drive

• New TAs that were hired this fall were given orientation packets by the Director of Undergraduate Programs

• 100% of TAs attended mandatory orientation Fall 2014
Sustaining & Monitoring Changes

• Routine business practice of hiring and processing a TA in the SON
• Process owner identified as the Undergraduate Program director
• Project team will continue to meet quarterly for one year to ensure the policy change has been effective
**Completed A3**

**Project Title and Area: TA orientation for the SON**

**Date:**

**Problem Statement:** The policy/process for TA orientation is not clearly delineated. This project will focus on the time from when the TA is accepted as a graduate student through being matched and starting within a course.

**Background:**

Inadequate TA orientation/policy can lead to:
1. May result in inconsistent student outcomes
2. Undergraduate & graduate student frustration
3. Inadequacy in TA’s knowledge of TA expectations
4. Lack of consistency in TA accountability & sanctions
5. TAs make up 12.5% of the clinical teaching staff
6. Using a base salary of $70,000 the cost comparison:
   - The cost of 1 clinical track faculty covering 2 clinical groups = $935/hr.
   - The cost of using 2 quarter time TAs (each TA covers one group) = $333/hr.
   - The cost of one 1/4 time TA (to cover 2 clinical groups) is $247/month.

---Supporting Statement: When comparing the cost of full time faculty with TA salaries, the use of TAs is a cost-effective alternative for clinical support staff especially when considering the future potential of nursing faculty shortage.

**Define**

**Cost Comparison for 2 Credit Clinical Course**

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<th>Course Type</th>
<th>TA Hours</th>
<th>Instructor Hours</th>
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<td>1/4 Time Grad TA</td>
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<td>1/2 Time Grad TA</td>
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<td>Clinical Faculty</td>
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</table>

**Number of TA’s that attended orientation(s)**

**Discussion of process revealed that entrance of a TA into the SON was seamless until the orientation aspect is introduced. At this point there is a significant variation in what each TA completes.**

**Analyze**

**Primary Obstacle:**
Inconsistent completion of orientation by the TAs entering the SON.

**Root Cause Analysis**

1. The TAs have competing priorities upon entrance to SON.
2. They are overextended between family, work, school, and TA responsibilities.
3. The TA position is then added to all of their current responsibilities.
4. Unrealistic expectations of self.
5. SON expectations are unclear.

**Goal:**
90-100% of tools for the TA orientation will be developed, uploaded and available beginning in the Spring 2014 semester.

**Outcomes:**

- 100% of tools for TA orientation are created and uploaded to the SON Shared drive – titled “TA Orientation documents”
- Fall 2014 – new TA’s hired
- Upon acceptance of the TA position, he/she will be given the packet by the Director of Undergraduate Programs.
- The completed checklist and Acceptance of Responsibility Contract will be returned within 2 weeks or by the first day of classes – whichever date is earlier.

**Process Owner:** The Undergraduate Program Director will assure that the orientation packet is given to and completed by the TA.

**Follow up:**
The team will continue to meet quarterly until 100% of documentation is continuously submitted for 1 year to ensure the policy change is effective.
Lessons for the Field

- Lean methods can be a leadership approach to quality improvement in the academic setting to improve processes and reduce waste.

- Lean tools, such as current and target state maps, are useful in identifying how to achieve an organization’s academic mission.

- Lean can be incorporated into the curriculum to educate students as more faculty are trained in Lean.
Questions?
References


References


Responsibility Contract

Activities Completed

☐ Mandatory University Teaching Orientation (attended on campus or completed online)
☐ Mandatory TA Orientation for the SON
☐ Mandatory FERPA Certification
☐ Meeting with Course Coordinator
☐ Meeting with Faculty Mentor
☐ Meeting with Undergraduate Program Director

Materials Reviewed

☐ Teaching Assistant Handbook
☐ Teaching Assistant Job Description
☐ Course Syllabus

Please provide a √ in the box verifying completion of the following items:

Directions: The TA should complete this form and provide a copy to the Undergraduate Program Director for placement in the student’s file.

My signature below indicates I have completed all of the required activities above. Additionally, my signature indicates I have read, completed, and understand all of the materials above, and hereby agree to comply with all components of these documents.
Includes:

• TA responsibilities
• Tips for success
• Chain of communication
• University and departmental resources
• TA job description
• TA evaluation tool
• Job aid on reserving classrooms