Reel Entrepreneurs: Illustrating Entrepreneurship with Feature Films
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Abstract - Using feature and documentary films as teaching and learning resources has found wide use in a variety of disciplines, including psychiatry, history, anthropology and cultural studies, law, medicine, management and in corporate training programs. The growing interest in entrepreneurship is also noteworthy and a number of television reality shows such as Dragon’s Den or Shark Tank feature entrepreneurs pitching their business ideas to win investment financing from a panel of venture capitalists.

This paper explores one form of experiential learning, the use of films as a problem-based learning approach. Students are guided via an assisted walk-through in which the problem solution is gradually revealed. Even though their role as observers is mostly passive, the learning process is enforced through emotional responses to the movie characters and twists and turns of the dramatic plot. That emotional enforcement increases knowledge retention rates and falls under the social-emotional learning category.

1. Introduction

Use of feature films as educational material is not entirely new (Champoux, 1999). Both feature and documentary films have been used as teaching and learning resources in a variety of disciplines, including psychiatry (Wedding et al., 2005), history (Landy, 2001), anthropology and cultural studies (Benshoff and Griffin, 2003), law (Asimow, 2006), medicine (Alexander et al., 2005), management (Champoux, 2004; Clemens and Wolff, 1999; DiSibio, 2006; Higgins, 1999; Higgins and Striegel, 2003) and perhaps others. Film as a teaching medium has found wide use in corporate training programs.

Recent fast proliferation of film as a teaching tool is partially due to progress in media technology and growing availability of a large body of films. Movies available for rental from video stores currently include over 25,000 titles and include broad genres of filmmaking in a variety of formats.

Educators have explored the use of film medium to support teaching since the 1970s, with the advent of the first portable video recording devices. The most recent transition from VHS tapes to DVDs and the ongoing transition to streaming media available on the internet have further accelerated this process.

First and foremost good feature films are enjoyable, entertaining and readily understandable. The coordinated effort and talents of screenwriters, directors, cinematographers and actors deliver visual portrayals of life that can be both memorable and thought-provoking. As such, they can easily trigger discussion and provide useful counterbalance to more traditional ways of teaching.
Since the characters in the movies are not real, learners can be more honest in their reactions than they would normally be in discussing actual situations. This is a unique effect of displacement, which allows the viewer to be simultaneously emotionally involved in a situation, and yet maintain distance, thus enabling objectivity (Champoux, 1999).

The growing interest of the academic community in entrepreneurship taking place in the recent decade is worth noting, not only because professors exhibit highly entrepreneurial traits in search of funding sources, but also because of the proliferation of entrepreneurship-focused degree programs around the world. While most of those programs are at the graduate level, undergraduate-level offerings are also starting to appear, and entrepreneurial concepts in general are being injected into undergraduate education.

Popular culture also seems to respond to that growing interest in entrepreneurship favorably. A number of television reality shows feature entrepreneurs pitching their business ideas to win investment financing from a panel of venture capitalists. While the original show idea (http://en.wikipedia.org/wiki/Dragons_Den#Japan), called “Tiger of Money” was conceived in Japan in 2001, it was then adopted for the UK audiences by BBC as “Dragon’s Den,” and then quickly adopted for local tastes in over 25 countries (in the US it runs as “Shark Tank” on ABC).

Yet while the surge of interest in entrepreneurship seems to be somewhat fueled by the “get rich quick” association, the general public’s understanding of entrepreneurship and its contribution to the well-being of society is fairly limited. Exemplary successes of individual entrepreneurs are commonly admired, but the high level of personal sacrifice and failure rates usually go unmentioned.

2. How Do Films Fit in the Teaching/Learning Process?

As already pointed out, the use of films/video, and feature films in particular, has been discussed by a number of authors, (Alexander et al., 2005; Benshoff and Griffin, 2003; Bergman and Asimow, 2006; Berk, 2009; Champoux, 1999; DiSibio, 2006) who have focused on the advantage of use in order to illustrate complex concepts. The link to teaching concepts and theories, while exists has not yet been strongly supported by results of empirical studies. One of the earliest concepts, proposed by Dale (1969), is a “cone of experience,” which today can be referred to as “experiential learning.” Dale theorized that depending on the particular teaching approach used the learner would retain more information depending on how engaging the material presentation was.

Dale’s work implied that people generally remember only about 10% of what they read, 30% of what they see, 50% of what they see and hear, 70% of what they say and write, and 90% of what they do as they perform a task.

Unfortunately Dale’s original concept was misappropriated by an unknown source in the 1960s by tacking it onto quantitative information about the extent of retention. Since then it has been a source of debate (as the data supporting it are not available) and recent debunking. While the appeal of such a chart (also referred to a “learning pyramid”) is fairly obvious due its simplicity, it is also apparent that the reality of learning and retention is much more complex. In qualitative terms though some evidence in support of it appears to emerge, (Donkor, 2010; King, 2002; Masters, 2005; Seferoglu, 2008) it is, however, focused on measuring impact on practical skills.

In engineering education, one form of experiential learning often exploited is equivalent to problem-based learning, where students are actively engaged in the learning process (Prince,
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The use of films in the teaching process can perhaps be viewed as equivalent to problem-based learning based on the case approach. Students are guided via an assisted walk-through the case, in which the problem solution is gradually revealed. Even though their role as observers is mostly passive, the learning process is enforced through emotional responses to the movie characters and twists and turns of the dramatic plot. That emotional enforcement has a solid potential of increasing knowledge retention rates and falls under the social-emotional learning category.

On the other hand, there is an ongoing discussion of how learners actually absorb the material, which has led to the development of various learning style models (Silver et al., 2000), such as, for example, the Visual-Auditory-Kinesthetic (VAK) model or Gelb’s Learning Inventory model. In general, these models are rooted in cognitive psychology and refer to absorbing and processing information. However, the learning styles concept is not strict and not mutually exclusive. While a person may have a preferred learning style, he/she may also mix them together to achieve the most fitting combination for a particular event.

The author has included the learning styles surveys in his engineering classes as one of the self-discovery tools that may help students in understanding their strengths and weaknesses. A survey based on the VAK style used consistently in the 2nd year class yielded the results shown in Figure 1 and Table 1, which summarized self-reported learning styles identified by students themselves.

![Figure 1](image.png)

**Figure 1.** Distribution of Self-Reported Learning Styles in an Engineering Class

<table>
<thead>
<tr>
<th></th>
<th>V</th>
<th>A</th>
<th>K</th>
</tr>
</thead>
<tbody>
<tr>
<td>V</td>
<td>0.27</td>
<td>0.09</td>
<td>0.19</td>
</tr>
<tr>
<td>A</td>
<td>0.07</td>
<td>0.07</td>
<td></td>
</tr>
<tr>
<td>K</td>
<td></td>
<td></td>
<td>0.31</td>
</tr>
</tbody>
</table>

The presented results are consistent with annually repeated surveys, that among future engineers visual style and its combinations with other styles (e.g., VA and VK) account for over 65%. Kinesthetic style (learning by doing) and its combinations with other styles also have a strong showing (almost 60%).

These results, combined with the “cone of experience” approach would indicate that perhaps engineering students are potentially a good target audience, with whom the use of film as a teaching tool can be quite effective.
3. Census of Feature Films Featuring Entrepreneurs and Their Work

Some preliminary work has already been conducted by the author and results have been successfully integrated into teaching practice. It is suspected, however, that a pool of potential candidate films is much broader (in particular if foreign-made films are also considered) and should be further and more thoroughly explored. Consideration of foreign movies is also important in the context of globalization. A small sample of feature films and corresponding entrepreneurial-relevant themes is shown in Table 2.

Table 2. Example set of feature films illustrating key entrepreneurial issues

<table>
<thead>
<tr>
<th>Title</th>
<th>Director, year</th>
<th>Issues for discussion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baby Boom</td>
<td>C. Shyer, 1987</td>
<td>Life-work balance, creativity, teamwork, leadership, exit strategies.</td>
</tr>
<tr>
<td>The First $20 Million is Always the Hardest</td>
<td>M. Jackson, 2002</td>
<td>Business startup, teamwork, legal issues, creativity, intellectual property</td>
</tr>
<tr>
<td>Pirates of Silicon Valley</td>
<td>M. Burke, 1999</td>
<td>Leadership, teamwork, groupthink, rules vs. judgment, culture clash, competition, marketing of new ideas</td>
</tr>
<tr>
<td>The Social Network</td>
<td>D. Fincher, 2010</td>
<td>Start-up organization, new market identification, entrepreneurship, persistence, creativity, IP, social enterprise</td>
</tr>
<tr>
<td>Tampopo</td>
<td>J. Itami, 1985</td>
<td>Entrepreneurship, culture issues</td>
</tr>
<tr>
<td>The Ghostbusters</td>
<td>I. Reitman, 1984</td>
<td>Creating a compelling product, startup financing, finding your first office space, marketing snafus</td>
</tr>
<tr>
<td>High Fidelity</td>
<td>S. Frears, 2000</td>
<td>Life-work balance, creativity, leadership, exit strategies.</td>
</tr>
<tr>
<td>Kinky Boots</td>
<td>J. Jarrold, 2005</td>
<td>New market search, leadership, manufacturing</td>
</tr>
<tr>
<td>The Godfather</td>
<td>F. Coppola, 1972</td>
<td>Family business, barriers of entry,</td>
</tr>
<tr>
<td>Tucker</td>
<td>F. Coppola, 1988</td>
<td>Technology and organizations, design and manufacturing, bureaucracy vs. entrepreneurship</td>
</tr>
<tr>
<td>Ingenious</td>
<td>J. Balsmeyer, 2009</td>
<td>Business startup, creativity, product development, marketing, intellectual property</td>
</tr>
<tr>
<td>The Man in the White Suit</td>
<td>A. Mackendrick, 1951</td>
<td>Intrapreneurship, creativity, social impact, product development</td>
</tr>
</tbody>
</table>
Below are brief summaries of selected movies from Table 2 (highlighted in the table), which may help to provide some details on the storyline and related entrepreneurial issues.

3.1. Baby Boom

J.C. Wiatt (Diane Keaton) is a successful New York City businesswoman, and a workaholic. Her life is thrown into a tailspin when she learns that she has inherited an infant from a distant relative who has passed away. Unable to keep up her demanding career with a child at home, she moves from the city to the country, but experiences a nervous breakdown amid many problems, including financial collapse. She sees an opportunity to sell baby food—applesauce she had concocted for the made from fresh ingredients—and starts a booming business that unexpectedly takes off. On the brink of a buyout offer, she decides to decline it and grow the company further on her own.

Issues for class discussion: creativity, teamwork, leadership, exit strategies, life-work balance.

3.2. The First $20 Million is Always the Hardest

The main character gives up a cushy marketing job to pursue more fulfilling R&D job. He is assigned to lead a doomed-to-failure project developing a PC that will sell for $99. Not having available the necessary resources he puts together a team of unassigned (read: difficult to deal with personalities) employees and partially succeeds only to see his effort stolen away by his envious boss, who trapped him to sign a non-exclusive patent waiver. Nevertheless, the team does not give up and comes up with a number of breakthrough solutions (eliminating the need for a hard drive, RAM, and other peripherals). A prototype is created, but it crashes, is ugly and the price is still too high. More innovations are needed and the team rises to the task, creating a computer operated by a virtual glove and a new look designed by the next-door artist.

Issues for class discussion: entrepreneurship, creativity, diversity, leadership, teamwork, computer and software engineering.

3.3. Pirates of Silicon Valley

This film, originally a made-for-TV drama, shows the initial rivalry between Apple and Microsoft through Steve Jobs (Noah Wyle) and Bill Gates (Anthony Michael Hall), both brilliant geeks who begin to build their technology empires in the 1980s. Though the film is fictional, it does translate an intense competition between the two protagonists, and how they constantly feed off that rivalry. Considering that the real Steve Jobs and Bill Gates have achieved top recognition in their industry, the movie emphasizes at least one essential point: Competition, while stressful, is not hurtful, as it also helps to refine ideas, leading to better products.

Issues for class discussion: leadership, teamwork, groupthink, rules vs. judgment, culture clash, competition, marketing of new ideas.

3.4. The Social Network

Inspired by the biography of the world’s youngest billionaire and Facebook founder and CEO, Mark Zuckerberg, The film illustrates how he didn’t get to that point without making a few enemies along the way. From a Harvard dorm room to the courtroom, the film is based on the Facebook creator’s (played by Jesse Eisenberg) trials and triumphs as he builds the social network into the billion-dollar empire. Though the actual Zuckerberg and his early circle describe
the storyline as completely fictional, the saga does come with a valuable warning to young entrepreneurs about how easily fame and fortune can jeopardize personal relationships.

Issues for class discussion: creativity, teamwork, leadership, intellectual property issues, organizational transformations of a start-up company.

3.5. Tampopo

The key character is a widow, running an inherited noodle shop. Unfortunately, her noodles are not very good and the customer complains to the point of harassment. When a passing truck driver stands up in her defense, she asks him to become her teacher. They decide to turn her establishment into a paragon of the “art of noodle soup making.” Her mentor takes her around and points out the strengths and weaknesses of her competitors. When she still cannot get the broth just right, he brings in the “old master” (Yoshi Katō) and his superlative expertise. They also steal the best recipes and cooking secrets from their competitors. In the end, the remodeled restaurant brings in a lot of satisfied customers.

Issues for class discussion: leadership, mentorship, work ethics, service value, market competition.

4. Educational Approaches

A number of teaching strategies can be explored using film and film clips. Most commonly movie material can be shown to stimulate group discussion (but groups should be small). In this approach material is shown to the group and the trigger questions are posed either before or after the viewing. These questions need to be focused and tailored to the particular teaching goals to eliminate any potential runaway discussions, which may be inadvertently triggered by the detail-rich film material. Another alternative is to use the whole movies or clips as assignments, allowing for individual exploration of a particular concept or issue, and summarizing the result in a written form.

Film materials can be worked into a course structure in a number of different ways, such as, for example:

- A case study: case analysis is the most natural form as it is based on the film narrative which can provide a rich amount of details (Tampopo – understanding market competition, Kinky Boots – factory survival under pressure to identify a new product, Tucker – business case for automobile designer, The First 20 Million – organization of a start-up company)
- Experiential exercise: some situations depicted in films can form a basis for experiential exercises, in which student can track, for example, a decision-making process and explore different decision scenarios based on their own preferences (The Godfather – the problem of market dominance, High Fidelity – risk vs. reward decision making).
- Cultural experience: films create an opportunity of exposure and insight to situations and environments that are much different than our own (Tampopo – Japanese executive lunch and work habits, also in Kinky Boots).
- Meaning and metaphor: film is an excellent medium for providing meaning to theories and concepts (Kinky Boots – manufacturing and product development); metaphors clarify complex concepts, make them less abstract and offer insight (Metropolis – factory as a monster).
5. Learning Objectives and Structure

In general, the learning objectives for the use of feature films in the classroom to illustrate entrepreneurship are primarily aiming at increasing students’ entrepreneurial literacy, which can be defined as the ability to understand and utilize the entrepreneurship-specific language to establish legitimacy and facilitate full participation in the entrepreneurial community (Duval-Couetil et al, 2011).

For the past 10 years various efforts have been under way to define what is referred to as 21st Century Skills (Griffin et al., 2012; Zhao, 2012) and also align teaching and learning approaches accordingly. Multiple frameworks have been proposed that are well summarized in Figure 2.

It can be readily noted (see Figure 2) that traditional engineering education concentrates on developing students’ foundational knowledge, and only recently started paying attention to development of meta-skills (e.g., creative and communication skills), but still poorly connects these two areas with humanistic knowledge. The 21st Century Skills movement also emphasizes the need to develop skills particularly relevant to the following themes of:

• Global awareness
• Financial, economic, business and entrepreneurial literacy
• Civic literacy
• Health literacy
• Environmental literacy

![Figure 2. Summary synthesis of multiple 21st Century Learning frameworks (Kereluik et al., 2013)](image)

It is apparent that feature film materials may be an invaluable resource to enlighten debate on these issues. To be effective, however, they have to be provided to students in a relatively structured form, so they would not be considered a distraction.

Specific learning objectives for use in the classroom should be developed with a specific film source material in mind and be customized. Table 3 lists general entrepreneurial issues suitable
for discussion. To be useful, they have to be broken down further into more specific details. For example, the film “The First $20 Million” can be used to illustrate and discuss the following subjects in Table 3.

**Table 3. Example Learning Objectives (Entrepreneurial Literacy) for the film “The First $20 Million”**

<table>
<thead>
<tr>
<th>Category</th>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business startup</td>
<td>Understand what is a startup</td>
</tr>
<tr>
<td></td>
<td>Identify market forces using Porter’s 5 Forces Model</td>
</tr>
<tr>
<td></td>
<td>Identify the market/customer needs</td>
</tr>
<tr>
<td>Teamwork</td>
<td>Understand team development phases</td>
</tr>
<tr>
<td></td>
<td>Identify team development phases</td>
</tr>
<tr>
<td></td>
<td>Identify team members and their strengths, weaknesses and skills</td>
</tr>
<tr>
<td></td>
<td>Identify leadership traits</td>
</tr>
<tr>
<td></td>
<td>Identify leadership styles</td>
</tr>
<tr>
<td></td>
<td>Identify leaders and followers</td>
</tr>
<tr>
<td>Intellectual property</td>
<td>Understand what intellectual property is</td>
</tr>
<tr>
<td></td>
<td>Understand the value of intellectual property for a startup</td>
</tr>
<tr>
<td></td>
<td>Understand what the non-exclusive IP licensing agreement is</td>
</tr>
<tr>
<td>Creative skills in product development</td>
<td>Identify divergent phase in product design (generating ideas)</td>
</tr>
<tr>
<td></td>
<td>Identify convergent phase in product design</td>
</tr>
<tr>
<td></td>
<td>Identify the need for multidisciplinarity</td>
</tr>
<tr>
<td></td>
<td>Identify the need and purpose of prototype development</td>
</tr>
</tbody>
</table>

As mentioned earlier, providing structure for the use and analysis of the feature film material within the confines of the classroom is fairly important, as it provides the necessary focus and eliminates distractions. A number of practical frameworks already exist and can be successfully adopted for that purpose. (Champoux, 2004; Teach with Movies, 2014) A good review is also provided by Berk (2009).

6. **Student Response**

Some of the films listed in Table 2 have been successfully incorporated into the curriculum in graduate-level classes taught by the author (Pasek, 2005). With growing class sizes and tight class schedules it is rather difficult to include full movie viewing during class time, so only selected clips are shown instead. Full feature film reviews are assigned as homework and occasionally also used for in-class discussions.

Overall, the students exposed to the use of film as additional class material have a very positive reaction, underscoring the fact that such experience allowed them to take a fresh look at some of
the movies they may have seen before, but also anchor concepts that initially were perhaps too vague or abstract.

Figures 3 and 4 provide summaries of the class surveys that are comparing (in undergraduate students’ view) effects (e.g., relevancy to the course content and ability to improve student’s understanding of presented concepts) of three teaching resources used:
- Videos
- Reading assignments
- Group discussions

![Figure 3](image)

**Figure 3.** Results of students’ assessment of relevancy of 3 instructional mechanisms ($N=55$); V-video, R-reading, and D-discussion

![Figure 4](image)

**Figure 4.** Results of students’ assessment of ability to improve concept understanding by three instructional mechanisms ($N=55$); V-video, R-reading, and D-discussion

It is apparent that students similarly valued the impact of video materials shown in class, on par or above the group discussions. Interestingly, when discussing case situations presented in the film, students usually need no prompt to open the discussion and they are ready to express their opinions right away.

In one of the second year undergraduate classes taught by the author, on Engineering Management and Globalization, the film The First $20 Million was used as a case study, which highlights the multiple steps in a product development process, and also team evolution along the way. The case study format gives students an opportunity to engage with current, relevant issues (e.g., startup company initiation), as it exposes the students working as groups to explore a crisis situation requiring them to draw from and share their own experiences to help analyze (or solve) complex scenarios. It also involves development of problem-solving, teamwork and decision-
making skills. Discussion participants learn by doing and applying what they have learned to address issue at hand. As a result, they can achieve multiple learning objectives simultaneously.

The film viewing was arranged for the whole class, which was also aware of the homework assignment, in which the students had to do the following:

- Describe the main business idea, its evolution and implementation. Using Michael Porter's five competitive forces model (Porter, 2008) define the strategy used in the film.
- Identify the core team members in the film. Using stages of team development model: forming – storming - norming - performing -adjourning summarize the team evolution and progress through each stage.

The students were allowed to work in groups and discuss the assigned issues. They were quite successful in identifying the correct answers and these group discussions enforced the key notions of entrepreneurship, which up to this point were rather theoretical; they also allowed the students to categorize their own effort (students work in teams on a term-long project involving product development for a global market) as entrepreneurial. As one student wrote:

"...the film is illustrating how quickly a design becomes obsolete, how competitors will work on improving and capitalising on a new design, and how the market is rapidly changing. I believe the film is trying to deliver the message that design and engineering is a fast paced, never ending cycle and that a ‘good enough’ approach cannot be taken in order to be successful." (Peter B.).

The author is now preparing the classroom data collection process to gather the evidence in an effort to quantify the learning benefits for the students. In performing literature review, however, it was rather difficult to come across such data, as most authors are primarily reporting only on their teaching strategies or offer only anecdotal evidence (Berk, 2009; Smith, 2009).

7. Sensitive Cultural Issues
For the most part, almost all of the films listed in Table 1 show and discuss many adult themes. To avoid any unexpected student reactions, especially in large classes, where diversity of student background is high, the showings should be preceded by at least a warning about potential exposure to controversial subjects, and better yet, by some cultural introduction (that is particularly important to address when international students are a majority).

8. Copyright Issues
It is broadly believed that the use of movies for the purpose of teaching is protected under the Fair Use Doctrine. This legal construct, as written in the US Copyright Code (Title 17, section 107) allows the use of copy written materials to be used for educational purposes (Gainor, 2006). While tempting, due to technical simplicity and convenience, copying films either entirely or in extended clips, should be avoided as it may constitute copyright infringement. Also, different rules may apply to off-air taped materials and use of films in fee-based workshops or training (Berk, 2009).

9. Advantages and Disadvantages of Educational Film Use
Films are a very familiar medium to contemporary students, and that helps to maintain student interest in the class subject. As argued by Johnson (2005), introduction of increasingly complex content in television shows and movies, improves our cognitive and decision-making abilities, even though it is often times difficult to illustrate.
Films offer both cognitive and affective experiences. They can induce good discussion, assessment of individual’s values, and self-assessment when viewing content with strong emotional impact. Time constraints limit broad use of film in the classroom and require well-structured session organization; it may also require forewarning of viewers of sensitive content. Also use of foreign films may meet student resistance due to a need of subtitle reading. There is also a likelihood that some cultural subtleties of the context will be missed or misunderstood.

Proper analysis of the films requires at least rudimentary understanding of film theory and film techniques (language). Non-humanities students usually do not have such a background and have to become aware of the potential emotional impact films may have on them. They also often fall short on analysis, because of their own ability to express their thoughts on subjects that may be remote from their professional interests.

Films should not be used in the classroom as stand-alone devices. Despite all of the interesting and relevant content, any potential viewers should be aware that movies, as part of the popular culture can operate using stereotypes, (Frayling, 2005; Gainor, 2006) or distort the truth to serve a political agenda.

10. Summary

This paper advocates for the use of feature films as great teaching resources. It highlights some of the issues of film use in classroom context (both positive and negative) and provides some common strategies: films can be used for case studies, experiential exercises or expose them to different cultural settings. Examples of feature films with content relevant to entrepreneurial issues are also provided.

References
Donkor, F. (2010). The Comparative Instructional Effectiveness of Print-Based and Video-Based Instructional Materials for Teaching Practical Skills at a Distance. International Review of Research in Open & Distance Learning, 11(1).


