



**OBTC 2015 at University of La Verne
June 17th – 20th, 2015**

Submission Template

SUBMISSION GUIDANCE

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- *Only one document should be submitted**

Submission Template for the 2015 OBTC Teaching Conference for Management Educators

1) Title of Proposal:

Ye' Old Pen Factory: Applying the classic pen factory simulation to today's global workplace.

2) Abstract:

Suppliers from around the world? Factories in multiple locations, with local preferences? Different expectations of how to motivate and reward employees? This exercise can be a springboard for answering these questions, and many more! In this session, we will use the well-worn pen factory exercise to examine multiple management and organizational behavior concepts and theories, as well as new global issues real-time in a hands-on pen "factory." In this interactive session, participants will take part in the exercise and discuss its many applications.

3) Keywords:

Use three or four keywords to describe your session.

Classroom exercise, global management, organizational behavior,

4) Format

- Activity or exercise
- Discussion roundtable (60 minute only)
- General discussion session

5) Time Requested:

- 30 Minutes
- 60 Minutes (*Roundtables must select 60 minutes*)
- 90 Minutes

6) Planning Details:

Does your session have any special requirements for space or materials?

No special requirements

7) Learning Objectives or Goals for the Session:

What are 2-4 specific learning outcomes that participants will get from your session?

Learning Outcome 1: Participants will be able to prepare and guide students through the "pen factory" simulation exercise in their own classroom.

Learning Outcome 2: Participants will be prepared to complete and debrief the exercise with students.

Learning Outcome 3: Participants will know multiple concepts to which the exercise can be applied.

8) Management or Teaching Topics:

The exercise demonstrated in this session is designed to illustrate multiple concepts from quality management and organizational behavior. The Pen Factory exercise is one that has been in use for many years, and has many applications (for an example, see Pittenger and Heimann, 2000). The flexibility of the exercise lends itself to discussion and elaboration of a broad set of concepts. Importantly, this exercise will illustrate how the exercise can be used for to illustrate classic management problems and theories, such as command and control structures, reward systems, and motivation, as well as more recent management dilemmas such as global suppliers and manufacturing, and the need for 24/7 communication mechanisms.

Within the domain of organizational behavior, the session can help to elucidate the difference between Theory X and Theory Y management styles (McGregor, 1960) and how these impact individual behavior within an organization. The exercise can also be used to illustrate how reward systems can impact behavior, and can be used to show examples of how equity theory (Vroom, Porter, & Lawler, 2005), Herzberg's two-factor motivation theory (Herzberg, 1968), counter-productive work behavior (Robinson & Bennett, 1995), and discussions of various concepts related to both innovation and teamwork.

Within the domain of operations and quality management, this exercise can also be used to illustrate concepts more specific to quality management, such as just-in-time manufacturing, and the calculation of Cost of Quality (COQ) (Evans & Lindsay, 2008) as well as plotting a control chart and calculation of upper and lower control limits. Finally, this exercise provides an excellent springboard for discussions on the Toyota Production System (TPS) (Liker & Hoseus, 2008).

All of the concepts above can be further elaborated by *updating the exercise* to illustrate more recent management dilemmas such as global supply chain, global communication, and glocalization of products and services to students—all of which are important new dilemmas that today's business and management students need to grapple with.

9) Session Description and Plan:

This session will include a brief introduction to the exercise, an abbreviated version of the exercise itself, and a debrief session.

Agenda:

Activity	Time	Who
Introduction and framing of session	5 minutes	Presenters

Small groups: Abbreviated exercise	15-20 minutes	Presenters and all participants in small groups
Large group: Discussion and debrief that includes discussion of additional concepts and theories to which this exercise could apply.	5-10 minutes	Presenters and Participants

10) For Activities and Exercises:

Attach any materials needed to run the activity and debriefing questions. Evidence for effectiveness may also be included.

The materials required for this exercise will be provided by the presenter/s. The session will require a) several dozen ball point pens and “packaging” for those (some “pre-broken” for customer displeasure), b) a copy of the instruction sheet provided to students, and c) student debrief notes, which are provided below.

11) Implications for Teaching or for Teachers:

This session contributes to teaching by adding to the arsenal of quick, engaging exercises that can be put together relatively quickly and easily, and provide a flexible environ for instructing a wide variety of concepts. Because this exercise has broad appeal, it is suggested that instructors simply allow students to complete it, then let *them* decide to which concepts it should be applied. This type of open-ended application with large-group debriefing is well-aligned with Chickering and Gamson’s (1999) conceptions of the principles for excellent teaching practice. Too, it illustrates the use of Cowan’s (2006) principles for teaching critical thinking and engaging learners.

12) Application to Conference theme:

This session fits with the OBTC theme via the presentation of an exercise which provides students with the opportunity to learn within their student community. Importantly, the power of this exercise is in the group practice; the exercise is only effective because it is completed within the learning community. The large-group discussion that follows, it helps to create *informed action* about the causes of behavior in organizations, and the theories that describe those.

13) Unique Contribution to OBTC:

I have not presented the work and/or content in this proposal before. It is not under review at elsewhere.

14) References and/or Additional Materials:

- Cowan, J. (2006). *On Becoming An Innovative University Teacher: Reflection In Action: Reflection in Action*. McGraw-Hill International.
- Evans, J.R., & Lindsay, W.M. (2008). *Managing for Quality and performance excellence* (8th ed.). Mason, OH: Thomason South-Western.
- Herzberg, F. (1986). One more time: how do you motivate employees?. *New York: The Leader Manager*, 433-448.
- Liker, J.K., & Hoseus, M. (2008). *Toyota culture: The heart and soul of the Toyota way*. New York, NY: McGraw-Hill.
- McGregor, D. (1960). Theory X and theory Y. *Organization theory*, 358-374.
- Pittenger, K.S., & Heimann, B.A. (2000). The Ball Point Pen Assembly Company. *Developments in Business Simulation & Experiential Learning*, 27, 235-238.
- Robinson, S. L., & Bennett, R. J. (1995). A typology of deviant workplace behaviors: A multidimensional scaling study. *Academy of Management Journal*, 38(2), 555-572.
- Vroom, V., Porter, L., & Lawler, E. (2005). Expectancy theories. *Organizational behavior*, 1, 94-113.

Ye Old Pen Factory: Instructor information

Parts: 50 ball-point pens, completely disassembled and placed in different containers; 5 “order forms” of 10 pens each—with due date and shipping information; 50 sheets of paper and stapler (for packaging); 4 clocks/watches. Students should be offered jobs in the following areas: Supervisor, quality management, shipping manager, customer service/warranty manager, manufacturing (4-8, depending on your manufacturing process). Other students should represent the following areas: shipping vendor, pen OEM supplier (3—one for housing, one for ink barrel and packaging, and one for springs and other materials), customers (remaining students).

Part 1:

1. Begin by giving students only 10 pens to assemble. Make sure some parts are broken; make sure that some packaging is ripped.
2. Ask customers to return defective products in a timely manner.
3. Be sure supervisors and supplier quality managers are actively engaged in fixing defects.
4. One quality manager should be recording the number and type of defects
5. Ask students to order supplies with hard-copy order forms
6. Time the manufacturing process from order inception to arrival.

Part 2:

1. Split manufacturing into two groups (St. Paul and Gangzouh)—have them sit on opposite sides of the room.
2. Place clocks by each group—Factories can run 24/7
3. Have Housing supplier sit in hallway—communicate via phone. Provide them with 5 notes that say “2 minutes for shipping”
4. Have spring supplier sit in hallway-- Closes for 2 minutes every 5 minutes.
5. Have Ink supplier sit in hallway—communicate only via phone. Closes 2 minutes every 5 minutes that is *on opposite schedule of California spring supplier*. Provide them with 5 notes that say “2 minutes for shipping”
6. One quality manager should be recording the number and type of defects
7. Time the manufacturing process.

Note: Instructor can do this 2-step process *one time*, and then debrief OR instructor can do this 2-step process one time then ask the class to brainstorm solutions (i.e. shortening shipping time-on-water, extending international hours, moving suppliers—be sure to discuss the potential challenges/inadvertent problems when changing processes), and run the 2-step process one more time

Notes on debrief:

Be sure to include debrief on the following topics: Improving processes; improving communication; improving quality; reducing cost and/or waste (and many others). Be sure to allow those in the hallway (suppliers) an opportunity to debrief their experience of being outside the circle of communication.

Student Handout

Welcome to Ye Old Pen Factory!

We are glad to have you on board! Your work here is important. Please remember—quality and customer service are Job One!

For part 1 of this simulation, your job will be:

___ Assembler on the manufacturing line

___ Housing assembly

___ Clicker-inserter

___ Spring assembly

___ Packaging

___ Manufacturing supervisor

___ Quality manager

___ Shipping manager

___ Logistics and supplier quality

___ Customer service/warranty manager

___ Housing supplier--local

___ Spring Supplier-local

___ Packaging and Ink supplier-local

___ Customer

** You can sell 10,000 pens per day. Your margin is \$0.10 per pen.

For part 2 of this simulation, your job will be:

___ Assembler on the manufacturing line #1: St. Paul, MN

- ___ Housing assembly
- ___ Clicker-inserter
- ___ Spring assembly
- ___ Packaging
- ___ Manufacturing supervisor
- ___ Quality manager
- ___ Logistics and supplier quality
- ___ Customer service/warranty manager
- ___ Customer

- ___ Assembler on the manufacturing line #2: Gangzouh, China
 - ___ Housing assembly
 - ___ Spring assembly
 - ___ Packaging
- ___ Manufacturing supervisor (you are responsible for ordering supplies)
- ___ Quality manager (you are responsible for tracking and improving quality issues)
- ___ Logistics and supplier quality (you are responsible for reporting quality issues back to suppliers)
- ___ Customer

- ___ Housing supplier: Germany
- ___ Spring Supplier: California
- ___ Packaging and Ink supplier: Japan

** You can sell 1,000,000 pens per day. Your margin is \$0.08 per pen.