EXPERIENCING ORGANIZATIONAL WORK DESIGN: BEYOND HACKMAN AND OLDHAM

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Standard organizational behavior survey courses usually introduce students to the "nuts and bolts" of organizational work design and models that mechanize work. This article develops an experiential exercise that simulates working conditions that can foster greater student understanding of the affective, ethical, and human aspects of work design. The exercise also offers a historical representation of work, helping students understand modern organizational interdependencies. We offer a description of the exercise and how it is run; debrief questions and typical student responses; possible applications, variations, and pitfalls; and ancillary support items including a Web site with materials available for instructor use.

Keywords: *job design; ethics; whole person; simulation; unions; labor; work history*

Organizational behavior (OB) survey courses often introduce students to the "nuts and bolts" of organizational work design and structure. However, even complete and widely used OB texts (e.g., Ivancevich & Matteson, 2002; Nelson & Quick, 2005; Robbins, 2005) often limit this discussion to models that mechanize work; instructors cover matter-of-fact topics such as types of organizational structure, technological processes, and Hackman and Oldham's (1976) job characteristics model (JCM) of skill variety, task identity, task significance, autonomy, and feedback (please see Table 1 for a brief

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TABLE 1
Hackman and Oldham's (1976) Job Characteristics Model (JCM) and Its Use in the Exercise

JCM Construct	*What It Is*	*How It Is Negated in the Exercise*	*Affective Learning Opportunities*	*Representative Student Responses*
Skill variety	extent to which a job design allows employee to use different skills & competencies	single, simple activity—putting one number on an index card	understand the effect of repetitive, unskilled jobs: boredom, frustration, hopelessness	"Even simple jobs are important & should be made as interesting as possible, somehow."
Task identity	extent to which a job design allows for completing a whole; allowing the employee to complete a task from beginning to end	students put only their number on each card, then pass it along the line; they do not see the finished card	understand the part-to-whole disconnect that leads to employee disenfranchisement: apathy, siloism	"Not knowing why I was doing what I was doing made me feel like I didn't matter at all."
Task significance	extent to which a job has a substantive effect on others, such as the organization as a whole, or other employees	creating numbered index cards is boring and is not an obviously "effectful" activity finished product does not induce feelings of pride or ownership	understand why employees do not have a personal investment in their work; understand why employees shrug off exhortations for standards and quality: apathy, cynicism	"People want to feel like someone gives a shit whether they walk in the door [to work] or not."

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Autonomy	extent to which a job design allows the employee substantive leeway and discretion as to how the job should be completed	students have no discretion as to how the entire process is developed or run; detailed instructions are provided and enforced	understand why employees may not offer input, even when asked: frustration, disengagement from overall org. goals, patronization	"This is a good way to make people feel totally stupid and worthless."
Feedback	extent to which a job design allows for an employee to receive direct performance-related feedback	randomly removing students from the line breaks the performance-to-feedback link; randomly disallowing most finished cards further widens the performance-to-feedback link	understand employee anger at being held to an unknown standard without a communication forum: anger, violence, or apathy	"We could have made every card count if we could have talked with each other [or the supervisor] during the simulation. I knew we weren't doing it right but had no way to tell anyone and make it better."

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overview of the JCM). Although students need exposure to these critical topics, we believe that text coverage of the human element of work design is lacking.

We also have found that students come into the classroom without any exposure to the creation of work in a historical context; they often have little understanding of the wholesale organizational, social, human, and ethical ramifications of the Industrial Revolution. Because many elements of work design persist from this historical vantage point, we feel it is crucial to offer students a historically grounded lesson in work design.

Driven by our own pedagogical needs to include nonmechanistic elements, outcomes, and responsibilities of work process and design, we created an experiential exercise that brings both affective and mechanistic elements of organizational work design to life. Because our courses rely heavily on experiential and interactive exercises for teaching, we looked for a simple and powerful way to help us show students that work design goes well beyond understanding span of control and mass customization.

This experiential exercise simulates an environment that exposes students to working conditions to foster the primary goal of achieving greater understanding of the affective, ethical, and human aspects of work process and design. The exercise offers a historical representation of work organizations to help students understand modern organizational interdependencies including basic structural truths such as Weberian bureaucracy, power, and managerial access. Its specific objective is to help students affectively explore the five elements of the JCM by placing them in subordinate worker roles and then having them consider their ability to influence these elements as current or future practicing managers. The necessary link, then, is between the five JCM constructs and the assumptions students have about the nature of work. Tables 1 and 2 briefly outline these constructs and assumptions, along with providing student responses to them.

ROLE OF AFFECTIVE LEARNING IN THE EXERCISE

Moving toward affective learning using an experiential learning technique follows one of Epstein's (1994) key assertions about long-term learning retention. Epstein posits two modes of learning—the rational mode and the experiential mode. The rational mode includes information presented in logical, structured, and linear ways. Information integrated into the rational mode becomes part of one's short-term memory. The experiential mode is a holistic information system that processes stimuli from the social external environment. It is this information that finally becomes part of one's long-term memory.

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TABLE 2
Five Constructs, Student Responses, and Learning Outcomes

Assumption Construct	*Typical Student Responses & Desired Learning Outcomes*
Nature of the work itself	repetitive and boring
	in a real setting, physically uncomfortable
	exacting standards, but for what reasons?
	discrete job functions
	no opportunity to do job rotation, job enlargement, or job enrichment
Nature of the work environment	cold, not dynamic
	unsocial
	output-oriented (task-oriented vs. people-oriented)
	hierarchical
Nature of management	aloof
	strong power distance maintained
	arbitrary
	has the answers; does not value worker input
	punitive, but without offering suggestions for improvement
	controlling, but without offering opportunities for input
	rigid
Nature of the work goals	unclear; not well communicated
	not understood in the "big picture" or as part of larger organizational goals
	changeable, can be perceived as random
	not necessarily or obviously linked to reward systems
Nature of the worker	unable or unwilling to participate in work process design
	tolerant of repetition
	motivated by external rewards only
	compliant
	all of about the same skill level
	need to be controlled by management
	Theory X lives!

The value of making this distinction lies in how learning is ultimately used. In support of experiential learning models, Epstein (1994) notes that "information gained through personally meaningful experience is more effective in changing feelings and behavior than impersonal information acquired from textbooks and lectures" (p. 711). Having information encoded or directed into the experiential mode offers learning advantages over information that is encoded into the rational mode, including holistic and affective learning outcomes, use of student-specific metaphor, resistance to change or loss, and student self-validation (Mathews & Fornaciari, 1999).

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Although the primary focus of the exercise is on bringing about long-term affective learning, it also provides exposure to the traditional work design concepts discussed above. The activity is structured, but it provides enough flexibility for instructors to tailor the activity to meet their needs for introducing various elements of work process and design to their various student populations. This article offers the following: a description of the exercise and its running; debrief questions and typical student responses; a discussion of possible applications, variations, and pitfalls; and finally, a list of ancillary support items including a Web site with materials available for instructor use.

AUDIENCES FOR THE EXERCISE

Possible student audiences for the activity include undergraduate and graduate students in OB, managerial decision making, and ethics courses. This article's authors have run the exercise about 15 times during the past 5 years in these courses, and at the Organizational Behavior Teaching Conference. In addition, within the past year, colleagues at other universities have run this exercise at least another five times that we know about.

The exercise has been successfully used in a midsized public southern university, a small private southern university, a large public midwestern university, and a midsized public western university. Our colleagues have given valuable comments on the activity and have suggested some outstanding variations to the exercise. In fact, two of the most attractive components of this exercise are that it is inexpensive to set up and run (the cost is the price of 300-500 3 × 5 in. index cards) and that it is easy to customize the base activity to meet unique learning needs.

Setting Up the Activity

This 35- to 55-minute exercise places students into an assembly line environment to produce a simple and standardized output. The instructor steps into the classic role of intolerant shop foreman for the activity. The exercise is made up of three components: setting up the activity (3-5 minutes), running the assembly line (10-25 minutes), and conducting the debriefing (20-25 minutes). Table 3 provides a brief outline of the entire exercise, and this and the next two sections describe the activity in detail.

A key part of the exercise's affective learning power derives from the fact that the instructor typically does not end the activity until a student asks to stop the exercise. This is because students generally are not aware of their role in creating or facilitating work process—they usually step into a workplace with those things complete and unquestioned. Thus, the exercise can

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TABLE 3
Outline of the Exercise

1. Setting up the activity (3-5 minutes)
    a. Instructor provides very basic description of the activity to the students
    b. Instructor arranges students into an assembly line
    c. Instructor distributes Exhibit 1: Group Coordination Exercise
    d. Distribute production supplies to first student (3 × 5 in. index cards)
    e. Instructor shifts into unhelpful and distant foreman role
        i. Inform students about potential significant bonus for high performance, but do not specify the bonus or the bonus level
        ii. Vaguely answer any student questions or refer students to Exhibit 1
2. Running the assembly line (10-25 minutes)
    a. Basic start-up activities
        i. Allow production line to start after briefly holding students back
        ii. Bring task orientation to assembly line after no more than 2 or 3 minutes
            1) Stop assembly line when a student has more than one index card on his or her desk
            2) Stop all humor, talking, and other forms of communicating between students
    b. Removing students from the assembly line
        i. Remove students based on criteria such as speaking, being a poor performer, and by random unexplained criteria such as making eye contact
        ii. Inform removed students that they have lost their ability to earn the bonus
    c. Stopping the exercise and determining the bonus
        i. Stop assembly line when a student requests that it be stopped
        ii. Examine the output, rejecting a significant number of finished cards, without giving clear reasons for the rejections
        iii. Inform students that the bonus level was X units of output and that they have not met the required output level to achieve the bonus (typically by some small margin)
3. Conducting the debriefing (20-25 minutes)
    a. Award all students in the class some form of bonus for the day (e.g., As in participation)
    b. Conduct a general cooling-down discussion immediately following the exercise using broad questions such as, “What did we just do?” and “How did you respond to it?”
    c. Ask a series of broadly based questions to probe analogies between the exercise and students’ own work experiences
    d. Pursue a fairly structured question-and-answer session
        i. Have students explore the exercise around five constructs relating to work structure and design
        ii. Distribute PowerPoint version of Table 2, “Five Constructs, Student Responses, and Learning Outcomes”
    e. Provide wrap-up discussion on manager’s responsibilities for designing work

effect a real leap from “employee” thinking to “manager” thinking. We also continue the exercise until a student speaks up to stop it because its designed monotony and frustration make more of an emotive impression than if the instructor were to stop the line at a predetermined time.

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CLASSROOM SETUP ACTIVITIES

The 3- to 5-minute setup involves informing students that they are going to be taking part in an activity illustrating group coordination for the day's class and then physically arranging them into position to run the exercise. This involves placing the students into a position where there is a contiguous connection between all students (e.g., a semicircle). Instructors wishing to add complexity to the exercise can deliberately make sure that there is a broken connection, such as using a typical row-based classroom seating arrangement.

We then hand out Exhibit 1 (see Appendix A), which provides the basic directions for the exercise. By envisioning the students as one long assembly line (even if it is a semicircle), some instruction elements in Exhibit 1 become clearer. The first person in the line gets the index cards in their sealed packages. That student's total job is to open the index card packages and then distribute them, one-by-one, to the next person in the line. The second person physically in line gets personal number 1. This person's job is to write his or her personal number and a comma on the first line of the card. The second person, after finishing this task, hands the card off to the third person in line, who has personal number 2. Person 2 (the third person physically in line) writes his or her number, and a comma, next to person 1's writing and then hands the card to the next person in line (personal number 3). This n+1 sequence of numbering and passing continues until the last two people in line.

The next to last person (who is not assigned a personal number) handles turning the index card onto its back, writing down the card number (e.g., 1, 2, 3, etc.), and circling the number. This person then passes the card to the last person in line, who is charged with first inspecting the cards for quality, rejecting any that do not meet the quality standards as stated in Exhibit 1, and then stacking them neatly.

After handing out Exhibit 1, it is time for the instructor's tone and attitude to shift away from a more facilitative "helping to learn" to a more distant "foreman-based" method (Exhibit 2 [see Appendix B] summarizes the instructor's foreman role). This starts by informing the students that to make sure of their greatest effort, we give a reward at the end of the class to all the participants if they reach a certain level of output within the allotted time. However, we deliberately do not say what that reward will be, even if asked directly, to mimic production level-based incentive systems and other variable pay systems. We will only acknowledge that the reward can be significant, but it will be heavily determined by achieving a desired level of output. Again, we avoid committing to what the target level of output will be and how long the exercise will last.

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Further, we typically get questions concerning the handout, such as, "How do we measure quality?" Depending on the professor's relationship with the students and the desired realism of the activity, the tone of answer, although always needing to be vague ("the handout gives you all the information you need"), can range from distant to downright annoyed. We deal with all questions from the students concerning the running of the exercise and the handout instructions in the same manner.

Running the Assembly Line

After the setup is finished, the instructor should allow production to start. We typically make a big show of holding off the start of the exercise until reaching an even time, for example, exactly 30 minutes past the hour, versus an odd time like 31.5 minutes past the hour. This serves to inject a clock-based management approach into the activity.

The first 2 or 3 minutes are usually crucial to setting up the success of the activity. Students typically start the exercise with an upbeat and fun attitude and with a high degree of socializing, talking, and joking. In short, it is the foreman's job to crush it and force them into a task-focused orientation. This happens through several actions. One action is to stop the production line when several index cards wind up on one student's desk (which inevitably happens) and firmly announce that the rules are clear that people can only have one card in each of their work areas. This holds up the entire line until the person clears off the backlog. Another important approach is to quickly cut-off all communication and socializing between the students.

REMOVING STUDENTS FROM THE ASSEMBLY LINE

After the tone of the line has been established, the next part of the exercise is enacted, removing people from the assembly line for various infractions—some real and some not so real. The first person typically removed from the line is someone who in any way speaks or communicates after the initial settling-in period described in the previous paragraph. The person is removed from the line, informed that he or she will not be eligible for the reward, and told to sit in a corner or some other detention area within the classroom. It is important to prevent this student from doing any homework or other type activity after removing him or her from the line. Someone guilty of poor performance (with the attendant announcement of poor performance and loss of bonus eligibility) is removed from the line next.

Whereas the first two people removed from the line are typically laggards or rule breakers, it is important to remove people from the line for no reason

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inherently visible to the students and to avoid announcing a reason, except that they are being removed from the line (although always announcing the loss of bonus eligibility). Typically, we base the choice on one of two criteria. Students are removed from the line who either make direct eye contact with the instructor or who are high-performing students in the course (typically, these are also people with whom we have earlier formed a good rapport). Mixing the order of removal is acceptable depending on the instructor's pedagogical needs, although we have not seen evidence that order affects the learning outcome of the exercise.

STOPPING THE EXERCISE AND DETERMINING THE BONUS

The above actions quickly serve to make a monotonous assembly line with a distinct management-versus-line atmosphere, which can last for an extended period. Therefore, a key part of the exercise is deciding when to end the activity. To increase learning, the exercise ends when at least one student asks the question, "When is this going to end?" or makes a similar comment with regard to being bored. In short, although students are unaware of it, they always have it within their ability to control the length of the activity. Typically, the assembly line lasts between 7 minutes (the shortest it has ever been in our experience) and 25 minutes. A decision point for the instructor revolves around if, and when, he or she should step in and stop the activity.

Typically, the main learning points come after about 10 to 15 minutes of assembly line work, but some student groups simply will not make the all-important stop request. In these situations, we do stop the exercise after 25 minutes to ensure adequate time for the debriefing. Either way, it is important to note the total length of the exercise, as this is a crucial item within the debriefing process.

Once the exercise has been stopped, it is time to decide whether the students have achieved the output necessary to reach the bonus—which, by design, they will not because the goal of this element of the activity is to deny the bonus, for whatever reason. The instructor should quickly take the finished card stack from the last person in line and take an attitude of "let us see if you made it." Students usually want to know what the bonus level is and what the bonus will be. There are several ways to handle this. The most straightforward is to continue to be vague while counting the cards (and randomly and loudly eliminating cards that do not meet the amorphous quality criteria) and then denying them the initially unspecified bonus. Using this post-count bonus announcement method, instructors would count and discard a set number of unacceptable index cards and then announce after the

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counting that the required output level was X units and that the students only produced X-Y number of units.

It should be clear that the number of discards is responsible for not achieving the bonus. For example, if the students produced 230 finished cards, discard 50 index cards, then announce that the bonus level was 200 properly finished cards. It is important to deny any inevitable attempts by students to debate and argue the result in keeping with the tone of the activity. Another, and somewhat trickier, way is to announce a bonus and a bonus level before counting the cards and then make sure that the students miss the bonus level of production. This requires a close watching of the number of cards produced before the counting begins, but it does add some realism to the activity. Again, rebuff any negotiation attempts to get the bonus.

We caution instructors to award the bonus to the entire class (including those thrown off the assembly line) at a later point, such as at the start of debriefing. In addition, it is pedagogically unwise ever to offer a truly large bonus (e.g., all students get As for the entire course) in the interest of maintaining student relations. Our method has been to announce a reasonable bonus, such as students getting a 100% participation grade for the day, and then awarding the bonus to all students in the class, including those removed from the assembly line, at the start of the debriefing. We must stress that whatever method used—a precount or postcount announced bonus level—in the end, we always give the entire class the bonus just for taking part in the exercise. The exercise should not be punitive and not awarding the bonus can be a distracting feature for some students.

Conducting the Debriefing

In our experience, we would recommend allowing 20 to 25 minutes to debrief this exercise adequately, in large part due to students' emotive reactions. The debriefing questions are organized into three stages: a discussion immediately following the exercise; a series of broadly based questions to probe analogies between the exercise and students' own work experiences; and a fairly structured question-and-answer session where students explore the exercise around five constructs relating to work structure and design. We offer all three stages with representative questions below.

STAGE 1 OF THE DEBRIEFING

Once the exercise has ended, we typically start whole-group discussion with a broad, open-ended question: "What did we just do?" Students usually

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do a collective exhale, and many times, reactions arrive in a disorganized fashion with several students talking at the same time. Many students will express how frustrated they were, how boring the work was, how glad they were that it was over, and how they thought it was going to go on forever. We allow students to convey emotion without intervening; only when the room gets relatively quiet again do we continue with debrief activities.

In answering, "What did we just do?" in a discussion format, students indicate that they created an assembly line that produced a single product—numbered 3 × 5 in. index cards. They often remark that there was "no point" to making the cards and that they felt it was just busy work putting their one number on an index card. We take this opportunity to link key elements of the Hackman and Oldham (1976) job characteristics model with the exercise. Once students have done the exacting, bounded, and repetitive work in the activity, they see that all five of the JCM constructs were unmet, and so their own motivation for the task was low. Task significance and task identity especially have an effect on students, in our experience. Again, Table 1 provides representative student responses to each of the JCM constructs.

Another typical student response in this initial, whole-group discussion is how powerless they felt because communication was only allowed one way: from instructor to students. Almost invariably, students close to the end of the line and the quality control person will express frustration at not being able to tell others that their work was not meeting criteria or that they were making mistakes that would risk getting the reward. Most remark that because they knew they had no mechanism to help others make better work, and no way to ask the instructor for explanation, their own motivation disappeared.

Here, we take the opportunity to talk about Weberian hierarchy and the typical downward flow of information, and implications of the widespread assumption that workers cannot offer valuable job redesign feedback. The chasm students see between management and worker roles surfaces in this discussion, and the learning outcome we strive for is new student awareness of the integral role workers themselves must play in quality improvement and communication patterns.

This is an especially powerful discussion considering that at the authors' universities, the undergraduate population is about 50% first-generation college students. For those first-generation students who want to leave blue-collar life (either production or service) behind them through a college education, they learn that, ultimately, they cannot dismiss worker input and be effective managers. For the other students who have had little contact with blue-collar type work, they learn that they must overcome their biases about what workers can contribute to the organization.

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STAGE 2 OF THE DEBRIEFING

After the initial student reactions and Stage 1 discussion, we move to link the experiential exercise with students' work lives. The great majority of our students have at least one job in their background; having nontraditional students increases the richness of the discussion immensely. Table 4 lists sample questions that we have used to effect certain learning outcomes and provides suggested instructor actions at certain points of the discussion.

Students' feedback about the exercise tells us that Stage 2 seems especially critical for them to be able to share their own experiences, learn about others' workplaces, and understand they are not alone in their experiences. Even MBAs, who may have moved higher within their work organization than undergraduates, remember what life was like at the lower rungs of organizations and are usually eager to share their experiential analogies.

Stage 2 reinforces the exercise's main learning goal of helping students understand the affective side of work design and organizational structure. By bringing the classroom experience in line with their real-life work experiences, they move from Epstein's (1994) rational mode of learning to the experiential mode of learning. A key part of the Stage 2 discussion revolves around what changes students would make to their respective workplaces in the context of work design or structure and how they might effect those changes. Students come away with the idea that they can find those areas within their power to change and take responsibility for doing so.

STAGE 3 OF THE DEBRIEFING

We blend both rational and affective learning in Stage 3, using structured PowerPoint handouts that cover five areas of assumptions we want students to consider. Those five areas are as follows: assumptions about the nature of work itself, the nature of the work environment, the nature of management, the nature of the work goals, and the nature of the worker (please see Table 2 for the five constructs and representative student comments about each). We have identified them both because of what the JCM includes and because of our own industry experience. Work design implicitly depends on what managers believe about those five constructs. We try to make those assumptions explicit in Stage 3 discussion.

We introduce the five areas of assumptions one-by-one, making columns on the chalk or white boards. We ask students to comment on each, based on what they experienced in the exercise. In the 15 or so times we have run this exercise, we have found that only slight variations occur with student responses.

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TABLE 4
Typical Debrief Questions

Learning Outcome Topic or Concept	*Sample Debrief Questions*			*Suggested Instructor Action*	
Job design ambiguity	How did you initially respond to the instructions?	What was your reaction to the exercise after you had been running it for 4 to 5 minutes? What were your thoughts during this time?			
Frustration and/or boredom	The exercise ended when “X” complained about it. What was the feeling the rest of you had when this person spoke up?	What were your thoughts just prior to “X” speaking up?	This exercise was conducted in a classroom environment, and you knew it probably wouldn’t last a long time, yet you got bored and frustrated fairly quickly. Do you see any analogies between this exercise and your current work environment, either as an employee or as a supervisor?	If students end the session quickly (e.g., in 5 minutes or less), probe them on their low tolerance for repetitive work and what that indicates about what they are willing to do in a work environment.	If students end the session slowly (e.g., longer than 15 minutes), probe them on their high tolerance for repetitive work.

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Role of rewards	What was your response to not having enough qualifying cards to earn the bonus?	Did the professor seem fair in the way he or she disregarded the quality of your work?*	Has something similar to this ever happened to you at work? How did you feel?		*At this point, we announce that there is a real bonus—typically, we give extra participation points to the entire class for the day.
Professor's foreman role	What was the professor's role during this exercise? What were key elements of his or her management style?	Has something similar to this ever happened to you at work? How did you feel?	What was your response when the professor asked the first person to leave the room? How did it feel to know that you were losing your bonus?*		*Typically, we ask this question to the first person who was asked to leave, then we open it up to the rest of the class.
The limits of hierarchy	Why was communication restricted?	Do you see anything similar to this in your own workplace, or somewhere you've worked? How does it feel?	What did the exercise set-up do to your motivation? Why?	Has anything like this every happened to you at work? How did it feel?	

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The construct that students especially enjoy is discussing the nature of management, operationalized by the "foreman" professor! Once comments are on the board, we solidify the link between the exercise and their own behaviors as managers by asking them to think about a boss they may have had who exemplifies the mean and dictatorial foreman, and then asking them to think about any times they may have behaved in the same ways. In our experience, students are surprisingly forthcoming about sharing times they have acted this way themselves, and many indicate that they had never reflected on their negative workplace effect before.

Once the discussion in Stage 3 is finished, we offer students handouts with Table 2 information in PowerPoint slides. Because again the comments are usually similar, the individual course variations are usually minor and the handouts serve as synopses of the learning we want them to gain in this stage of the discussion.

A general unit wrap-up is a discussion of managers' responsibilities for designing work that does not mimic an assembly line and for creating a work environment that is not oppressive. During this discussion, students see how one does not have to work in a factory to have work and a workplace that approximates what the exercise simulates. Typical examples of modern assembly line-type work include restaurants, data entry jobs, and customer service telephone call centers.

We end the core part of the unit by discussing changes in work design and organizational structure demanded by changing economic conditions and workplace awareness, including the Equal Employment Opportunity (EEO) laws, job enrichment models, modernized motivation theories such as recognition that recognize the limits of money to motivate, and the legalization of labor unions.

Applications and Potential Pitfalls

We typically use this exercise during the work design and organizational structure unit of OB, managerial decision making, and ethics courses. Furthermore, we deliberately place it at least halfway through the course due to issues of student-professor trust needed to conduct the exercise. The instructor role as dictatorial and unsmiling foreman can be powerful, underscoring the authoritative figure we already stand for and possibly creating barriers to future discussions. By midpoint in the semester, we hope to have created a consistent and accessible enough persona whereby students go along with the role without feeling threatened that this was the new instructor paradigm.

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Where instructors place this exercise in the semester, because of the trust issue, is worthy of consideration.

A slightly different use of the exercise underscores the conditions that brought organized labor and unions about. Many of our students enter the classroom with a lack of a historical vantage point. The midsized southern university author's experience is that his students mostly believe unions have outlived their usefulness and do not understand the conditions under which they started. We use this perspective to teach how power balances between labor, management, and the larger economy interrelate; for example, when the economy is good, workers have relatively more workplace power and mobility. For instructors with cinematic preferences, the movie *Norma Rae*, which chronicles the struggle of a woman to organize a union at a North Carolina textile mill in the 1970s, can dramatically help in improving student awareness of the issue.

A possible pitfall in this application is that, when the larger economy is booming and students have many employment options, students appear less attuned to the discussion. We found that to be true during the dot.com boom. However, during the lingering recession, students clearly understood why management was in control and why collective bargaining was important during the advent of modern work, the Industrial Revolution.

Especially useful for this application is a PBS film called *On the Line* (WGBH, 1998; discussed in more detail below), which depicts the creation of Ford's assembly line and the vast sociocultural changes wrought by the Industrial Revolution. Often, it is students' first exposure to unmitigated managerial control and its implications. A crucial learning outcome is helping students understand how power needs to diffuse throughout several stakeholders, at the risk of one becoming all-powerful. Linking the film back to the instructor's foreman role becomes an important discussion. Instructors may also wish to use feature films to help illustrate their points. If so, Charlie Chaplin's classic satire *Modern Times* presents a compelling exploration of the effects of unchecked managerial power.

Variations of the Activity

Our colleagues and we have run several variations of the exercise. One of the authors routinely shows the documentary *On the Line* (WGBH, 1998) as the last part of the unit and helps students through the film with a question sheet. This film is part of the PBS series *People's Century* and runs 60 minutes. Ford's River Rouge assembly line plant operationalized Frederick Tay-

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lor's work, and work life has never been the same since. Students see actual factory footage, hear interviews with former Ford and other manufacturing workers, and learn how deadly shootings outside the Ford plant finally sparked worker revolt and Ford's recognition of the United Auto Workers union. It is a powerful depiction of management gone awry in the face of unquestioned control over workers.

One colleague added industrial sounds one would find in a factory to distract and potentially annoy students. This is consistent with the PBS film, where several former Ford workers who are interviewed comment on the deafening noise in the factory and how the noise contributed to their feeling like a part of a machine. One of the authors makes students move all "comfort" items such as soda or water to an inaccessible area, sharpening the discomfort of the exercise and helping students get out of their comfort zones.

In a large classroom and/or with large course sections, it would be possible to set up two competing assembly lines (telling students only one of the lines would gain the bonus) and look into how competition alters the students' experience. It would be interesting, too, to see if any interline communication patterns develop. A typical outcome of running it with one line is that students develop nonverbal communication "codes" to help each other while escaping professor attention. These codes include hand signals, handing cards to the next person in certain ways, eye movements, and writing notes on the cards themselves that the recipient then erases.

It is also possible to have a student take on the role of foreman and see how the role develops. Organizational role can supersede other factors such as gender and status in deciding behaviors (Bolman & Deal, 1979; Eagly & Johnson, 1990; Milgram, 1963, 1974), so it would be interesting to look into how diligently the student plays the role of foreman and what peers' responses would be to that student during the debrief.

Yet another approach could be to have a colleague take the role of foreman and conduct the exercise with the course's instructor absent from the class until the debriefing period begins. This can be particularly useful for teachers who feel their personalities are not well suited to running this type of activity. We do caution, however, that instructors must carefully consider the potential student-teacher trust issues that could be involved with an outsider running the exercise prior to attempting this variation.

Finally, another colleague ran this exercise at the beginning of the semester, rather than at the recommended midterm or later. The goal was to get the students' attention quickly, to signal that the course would be almost exclusively pedagogically experiential, and to create unusual classroom norms (C. Muir, personal communication, 2003):

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> The students seemed drained—they kept going for over 20 minutes in each section!!! We discussed it afterwards, but it seems it will need a couple of days to get back to normal. . . . I did it early because I think we have established some rapport, and there are some better (fun) things to come. . . . Hopefully, they see the benefit (and forgive me) by then!

A follow-up with this colleague showed that students constantly referred to the learning of the exercise throughout the semester and, more important, did not bear him any lasting ill will!

ANCILLARY MATERIALS AVAILABLE

The PBS documentary is available online from the shopping area of WGBH (http://www.wgbh.org) and costs about $20.00. One of the author's Web sites, at http://cob.isu.edu/lundkath/OBTC/index.htm, has links to handout materials mentioned in the article, including the Stage 3 PowerPoint slides, the PBS film question sheet, the wrap-up slide showing modern work design outcomes, and slides that have student instructions contained in Exhibit 1.

Outcomes and Closing

Referring to Table 1 (the JCM outline), our goals with respect to affective learning are well addressed with the simulation. The deliberately cold and unresponsive work environment that the foreman creates helps students internalize the relationship between a certain management style and an oppressive work culture. Students understand that the manager role is not neutral when it comes to facilitating an attractive (or not attractive!) work environment.

Reviewing the activity itself during the debriefing, we make the connection between the seemingly endless monotony of the simple numbering activity and characteristics of some current jobs students may be charged with managing: customer service call center jobs, data entry positions, and fast food jobs. Students experience the JCM task identity problem—the hopelessness of doing a tiny piece of a job over and over—and discuss ways to overcome it when designing work for their employees. The discussion usually moves from job-focused to people-focused, when students identify a Theory X (McGregor, 1957) orientation and its dehumanizing implications.

In addition, the absence of a feedback mechanism helps students examine their own approachability and willingness to hear their employees' opinions and needs. Students express how annoyed they were when not allowed to dis-

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cuss the task among themselves and with the foreman. Being simply a cog in the wheel is extremely frustrating, and the activity allows for this frustration to grow. A powerful moment during the debriefing is when the instructor reveals how long the assembly line went on—about 20 or 25 minutes in our experience. How might it feel, we ask, if you were denied your voice for 20 or 25 years rather than 20 minutes? Understanding that employees have valuable ideas and contributions to the workplace at every level of the organization is an important learning outcome. The discussion centers on the wholeness of the human person at work and how managers might acknowledge that whole person.

Tables 1, 2, and 4 allow for additional affective, ethical, and human implications of work design to be discussed as needed for different classes and instructors. No matter which questions or elements of the exercise an instructor might emphasize, the managerial responsibility to remember the human person behind the task hits home in multiple ways.

Students find this to be an enriching and valuable learning experience, as evidenced by their responses to the comments of each of the five assumptions about work listed in Table 2. In end-of-semester feedback, more than 90% of both undergraduate and MBA students reported that the exercise was very effective in getting across the learning outcomes desired and that experiencing work process and design, rather than hearing about them in a lecture format, was the key to the unit's success. In particular, we often hear that students bring this exercise back to their organizations as a management development tool. Representative end-of-semester student comments are in Table 5.

We have found this to be a powerful and interesting tool by which work process and work design come alive for students. The responsibility for work design and structure goes well beyond what students usually think, and the interactive role of power with work design elicits a lot of excellent discussion. We invite you to share it, and we ask for your feedback if you use it.

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TABLE 5
Representative Student Comments About the Exercise

Undergraduate	*MBA*
I liked this and the relevance to the movie but thought it was boring and mundane—could make it more interactive—have us stand and move about.	Helped me put myself in the shoes of various work groups. [An] exercise that will be done where I work.
It was interesting. I did it with my management group at work.	Fun & informative. Helps get the point across.
I would keep it at the end of class. It is very frustrating but proves a very good point.	At first I wasn't sure what to make out of the exercise, but afterward it really drove home some important labor/work process/organizational and management concepts. Definitely a keeper.
Shows how important communication is in the workplace.	Very effective. I never want to live on an assembly line.
It's different than lecture, and starts to make us think.	A little annoying, but makes a strong point.
It was very effective and got the point across.	It put us in a situation where we might be better able to empathize with line workers, so that we could become better managers.
	Very informative! This exercise really made me appreciate my staff better and the "wear and tear" of the daily grind that many of them face. It really caused me to think from a different perspective.
	The game did not mimic the real-life assembly line and the problems usually encountered therein.
	Very well aligned with real world situations and work atmospheres.

Appendix A
Exhibit 1: Group Coordination Exercise

General Directions

1. The first person on the line will be responsible for distributing the blank index card to the line;
2. Each succeeding person after the first person will be responsible for writing their personal number (assigned at the start of the exercise) on the card;
3. The next to last person on the line will be responsible for writing the card number, and circling the card number (face up) on the back of the card;
4. The last person on the line will be responsible for inspecting the quality of the cards and stacking the cards in order.

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Exercise Rules

1. No person can pass on a card unless the recipient is finished with the preceding card;
2. Handwriting must be neat and clear;
3. The handwriting must be of the same size and shape for all participants;
4. Writing must stay within one line;
5. No talking or socializing is allowed;
6. No helping of other participants is allowed.

Appendix B
Exhibit 2: Preparation Notes for the Foreman's Role

1. Be firm in silencing all conversations and comments.
2. Walk around the production line to make sure that students are following the rules—stop the production line once or twice when certain students aren't following the written instructions (e.g., one student has multiple index cards on her desk).
3. Randomly ask several students to leave the production line during the process. Remind them that they will not be eligible for the bonus. We typically use the following decision rules for removing students:
   a. one student who engages in conversation of any sort after initial warnings to the group that silence is necessary
   b. a student who makes direct eye contact with you
   c. a student you trust and/or know well (e.g., a class leader, someone you've had before, or an otherwise high-performing student)
   d. a student who is lagging behind on the production process
4. Stop the exercise when a student makes a comment that the exercise is "getting boring." Note the total time to finish the exercise. Typically, this comment occurs 10 to 20 minutes into the process.
5. Check the finished index cards. Randomly disregard many and make comments about poor quality.
6. Announce that the students have produced X number of index cards and that the target number for getting the bonus was X + some number (where it is clear to the students that the "some number" would have been met had the defective cards not been discarded).

References

Bolman, L., & Deal, T. E. (1979). A simple—but powerful—power simulation. *Exchange*, *4*(3), 38-42.

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Eagly, A. H., & Johnson, B. T. (1990). Gender and leadership style: A meta-analysis. *Psychological Bulletin*, pp. 233-256.

Epstein, S. (1994). Integration of the cognitive and psychodynamic unconscious. *American Psychologist*, *49*, 709-724.

Hackman, J. R., & Oldham, G. R. (1976). Motivation through the design of work: Test of a theory. *Organizational Behavior and Human Performance*, *16*, 250-279.

Ivancevich, J. M., & Matteson, M. T. (2002). *Organizational behavior and management* (6th ed.). New York: McGraw-Hill Irwin.

Mathews, C. S., & Fornaciari, C. J. (1999, August 7-11). *An epistemological basis for the use of feature films in the classroom, or, why don't the kids get it when I use my favorite movies in class?* Paper presented at the Academy of Management annual meetings, Chicago.

McGregor, D. (1957). The human side of enterprise. *Management Review*, *46*(11), 23-28, 88-92.

Milgram, S. (1963). Behavior study of obedience. *Journal of Abnormal and Social Psychology*, *67*, 371-378.

Milgram, S. (1974). *Obedience to authority: An experimental view.* New York: Harper & Row.

Nelson, D. L., & Quick, J. C. (2005). *Understanding organizational behavior* (2nd ed.). Mason, OH: Thomson/South-Western.

Robbins, S. P. (2005). *Essentials of organizational behavior* (8th ed.). Upper Saddle River, NJ: Prentice Hall.

WGBH. (1998). On the line. *People's Century*. Boston, MA. Retrieved from http://shop.wgbh.org/webapp/wcs/stores/servlet/ProductDisplay?productId=11480&storeId=11051&catalogId=10051&langId=-1

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