Teaching resource

From theory to practice: Teaching management using films through deductive and inductive processes

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**Abstract**

Management literature espouses the pedagogical advantages of using film, but an important gap concerns how deductive and inductive processes can be used to teach management theories. The purpose of this paper is threefold: (1) demonstrate various sequential processes in using films to explain theories (deduction) and draw generalizations based on single-case scenarios (induction), (2) illustrate varying learning sequences proposed by Whetten and Clark's (1996) integrated learning model and our deductive and inductive approaches to teaching management theories, and (3) share additional examples for using films to teach management using both approaches. Survey questionnaires were used for comparison of inductive and deductive processes. Results support Lott's (1983) assertion that both deductive and inductive processes are effective means for teaching. Qualitative feedback shows slightly better concept retention using an inductive process to teach management theories using films.

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1. Introduction

Use of video or film for teaching more effectively and innovatively is not new. Authors such as Hess (2003), Stephens (2003), and Chan and Harris (2005) discuss use of video for enhancing teaching of social studies, mathematics, and English language arts. Using film to teach organizational behavior and management (OBM) theories provides benefits such as the availability of real-life scenarios in the learning process (Champoux, 2001; Comer, 2001; Gallos, 1993; Ross, 1996). While many authors write on the use of film to teach OBM (Champoux, 2001; Comer, 2001; Holbrook, 2009), few explain how inductive and deductive learning is facilitated behind the use of film extracts. The literature on this topic focuses primarily on (1) providing educators with resources to illustrate management theories and (2) discussing general advantages and disadvantages of using the medium. The contribution of this paper includes (1) demonstrating how films can be used in both deductive and inductive processes to stimulate thinking and analysis, (2) pointing out similarities and differences of the two learning processes students experience in our approach in comparison to Whetten and Clark's (1996) integrated teaching model, and (3) sharing illustrated examples of films used to teach OBM deductively and inductively.
2. Conceptual background

Whetten and Clark's (1996) integrated teaching model demonstrates how thinking, doing, learning, and applying mutually enhance the learning process. According to the model, learners experience five sequenced learning activities (experience, understand, practice, reflect, apply), connected by four inductive/deductive learning processes (discover, direct, evaluate, plan). One limitation of the model is its failure to include tools that achieve the processes in a classroom. Lott (1983) suggests students learn effectively with either inductive or deductive methods, but it is unclear if there exists empirical support. The literature documents the drawbacks of teaching deductively (e.g., lecturing) (Gower, Walters, & Phillips, 1995; Shapiro, 1991). Such drawbacks include passive learning and low long-term retention. One remedy is to use inductive methods such as storytelling and case studies (Eisenhardt, 1989; Whetten & Clark, 1996; Yin 2008).

Films and case studies are similar in that they both involve storytelling. Case studies are advantageous because they invoke either inductive or deductive reasoning depending on how they are used (Whetten & Clark, 1996). Film scenes offer a visual portrayal of abstract theories and concepts taught in OBM (Champoux, 1999), and students who learn more effectively through visual stimuli and concrete experience find films beneficial because a case scenario is available visually for comprehension (Hunt, 2001; Koch & Dollarhide, 2000; McCambridge, 2003; Rubin & Hebert, 1998).

According to Kracauer (1973), a unique property of film lies in its power to make one see and understand issues that the cinema alone conveys. To create an experiential learning episode, Villalba and Redmond (2008) use the film Crash to illustrate sophisticated grey areas of life to teach a multicultural diversity counseling class. Bluestone (2000) suggests various films for teaching psychology, homosexuality, and parenting. While the films are recommended to readers from the social psychology perspective, those same films are possibly useful for teaching managing diversity and conflict resolutions in an OBM context.

Smith (2009) suggests films provide vivid and varied contexts for students to learn OBM and recommends that use of film be a primary instructional medium to teach OBM. Comer (2001) claims The Lion King illustrates leadership and role conflict, and Van Es (2003) recommends The Insider for teaching ethics. Holbrook (2009) prescribes a systemic approach for using films to teach OBM, but the focus is more on learning assessment, concept reinforcement, and illustration of abstract concepts. All these literature discusses film as an illustration and application tool, but there exists no explicit discussion on how understanding, analysis, and evaluation of learning are achieved.

Tyler, Anderson, and Tyler (2009) report on the procedure and benefits of having students find media clips to illustrate OBM instead of using clips chosen by the instructor, and lessons learned from using the approach. Students selected relevant films to match various management concepts taught during the semester, stimulating and sharpening students’ deductive reasoning skills even though that was not the objective. Huczynski and Buchanan (2004) offer ten examples of films to demonstrate narrative as theory, an approach similar to teaching inductive reasoning since it encourages decoding the films’ theses. However, these papers do not integrate or compare inductive and deductive processes of using film to teach OBM. Given the increasing popularity of using films to teach OBM theories and the importance of understanding the use of deductive and inductive learning processes to facilitate learning, this paper provides an overview of the approaches suggested, recommends possible procedures for execution based on Whetten and Clark’s (1996) model, and evaluates the results to test Lott’s (1983) assertion.

3. Deductive and inductive processes

Proctor and Adler (1991) and Zorn (1991) discuss several ways to use film scenes to teach OBM, suggesting showing a film before or after discussing theories and repeating scenes for greater emphasis. Though elements of deductive and inductive approaches are implied, they are not the emphases of those papers. Based on Proctor and Adler (1991), we demonstrate how sequencing of theory-guided questions and film can be arranged to teach OBM (Table 1).

For the deductive process, film scenes can be shown after teaching theories. Guided questions are distributed to students prior to showing the film (Appendix A, questions one through three). The advantage of this arrangement lies in preparing viewers’ mindsets for what to expect from the film. Roth (2001) calls it the importance of pre-class preparation. From a deductive-reasoning, skills-enhancement perspective, preparation for focused viewing encourages students to select sample scenarios and mental images to demonstrate understanding and application of theory into practice. For the inductive process, no theory is presented, and students may be alerted to what they should look for before watching the film. Pre-film preparation should include theory-building procedures and examples. Guidelines for constructing theories serve reflective

<table>
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<tr>
<th>Sequence</th>
<th>Deductive</th>
<th>Inductive</th>
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<tbody>
<tr>
<td>Step 1</td>
<td>Theory presented + film guide with questions</td>
<td>Guidelines for film selection and theory construction provided</td>
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<tr>
<td>Step 2</td>
<td>Film viewing</td>
<td>Film viewing</td>
</tr>
<tr>
<td>Step 3</td>
<td>Theory reflection (debriefing and reinforcement of appropriate application)</td>
<td>Theory construction (students learn to generalize a concept: write up the scenario chosen for illustration of theory built)</td>
</tr>
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</table>

Table 1
Enhancing deduction and induction using film.
viewing and encourage discovery since viewers search for patterns and generalizations from episodes during the film. After viewing the film, students engage in a discussion in which they learn to categorize patterns and generalize theories based on the film—much like a sample case study—to form larger principles. Occasionally, additional probing questions for in-depth learning could include: (1) how would you apply what you learned from the conflict resolution model to make your life in team projects easier in this course? and (2) how would you apply followership theory to improve the life of your instructor?

3.1. Deductive approach

Deductive approaches involve application of theories into practice. Instructors evoke deductive learning by teaching theories and principles from which students draw to understand specific situations better (Whetten & Clark, 1996), in this case, a film that illustrates a scenario.

According to Van Hiele (1973), students reason formally by logically interpreting definitions or statements. To exercise deductive skills, students need to demonstrate the capacity of constructing original proofs by producing a sequence of statements that logically justify a conclusion as a consequence of given statements or situations. One way to evaluate students’ deductive reasoning is by checking the accuracy of their analyses and applications. In the context of using films for promoting deductive learning, the following sequence is recommended:

1. Teaching theories in the form of lecture with instructor explanations.
2. Viewing a film with relevant theories taught in step 1.
3. Student extract examples from the film to illustrate theories taught with appropriate explanation, demonstrating understanding and application of the theory.
4. Instructor gives feedback on the appropriateness of application of theory into practice.

In Whetten and Clark’s (1996) language, students experience a process of understanding, experiencing, reflecting, evaluating, and planning. Table 2 shows the relationship between Whetten and Clark’s (1996) integrated teaching model and our recommended deductive approach.

Table 2 shows the original model in rows one and two. According to Whetten and Clark (1996), row 1 suggests students will:

1. Experience: observe a management experience in class or at work, and discover principles behind common practice.
2. Understand: comprehend the management experience in light of the guidelines presented in the text, and decide how the guidelines improve management practice.
3. Practice: use the guidelines to inform their practice during in-class and work-relevant exercises.
4. Reflect: evaluate their performance during practice and deepen their understanding of the principles.
5. Apply: execute a plan for improved practice in a personally salient, out-of-class setting.

Row 2 suggests students inductively discover from experience to understand (row 1), deductively direct from understanding to practice (row 1), inductively evaluate from practice to reflect (row 1), and deductively plan from reflection to apply (row 1). Row 3 maps our sequence of using film to promote deductive learning. Row 4 calibrates the corresponding and relevant learning sequence from the original model. For example, (1) teaching the theory allows students to understand concepts, (2) viewing the film is the experience, (3) the assignment requires extracting concepts, explaining and applying the theory correctly, involving what Whetten and Clark (1996) call reflect, practice, and plan.

Row 4 shows our approach matches four of Whetten and Clark’s (1996) learning sequence (Apply is absent). Between the two deductive learning processes (Direct and Plan), our suggestion requires students to plan (i.e., using guidelines to plan an explanation and demonstrate understanding) to complete the process. However, no Direction (i.e., using guidelines to direct informed practice) is required. Row 5 summarizes the similarities and differences between our approach and Whetten and Clark’s (1996) model. Unlike Whetten and Clark’s (1996) suggestion, Table 2 shows that several learning mechanisms take place simultaneously (e.g., steps 3 and 4), rather than sequentially.

4. An example of using a deductive process and film to teach

During the Fall of 2010, two classes of undergraduate organizational behavior students were taught House’s (1971) Path-goal Leadership Styles. After an instructor explained the leadership styles, students were shown the film The Edge and given an exercise to demonstrate their understanding and application of the theory.

**Exercise:** Please cite three episodes from the film that illustrate the different Path-goal Leadership Styles used in the film. Carefully explain why the episode chosen illustrates a particular leadership style.

In an episode titled Killing the Bear, identified by the slogan “what one man can do, another can do!” one student applied the Supportive leadership style to explain the scenario. Another used the Achievement leadership style to explain the same scene (Table 3). Providing feedback to the students, the instructor can point out the importance of (1) evaluating the context...
<table>
<thead>
<tr>
<th></th>
<th>Whetten and Clark (1996) Integrated learning model: learning sequence</th>
<th>Experience</th>
<th>Understand</th>
<th>Practice</th>
<th>Reflect</th>
<th>Apply</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Suggested sequence of using a film to promote deductive learning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Suggested sequence of using a film to promote deductive learning</td>
<td>Step 1: Teach theory using lecture</td>
<td>Step 2: View film</td>
<td>Step 3: Student extracts example, explains and demonstrates rightful understanding and application of theory.</td>
<td>Step 4: Instructor giving feedback</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Corresponding/relevant Whetten and Clark (1996) learning sequence and process</td>
<td>Understand</td>
<td>Experience</td>
<td>Reflect, practice, plan</td>
<td>Practice (feedback)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Comment (Similarities and differences)</td>
<td>In line with the theory, students try to understand before experience in a deductive learning sequence.</td>
<td></td>
<td>On one hand, one can argue that reflect, practice, (learning sequences) and plan (learning process) are the rightful steps in alignment with the theory prediction. On the other hand, students go through a combination of these learning sequences and process simultaneously. The original model does not show the concurrent nature of the activities.</td>
<td></td>
<td>Instead of advancing to the “apply” stage (which involves execution of a plan outside of the classroom), this exercise suggests reinforcement of understanding via instructor feedback on the practice, but no further application is required.</td>
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</tbody>
</table>

Adapted from “An Integrated Teaching Model” by Whetten and Clark (1996)
Table 3
Examples of student deductive reasoning comparison.

<table>
<thead>
<tr>
<th>Student application</th>
<th>Episode description</th>
<th>Key points for illustrating theory</th>
<th>Theory illustrated</th>
<th>Student explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student 1 Killing the bear</td>
<td>Charles (portrayed by Anthony Hopkins) encourages Bob (portrayed by Alec Baldwin) to have confidence in killing the bear with the slogan “what one man can do, another can do!”</td>
<td>Path-goal theory: Supportive leadership behavior – directed toward the satisfaction of subordinate needs. It is a source of self-confidence and stress reduction</td>
<td>Bob’s confidence is being boosted</td>
<td></td>
</tr>
<tr>
<td>Student 2</td>
<td></td>
<td>Path-goal theory: Achievement leadership behavior – encourages performance excellence, sets challenging goals, and leader shows confidence in subordinates</td>
<td>Sets challenging goals (killing a bear without any weapons) and leader shows confidence in subordinates</td>
<td></td>
</tr>
</tbody>
</table>

for theoretical application (e.g., is the scenario appropriate for applying the theory chosen?) and (2) weighing the complete versus partial fit of the theory to the scenario selected (e.g., is the scenario partially or fully fitting the explanation of the theoretical components?). Discussions like this are useful for students to evaluate the accuracy of their own deductions. Developing an appropriate answer, students need to understand the differences in the theories presented and explain corresponding characteristics that illustrate rightful application. Students must exercise deductive reasoning skills to both produce a sequence of sound evidence and justify conclusions.

At a debriefing session, students were asked if the scenario is more illustrative of either Supportive or Achievement leadership behavior. After the students had an opportunity to match the various dimensions of the theory to the scenario, the instructor pointed out why the Achievement leadership style—in context and application—is better suited to the scenario in comparison to the Supportive style (i.e., partial fit, stress reduction without much satisfaction).

4.1. Inductive approach

Inductive approaches involve theory construction in which students must generate relevant principles by finding a common relationship behind a set of variables that work in the specified context. Training in inductive reasoning (Holland, Holyoak, Nisbett, & Thagard, 1989) requires forming theories and conclusions based on features of a small sample or a case study. When one extends a feature of the given sample beyond the immediate scope to assert a point about a relevant non-observed or non-observable object, an inductive inference is made (Klauer & Phye, 2008). For example, when one observes eating a meal at a restaurant requires payment, one can infer that all meals eaten at restaurants require payment. Besides discovering a common rule or regularity from similar attributes in the generalization process, inductive reasoning also discovers differences with processes of discrimination and classification. Klauer and Phye (2008) affirm that training in inductive reasoning strategies improves intellectual development and academic learning of classroom subjects. In the context of using films for promoting inductive learning, the following sequence can be followed:

1. Teaching theory-building methods.
2. Watching a film that illustrates management theories and real management events.
3. Identifying assumptions, contexts, boundaries, and parameters for a sequence of events/variables that have a causal relationship based on the scenarios shown in the film.
4. Drawing a general conceptual map for linking relationship of the variables/issues identified in step 3.
5. Instructor feedback on the completeness/face validity of the theory constructed.

In Whetten and Clark’s (1996) language, students go through the process of understanding, experiencing, reflecting, evaluating, and discovering (i.e., guidelines from common practice).

5. An example of using an inductive process and film

From the film The Edge, students can be asked why one character dies in the film.

Relevant episode: A teammate, Steve, hurts his leg in the process of making a spear from a tree branch. The leader, Charles, cuts off the piece of torn, bloody cloth and asks another teammate, Bob, to bury it. Instead of burying the cloth, Bob hangs it on a tree branch. When the rain comes at night, the smell of the blood from the piece of hanging cloth lures the bear to the campsite. Injured and unable to run, Steve is eaten alive by the bear.

One theory students are expected to draw from the scenario involves inductive reasoning, identifying generalization from a specific episode of emerged leader–follower relationship: a teammate’s failure to follow the leader’s instruction causes the death of another teammate. Students must identify that there is an instruction given by the leader, received and executed by the follower. Then, they identify the received instruction not executed (i.e., hanging the bloody cloth on a tree instead of
burying it) as bad followership, resulting in a negative consequence (i.e., death of a teammate) and the leader’s effectiveness hindered. Abstract conceptualization skills are required, and both reflective thinking and generalizations must be exercised to recognize that a leader’s effectiveness is a function of the followers’ abilities to execute instructions.

The instructor can make the theory come alive by doing a debriefing that suggest application of the new-found theory to immediate classroom settings. For instance, there are consequences to similar situations in real life such as in-class instructions and guidelines provided for examinations and projects. Students who score distinctions are usually those who follow instructions well. Those who fail to follow instructions risk failing the course. Debriefing can emphasizes the importance of followership over competence.

6. An approach comparing deductive and inductive processes

To understand the effectiveness of the inductive/deductive process, we followed the approach of Strother (2002) and developed a questionnaire to measure student satisfaction in the learning process. The questionnaire measured perceived learning effectiveness, concept retention, and preference for learning using film. It also included open-ended questions for qualitative feedback. One version of the questionnaire was given to a group that used deductive learning and another version to a group that used inductive learning (Appendix B). While the questionnaire measured perceived learning, it could have been a misrepresentation of actual learning (Lee, 2007), so we developed a short test that involved both multiple choice and fill-in-the-blank questions to evaluate student knowledge (i.e., learning retention) on concepts taught (e.g., House’s Path-goal theory, Contingency Leadership styles) (Appendix C).

6.1. Sample

The sample consisted of 62 students enrolled in two principles of management introductory courses at a northeastern, private university. Table 4 shows a summary of the demographics (Table 5).

The gender split and subjects who participated in the deductive and inductive experiments are rather equal (49% versus 51%). For age distribution, about 70% of the subjects are below 21 while approximately 26% are between 22 and 30. The rest of the 4% is over 31 and below 50 years old. 96% of this overall group is of sophomore and junior standings. There is no freshman but 4% of seniors in the group.

6.2. Experimental setup

For the deductive process, the sequence of events included (1) an instructor presenting the theoretical models, (2) distribution of film questions as guidelines to students, (3) viewing the film, (4) post-film debriefing and discussion of concept application to the scenario viewed, and (5) testing student recognition of management concepts. For the inductive process, the sequence of events included (1) an instructor presenting the steps and examples of theory-building, (2) distribution of film-related questions as guidelines, (3) viewing the film, (4) post-film debriefing and teaching of the management concepts, and (5) testing student recognition of management concepts.

We conducted the exercise by teaching OBM in both the deductive and inductive sequences in a classroom environment. Students were tested for concept recognition (i.e., learning retention). A survey was conducted to collect feedback on perceived learning outcomes, learning satisfaction, and administrative effectiveness. An average of 30 full-time undergraduate students participated in each study (i.e., deductive and inductive). Undergraduate business majors of junior and senior standing made up 98% of participants. The rest were non-business majors and/or sophomores. The experiment was conducted in the second half of the semester after students were familiar with the learning environment and class expectations. Subjects were allowed to watch the film with classmates or family outside of the classroom. In all scenarios, students were
given one week to view the film outside of classroom time. The test for the actual learning outcome (i.e., concept recognition) was conducted approximately 48 h after the teaching/debriefing of the concepts.

Following are some voluntary comments collected from the open-ended feedback section, it shows the advantages and drawbacks of both approaches and provides insight for future research at a large scale.

6.3. Qualitative: subjective feedback from students

The number of positive response was 13 of 32 and 18 of 31 for the inductive and deductive groups, respectively. Examples of affirmative feedback included:

From the deductive group:

The film made the theories come alive.

Having to answer the questions after watching the film made me study more about the theory.

It helped me apply the theories taught in a more hands-on way, really enjoyed it!

From the inductive group:

It helped me understand the fine differences in the various theories because the film provided a very good context to hold many examples for illustration.

I learnt a bit about theory building, a new exercise!

I wasn’t sure what the instructor was trying to accomplish at the beginning, but I see it at the end. Good exercise!

From the responses above, we can say that the use of the film does help students learn more effectively. While a small percentage of students remained neutral regarding the use of films for learning, five students (16%) from the inductive group expressed concerns and two students (6%) in the deductive group provided negative comments. They included:

It was not easy to watch films outside of class, concept is reinforced but very time consuming.

Some parts of the film are quite violent.

Since the students watched the film outside of the classroom, they could watch it individually or in groups. Many watched the film in small group settings and provided feedback as follows:

I like being able to watch the film with my team members during the break.

Watching the film with my teammates helped me understand some of the episodes and how they are related to the management theories.

I don’t think I would have done the exercise if my teammates were not there to bounce off ideas and clarify concepts for me.

The following section discusses the implication of these student experiences, its relevance to Lott’s (1983) suggestion, and Whetten and Clark’s (1996) learning sequences.

7. Discussion

Positive feedback demonstrates that the deductive process enhanced both learning and application of theory to practice. The inductive process forced students to think through observed relationships and phenomena to draw generalizations. The result affirms Lott’s (1983) assertion of the effectiveness of both the inductive and deductive processes.

The tendency for students to watch the film with self-selected teammates outside the classroom yielded positive learning outcomes because team learning was possible at the learners’ pace with peers. For both the inductive and deductive groups, over 85% of students watched the film with peers per instructor encouragement. Were the film shown in class, students would not be encouraged to discuss the content during the viewing process because it is too disturbing to other viewers, similar to etiquette expected in a large public theater. Students would sit quietly through the film-sharing process and hold all questions and decisions until the end of the film. When students watch the film with self-selected peers, they have the option to discuss and clarify concepts during and after the viewing process.

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<tr>
<th>Table 5</th>
<th>An integrated approach to using film for enhanced learning.</th>
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<td>Showing the film</td>
<td>Discussing theories constructed from the film</td>
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<tr>
<td>Inductive reasoning training</td>
<td>Deductive reasoning training</td>
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of pausing the film to clarify and discuss or to repeat episodes that are useful to learning. Thus, the film exercise taken place outside the classroom yields a positive, unintended consequence—more in-depth discussion, reflection, and peer learning (Boud, Cohen, & Sampson, 2006). Perhaps unfamiliarity in the inductive exercise requires more cognitive activity and analysis to the extent that students must think more in-depth to find constructs and variables for theory building, thus creating better learning retention of the basic elements in the theory.

Results of this study suggest Whetten and Clark’s Sequence #2, Understand (deduction), is strengthened when a person experiences an inductive learning process. This phenomenon is important for educators because learners in an inductive setting are directed to go through Whetten and Clark’s (1996) moderate to advanced learning sequence, involving both induction and deduction (1 Experience, 4 Reflect, 5 Apply). The deductive group reported higher perceived learning and learning satisfaction, perhaps because deduction is a reinforcement process that provides psychological feedback in the form of closing a loop. The inductive process is a creation process where more uncertainty is involved prior to third-party feedback. Despite scoring higher in perceived learning, the deductive group retained less knowledge (78% of concepts taught) in comparison to the inductive group (82%), which had more expressed concerns. The inductive group experienced higher knowledge retention (82%) in comparison to the deductive (78%) group. This result is an interesting paradox because the inductive group complained more and reported less learning satisfaction, but registered concepts better. A future study that increases the testing sample would be useful to verify whether there are any differences in perceived learning satisfaction and learning retention.

Although undergraduate students may not be comfortable with theory building (i.e., inductive learning process) due to limited experience, positive learning outcomes (i.e., higher knowledge retention) suggests induction should be taught to improve students’ confidence in developing hypotheses, constructing theories, and generalizing. Use of film to create context, variables, and theories is a good starting point because abstraction can be externalized in a concrete film scenario. For students learning management theories or managing businesses, strengthening inductive reasoning is particularly important because it is a skill that improves the ability to solve complex and dynamic problems (Klauer, 1996), the core of business and management.

Allowing a film exercise to take place in a team setting encourages active participation (Smith, 2009), identifies team member skills, and builds team cohesiveness. The team approach provides energy and resources for unmotivated students to learn more effectively because motivated team members drive the exercise and teach peers. As Champoux (1999) suggests, films offer both cognitive and affective experiences; they provoke good discussions, assessment of one’s values, and assessment of the self, especially when scenes contain strong emotional content. In the film The Edge, a consequence of leader-follower miscommunication causes a teammate’s death, serving as a key discussion point for students to reflect on the mistakes they made in life due to miscommunication or inattention. Consequently, they are encouraged to be mindful of challenges both in the classroom and their life development journeys.

Films also offer solid examples of real-life management contexts to students who learn best through experience. In The Edge, Charles convinces Bob to kill the bear when the latter lacks the confidence to do so. Charles explains how a 12 year old American Indian boy can kill a bear using its weight and creates the slogan “what one man can do, another can do!” to boost his follower’s confidence. Students were presented with salient examples of the environment and context (i.e., low follower confidence) for which the theory (i.e., selling approach of leadership) was illustrated, without having to create a cognitive scenario on their own. Apart from demonstrating the theoretical application of concepts, both deductive and inductive reasoning reinforce concepts taught and increase retention. For example, to test deductive reasoning skills, instructors can ask students to identify examples from the film that show evidence of emergent leadership. After conducting a discussion and exercise in class, most students in this study recalled the basic components of theories near the end of the semester when we conducted an oral check during a learning integration lecture.

Through these exercises, instructors have the opportunity to correct students’ incorrect or deviated understanding of theoretical concepts. For example, many students perceived delegation as a leadership style used frequently in The Edge (e.g., Steve is asked to make a spear and Bob is asked to gather wood to make a fire). Assuming common use of the word, the tasks appear to be delegated. However, in Hersey and Blanchard’s (1969, 1977) theory, delegation is appropriate when the follower is high in both confidence and capability. In both scenarios, the teammates in the film are asked to do a job not because the leader trusts the followers’ abilities and confidence, but because it is a way to occupy them and help control their fearful and hopeless emotions.

From this research experience, disadvantages to using film to teach management theories is noted. For the instructor, it is time consuming to both plan and execute the processes. If only one film is used during the term, selecting one that appeals to the majority of the class is not easy. If a film is shown in the classroom, absent students will have to catch up on their own time. For students, planning to watch a film outside the classroom is not necessarily easier than finding time to catch up on reading a textbook chapter. Students who miss a film may be less engaged for the remainder of the two to three discussion sessions. As a result, the expected learning outcome of enhanced deductive/inductive reasoning skills is discounted. Our experience suggests that the availability of a film in a library reserve section or on Netflix or Amazon helps students catch up outside the classroom.

8. Implications for future research

This research supports Lott’s (1983) assertion that deductive and inductive processes are effective means for teaching. However, it is still an unknown as to which approach is more effective under what circumstances? How does gender and
ordering effects influence the approaches’ effectiveness (e.g., are young women interested in learning from a Star Trek film, and are young men interested in learning from a sentimental/romantic film?). Salient research questions include:

1. How does gender affect teaching OBM using deductive versus inductive approaches?
2. Which learning styles are suited to using deductive and inductive approaches?
3. How does scholastic aptitude influence learning using deductive and inductive approaches?

8.1. Additional suggestions for implementation

Using film scenes for discussion and learning takes time away from other classroom interactions (Champoux, 1999). Some scenes can be violent (e.g., when the bear kills Steve in The Edge) or offensive to students, resulting in emotions that distract students from intended learning. Some students enjoy a film so much they get absorbed in the storyline to the extent of ignoring the assignment. Therefore, an instructor should alert students to balance entertainment with learning; focused viewing should be emphasized. Student age groups, maturity levels, cultural backgrounds, and learning styles vary learning receptivity/effectiveness to the teaching approach of using films. While some scenarios and episodes might be obvious to many, those who are not visual/audio or reflective/conceptual learners may find it difficult to grasp concepts that would otherwise have been taught differently by the instructor.

Case studies—that are also stories—are criticized for having superficial forms of inductive and deductive learning because they are based on a constructed scenario instead of a student’s experiences (Argyris, 1980; Whetten & Clark, 1996). A learner’s engagement in deep reflection is limited by his/her ability to substitute him/herself in the scenario. Films are based on contrived situations developed for the purposes of drama and entertainment, even when based on real events (Goltz & Woods, 2010). Exaggeration in films and manipulation of scenarios by writers, directors, and actors distort the reality of many variables important in managerial decision-making (Liedtka, 2001). When using films in an inductive process to teach OBM, it is important for an instructor to identify and correct invalid inductive generalizations. To detect such errors, instructors should (1) examine the context (i.e., check the background of the scenario used), (2) evaluate the framing of the situation (i.e., assess the concepts displayed), (3) identify variables or lack of them (i.e., look for key variables/words; is consideration of the variables thorough?), and (4) check the validity of the scenario (i.e., is the parallel theory appropriate given the cited scenario?; are there exaggeration or minimization of facts for theoretical conceptualizations?).

We recommend full facilitation of both inductive and deductive processes in an uninterrupted sequence of two to three class sessions if the curriculum and student capacity permit. The instructor can teach the OBM theories using the following sequence.

There is an advantage to using the film and ordering discussion in such an integrated manner. Sequencing an inductive exercise followed by traditional lecture of theory and a deductive exercise allows full assimilation and application of the learning cycles (Whetten & Clark, 1996).

Shown in Appendix D, Elizabeth (Kapur, 1998) is another example demonstrating use of film for teaching inductive and deductive learning. For a deductive learning process, the film could be used to demonstrate Whetten and Cameron’s (2010) positive change leadership model, House’s (1971) Path–goal Theory, and Leonard and Swap’s (2005) learning as a form of change. Inductively, broader guiding questions are recommended so students can generate meaningful links with theories. Instructors can further develop the scope and shape of the students’ generalizations (Huczynski & Buchanan, 2004) based on cognitive capacity, course development, and student participation. The Edge (Tamahori, 1997) also includes rich content for illustrating other management concepts such as conflict, trust, power, and influence. Appendix E includes brief descriptions of additional topics for teaching OBM using deductive and inductive processes.

We also suggest the following criteria for reference in evaluating the adoption of inductive versus deductive approach in future implementation.

8.1.1. Inductive

1) For students capable of learning generalization and deriving formulas/theories from case scenarios. The multiple episodes available in a film offer many ways for identifying context, assumptions, constructs, casual relationships and the like.

2) For advanced students who are already familiar with current theories of the topic and need the challenge to form their own theories. The inductive process offers a good opportunity for training.

8.1.2. Deductive

1) Learning Assurance: ensuring that students understand the theories taught by the instructor for the process of retrieving examples in a film to illustrate the taught theory requires active review and rightful application.
2) Learning Reinforcement: discussion of rightful application of the theory or feedback on wrongful application provides students with the opportunity for deeper understanding. Students will be able to distinguish what “is” and “is not” in the theory taught.

9. Limitations

This research was conducted in a small private college with limited class size. Measurements and learning outcomes were derived from only one cohort of students. Generalizability could have been improved had we tested more classes. We worked under the assumption that using deductive and inductive processes to teach via film strengthens students’ inductive and deductive reasoning skills, but empirical testing should verify this assumption. According to Whetten and Clark (1996), one of the disadvantages of the inductive approach is the danger that students with less experience arrive at invalid conclusions from induction and end up pooling ignorance. For a full-range experience of integrated learning activities, students learning from an inductive sequence should apply theories constructed outside the classroom and reflect on them in a journal or written assignment for further feedback and refinement. Another limitation is the appropriateness of using films for all learners (e.g., varying age groups, different learning styles/experience levels). Future research should consider Comer and Cooper’s (1998) mixed gender grouping for discussion and learning when running exercises within groups.

10. Conclusion & future research direction

Pedagogical literature suggests advantages of using film to teach management (Hinck, Krider, & Ross, 1995; Michaelson, 1975; Serey, 1992). Film scenarios are socially real and highly relevant to the world and work of managers (Bilsberry & Gilbert, 2008). This paper not only identifies the relevance of using film to teach management, it discusses how films are used to teach based on Whetten and Clark’s (1996) integrated teaching model. Specifically, inductive and deductive processes are employed through deliberate design. The deductive process facilitates concept clarification and appropriate application of theory to practice, while the inductive process reinforces learning and facilitates theory construction. Most importantly, the two develop both students’ abilities to generalize based on case scenarios (inductive skills) and skills to analyze and apply concepts to everyday life (deductive skills). We provide guidelines for facilitating both inductive and deductive reasoning using two films: The Edge and Elizabeth.

Future study should verify whether students’ deductive skills can be strengthened through repeated exercises of deriving examples from films to demonstrate theoretical understanding of management concepts, especially if an instructor provides students with a debriefing of their first attempt. Likewise, researchers should also investigate whether inductive reasoning skills can be strengthened with proper theory construction guidelines, broad reflection questions, and relevant examples.

Educators should also consider Sherin’s (2003) suggestions for improved film-based design for teaching. Another research agenda is testing the effectiveness of using films against various learning styles (Kolb, 1984) and possibly at both undergraduate and graduate levels to examine the differences. Other educational goals and learning objectives such as leadership, negotiation, and planning skills can also be explored. Instead of being passive film viewers, students can create a film/story in which they have to plan, lead, and organize for a film’s production. The process can include script writing, casting team recruitment, organization of crewmembers, and fund raising. Such an approach carries the benefit of integrating various disciplines (e.g., finance and theater) to enhance the educational experiences. Students will learn from a broader panel of experts (e.g., professors and students from other departments) instead of one designated professor.

Overall, this paper uses two films to illustrate how deductive and inductive processed can be adopted to teach management theories using film. We hope our effort enhances educators’ sensitivity in designing and facilitating student learning.

Appendix. Supplementary material

Supplementary data related to this article can be found online at http://dx.doi.org/10.1016/j.ijme.2013.05.001.

References


Further reading


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