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Abstract

Lowman's Two Dimensional Model for teaching effectiveness has been included in the seminar on Teaching and Learning for the past seven years in the ExCEEd Teaching Workshops. The two dimensional model describes nine different classifications of teachers that range low to high performance in the areas of intellectual excitement and interpersonal rapport. Participant feedback has consistently indicated that the model would be easier to understand if it included examples of teachers in these various categories. This paper uses Lowman's model to categorize teachers from television and the movies and provide familiar examples that will personalize and aid in the understanding of this well-known model that defines effective teaching. Be advised that this paper contains direct quotes from movies that contain strong language which some may find offensive.

I. Introduction

Quantifying what constitutes effective teaching can be a difficult and controversial task[1]. Teaching is a very personal activity, and is often dependent on the personality and individual talents of the instructor. What works superbly for one teacher may totally flop for another. Some veterans will admit they cannot define good teaching, but they know it when they see it. While there are an infinite number of ways to teach well, there are some consistent elements, activities and attributes that seem to be present with all good teachers.

In a landmark study, Joseph Lowman[2] used teaching award nominations from over 500 students and faculty members to quantify what makes a good teacher. The award nominations, in essence, constituted a statistical database of descriptions of exemplary teaching. The study assembled adjectives and descriptive phrases from the award recommendations, divided them into like categories and tallied the results. The descriptors fell neatly into two statistically independent categories, which Lowman defined as *intellectual excitement* and *interpersonal rapport*.

Lowman described intellectual excitement as the clarity of the instructor's presentations, the instructor's disciplinary expertise, and the degree to which the students were stimulated emotionally by the classroom experience. The most common adjectives that described this intellectual excitement included enthusiastic, knowledgeable, inspiring, humorous, interesting, clear, organized, exciting, engaging, prepared, and energetic. Interpersonal rapport reflects how much an instructor cares about her students and the degree to which they are effectively motivated by the teacher. The most common descriptive indicators were concerned, helpful, caring, encouraging, challenging, available, fair, friendly, accessible, demanding, approachable, and patient. Lowman created the two-dimensional matrix shown in Figure 1 and divided the categories of intellectual excitement and interpersonal rapport into high, medium and low capabilities. This two-dimensional model then describes nine categories of teachers based on their relative strengths in these two areas. Teachers can range from those who are inadequate (low in both categories) to complete exemplar (high in both categories) with every possible combination in between. The numbers indicate a priority of development from (1) being the

least effective to (9) being the most effective. The resulting conclusions are that the best teachers are highly skilled in both interpersonal rapport and intellectual excitement, but the intellectual excitement dimension is the more important of the two.

		INTERPERSONAL RAPPORT		
		Low	Moderate	High
INTELLECTUAL EXCITEMENT	High	6. Intellectual Authority	8. Exemplary Lecturer	9. Complete Exemplar
	Moderate	3. Adequate	5. Competent	7. Exemplary Facilitator
	Low	1.Inadequate	2. Marginal	4.Socratic

Figure 1. Lowman's[2] two-dimensional model that categorizes teachers based on their levels of Intellectual Excitement and Interpersonal Rapport

For the past seven years, the American Society of Civil Engineers has sponsored the week-long ExCEEd (Excellence in Civil Engineering Education) Teaching Workshops as a faculty development initiative to help improve the quality of college-level teaching in civil engineering. To date, the program has 351 graduates from 179 different engineering and engineering technology programs from around the world[3]. To support the demonstration classes and the participant practice classes, the workshop offers 13 seminars that cover many aspects of teaching theory, effective classroom techniques, and course preparation. From the beginning, Lowman's Two-Dimensional Model has been an integral part of the seminar on Teaching and Learning. The seminar concludes with a demonstration of the Muddiest Point classroom assessment technique[4]. Workshop participants are asked to write a sentence or two that identifies the portion of the seminar that is least understood and requires further clarification. The most common comment from workshop participants on this exercise is that Lowman's Model would be much clearer if we could provide examples to support each of these nine categories of teachers. The participants had difficulty visualizing and personalizing the model in terms of teachers they had seen before. There is no easy remedy because every participant has experienced different teachers throughout their education and there is no common base from which to draw examples.

There have however been many movies and television shows that feature teachers. Examples include "To Sir With Love", "Finding Forrester", "Stand and Deliver", "Lean on Me", "Dangerous Minds", "Room 222", "October Sky", "Boston Public", "Mona Lisa Smile", "Music of the Heart", and "Mr. Holland's Opus" to name just a few. The purpose of this paper is to examine many of the teachers portrayed in these movies/television shows and categorize them

according to Lowman's Model. Ultimately, the paper will provide familiar examples that will personalize and aid the understanding of this well-known model that defines effective teaching.

There are some difficulties with this approach. Compelling stories require drama and hyperbole and the purpose of most movies is to entertain rather than teach. Most of the teachers found in the movies fall into the extreme categories on Lowman's model and are deliberately exaggerated to be extremely good or vastly incompetent in the classroom. Nevertheless, many of the traits and characteristics cited by Lowman can be detected and observed in this common, albeit imperfect, assemblage of teachers. In addition, many of the teachers in these movies are on a journey. They may start at one level on Lowman's model, but by the time the credits roll, they have transitioned to a higher level. Examples include Arnold Schwartzenegger in "Kindergarden Cop", Richard Dreyfus in "Mr. Holland's Opus" and almost every movie that involves teaching and reforming initially reluctant, disadvantaged students whether it be "Dangerous Minds", "The Substitute", or "Summer School". The next five sections will examine teachers who fall into five of the nine categories on Lowman's Model.

II. The Inadequate

The Inadequate teacher is low in both intellectual excitement and interpersonal rapport. Lowman[2] describes such an individual as vague and dull in the area of intellectual excitement as well as cold, distant, highly controlling and unpredictable with respect to interpersonal rapport. The movies feature few leading characters who fall into this category, but there are a variety of supporting characters with minor roles in the film. Most are either caricatures and used for comic relief or are the discouraged or disillusion colleague presented as a contrast to the more noble and inspired lead character.

"Ferris Bueller's Day Off" features Ben Stein playing an Economics teacher who drones in a monotone voice asking a series of questions to his disinterested students, knowing that nobody will respond. "In 1930, the Republican-controlled House of Representatives, in an effort to alleviate the effects of the... Anyone? Anyone?... the Great Depression, passed the... Anyone? Anyone? The tariff bill? The Hawley-Smoot Tariff Act? Which, anyone?"[5] While funny to watch, it is a scarily accurate portrayal of how difficult it can be to engage students in the classroom environment. The unpredictable aspect of the inadequate teacher is illustrated by Sam Kinneson playing Professor Turgeson in "Back to School" as he broke into a lunatic rage at the slightest provocation. After one student correctly answered his question about why America pulled out of Viet Nam, Professor Turgeson builds to a furious crescendo shouting, "I was up to my knees in rice paddies, with guns that didn't work! Going in there, looking for Charlie, slugging it out with him; while pussies like you were back here partying, putting headbands on, doing drugs…"[6].

In "Fast Times at Ridgemont High", Ray Walston plays the History teacher Mr. Hand who is sarcastic and openly hostile to his students. His comments to the class include, "What are you, people? On dope?" and "Why are you shamelessly wasting my time like this?" When student Jeff Spicoli (Sean Penn) has a pizza delivered to class, Mr Hand asks, "Am I hallucinating here? Just what in the hell do you think you're doing?" Spicoli summarizes the feeling of the class towards Mr. Hand when he states, "You dick!" after Mr. Hand rips up his enrollment card in front of the class.[7]

"Blackboard Jungle" features several inadequate teachers who are either disillusioned or afraid of the delinquents that comprise the student body of the inner city high school featured in the film. As

Richard Dadier (Glenn Ford) accepts his new assignment at the school, he encounters Jim Murdock (Louis Calhern) who states that he is "taking money under the false pretenses of teaching History" and counsels him that this school is "the garbage can of the educational system." Fellow teacher, Lou Savoldi (David Alpert), threatens that, "I'm gonna rig up an electric chair and bring it to my carpentry class and tell my pupils it's a circuit tester and I'll lead the little lice into the chair, one by one, and throw the switch." [8]

III. Intellectual Authority

The Intellectual Authority is considered high in intellectual excitement and low in interpersonal rapport. These teachers can be highly effective and inspiring. They are masters of the subject they teach, provide fascinating lectures and are highly respected. Despite being clear and organized, they can also be distant, unapproachable and impatient. They are often highly respected, sometimes feared – but rarely loved.

The ultimate example of the intellectual authority is Professor Charles W. Kingsfield (John Houseman) in the law school movie "Paper Chase". He won an Oscar for his performance as the stern and demanding professor who makes James T. Hart's (Timothy Bottoms) life particularly miserable. Kingsfield is known for publicly berating students for substandard performance. He is respected and students will go to great lengths to please him. Kingsfield challenges his students telling them, "You come in here with a skull full of mush and you leave thinking like a lawyer." Students have confidence that if they learn from Kingsfield and survive his abuse, they will be top notch lawyers. Kingsfield is sarcastic and demeaning as he chides, "Speak louder, Mr. Hart! Fill the room with your intelligence!" When Hart at one point boldly tells Kingsfield that he is a "son of a bitch", Kingsfield replies, "Mr. Hart! That is the most intelligent thing you've said all day. You may take your seat."[9]

The military is often stereotyped in this category and there is no better fit than Louis Gossett Jr. as Gunnery Sergeant Emil Foley in "Officer and a Gentleman". While this is not the traditional classroom setting, Sgt. Foley has the responsibility of training officer candidates for Navy flight school. Sgt. Foley is revered by the officer candidates; his authority is absolute and his students are motivated by a healthy dose of fear. While the officer candidates would like to please Sgt. Foley and would benefit from knowing him better, the drill sergeant intentionally remains remote and detached, even while he is providing behind the scenes assistance. Foley's initial attempt at establishing rapport includes, "I expect to lose at least half of you before I'm finished. And I will use every means necessary, both fair and otherwise, to trip you up! That is, to expose your weaknesses... both as a potential aviator and as a human being."[10] He remains aloof until the end. As the new ensigns graduate and receive their first salute from Sgt. Foley, the ritual is rigid and devoid of emotion. Even when Ensign Zack Mayo (Richard Gere), the rebellious candidate who was ultimately tamed by Sgt. Foley, tells his drill sergeant that he will never forget him, Foley simply replies, "I know."

IV. Socratic

The Socratic instructor (called the warm and open instructor in some published versions of the model) is very high in interpersonal rapport but lacking in intellectual excitement. These

instructors seem to care about their students as individuals and encourage them to ask questions. They want students to be creative and independent and are flexible in making rules that accommodate the students. Similarly, the material they present may be unclear or disorganized. They are probably not superb lecturers and work best with students in a seminar environment as facilitators of student learning. Students who need structure and discipline in their attempts to learn may not thrive under this type of instructor, but they will appreciate the personalized attention and are likely to forgive some shortcomings.

Danny DeVito seems to fit this category in his role as Bill Rego in "Renaissance Man". Rego is an unemployed advertising man who is assigned the job of remedial educational training for Army basic trainees. The tone is set when Rego initially addresses his group of eight misfit trainees, "Hi. I'm Bill Rago. I've never taught before and you've never thought before. So good luck to all of us."[11] Bill is no master of the material, but he does develop a sincere interest in his students. He participates with them in their training and negotiates on their behalf with Drill Sergeant Cass (Gregory Hines). It is through probing and conversing with the students that they mutually agree to read and appreciate Shakespeare. He develops a genuine bond with the students and they are motivated to understand Hamlet in their own terms. Bill organizes a trip to see the play on stage. The effect of his efforts are highlighted in the emotional scene when one of the trainees on guard duty on a rainy night recites Henry V's famous band of brothers speech to his drill sergeant (even though the passage is not from Hamlet). The students learn as much from each other as they do from Bill and even turn Hamlet into a rap song. Bill is a tremendous facilitator and is loved by his initially reluctant soldiers who have a newfound sense of confidence and pride in their accomplishment. Rego identifies with their plights and genuinely cares that they all pass.

Gabe Kaplan played Gabe Kotter from September 1975 through August 1979 in the television show, "Welcome Back Kotter."[12] Mr. Kotter was a 10th grade teacher in Buchanan High School. Although one would never know from watching the show, his subjects were history and social studies. The show focused on Kotter's relationship with his students, Barbarino, Epstein, Washington, and Horshak (John Travolta, Robert Hegyes, Lawrence Jacobs, and Ron Palillo), collectively known as the Sweathogs. Kotter was devoted to his students and the students felt comfortable to speak freely in class and exchange whatever was on their mind. They adored their teacher, but never displayed even a passing interest in learning anything. Episode plot summaries included "A new Sweathog girl distracts all the Sweathogs", "Carvelli tells stories about aliens" and "Epstein and the Sweathogs almost win the lottery." Kotter's focus is about relationships. There is an episode where Kotter mentors a new teacher who is struggling, which again shows his concern for people, but he never seems to focus on anything intellectual or academic.

V. Competent

This category represents the center block in Lowman's Model where the instructor is at a medium level in both intellectual excitement and interpersonal rapport. It is difficult to find many good examples in this category as merely competent teachers are rarely compelling subjects in a movie. One exception is Glenn Ford's portrayal of Richard Dadier in "Blackboard

Jungle". He is an average teacher with the willingness to persevere. His lectures would not be overly exciting to the typical high school student and he certainly has difficulty reaching the extremely poor students that are in his assigned class. He finally piques their interest and has some level of discussion by showing them a cartoon. Dadier struggles with how to handle the racial tensions in his class and almost utters a racial slur himself. He ultimately makes small strides after weeding out the biggest trouble makers. His teaching style would be effective for most students. He is relatively warm and approachable. His classroom presentation style is understated and reasonably effective, but not outstanding. Dadier is a well meaning, dedicated, effective teacher. It is a very realistic portrayal of a typical teacher. It is the unusual situation he faces that makes the story worthy of a Hollywood production.

VI. The Complete Exemplar

The movies are filled with attempts to emulate the highest standard on Lowman's Model – the teacher who has mastered both intellectual excitement and interpersonal rapport. Lowman describes this teacher as one that is excellent in both the lecture hall and the small group seminar and can motivate all students along the entire spectrum of capabilities. Given the degree of flexibility required, Lowman admits that he has met very few that fall into this category. With a script writer and the benefit of contrived situations, it is easier to produce this teacher in a movie. Even then, the result is more often an exemplary facilitator (block 7, figure 2) where the protagonist displays concern and develops relationships with the students, but offers only competent classroom lectures. Students are motivated by the personality and interaction with the teacher, rather than interest generated by the compelling manner in which the material is presented. There is nothing wrong with this. Hollywood is more focused on selling tickets than earning the top spot on Lowman's model.

A popular example of the complete exemplar is Robin Williams as John Keating in "Dead Poet's Society". Nobody gives a more enthusiastic, over the top, dynamic presentation than Robin Williams. It is one of the few movies where drama, energy, humor are combined to bring life to the material and inspire the students. Keating quotes poetry in virtually every situation he encounters either inside or outside of the classroom. He has his students stand on their desks to gain a new perspective and encourages them, "Don't just jump off like lemmings! Take a look around!" He questions them, makes them think, and challenges their beliefs. Keating has also developed a personal relationship with his students and they come to him for advice on both poetry and life in general. Keating tells them, "Boys, you must strive to find your own voice. Because the longer you wait to begin, the less likely you are to find it at all. Thoreau said, 'Most men lead lives of quiet desperation.' Don't be resigned to that. Break out!"[13]. If one judges the status of complete exemplar by the results they produce, then Keating's status is a bit less certain. Because Keating ultimately gets fired and one of his students commits suicide, one must question whether he really did everything right. On the other hand, in the last scene when he comes to the classroom to collect his personals, a number of his students rise onto their desks as he is walking out and shout out "Oh Captain, My Captain!", even with the President/Dean of the school (who has taken over his class and probably will barely rise to level 3 – Adequate) is yelling for them to get down. Perhaps this is another example of Keating using his influence as a teacher to develop an unhealthy disregard for authority in his students. But perhaps, the students

are courageously demonstrating the lifelong effect that John Keating will have on their lives as they will always strive to see the world from a different perspective.

A less controversial candidate for complete exemplar is Professor Lee Silver (David Clennon) on Episode 10 (Galelio Was Right) of the HBO series "From the Earth to the Moon"[14] After earlier Apollo missions had successfully landed on the moon, astronauts needed to have some knowledge of geology, so that they could communicate site reports to geologists back on earth. The astronauts, while intelligent, had no interest in geology and were bored with the classroom instruction until Harrison Schmitt (Tom Amandes) seeks out Professor Silver to conduct a field course. Silver brings the subject to life, provides context, stimulates curiosity, creates competitive games, arranges field trips, and ultimately turns previously disinterested astronauts into competent field geologists. Silver is totally believable and demonstrates the influence that a teacher can have. Silver would be equally effective in the lecture hall or in the small seminar situation he found himself with the astronauts. He established enough interpersonal rapport that even these high powered, type-A astronauts were excited about what they had learned and wanted to please and impress their professor, even as they made their field observations from the moon.

Other candidates for complete exemplar include Jaime A. Escalante (Edward James Olmos) who used unique methods to teach calculus to a group of underprivileged high school students in the film "Stand and Deliver". In this true story, he was so successful that his students were accused of cheating because the results were too unbelievable to be true. Another contender is professor of classics William Hundert (Kevin Kline) in the film, "The Emperor's Club." Hundert is passionate about his teaching, his subject, and his students. The movie focuses on his relationship with Sedgewick Bell (Emile Hirsch), an ethically challenged student who Hundert attempts to change. Hundert ultimately fails in this task. In "Mona Lisa Smile", Katherine Ann Watson (Julia Roberts) would be on some people's list for exemplar as the free-thinking art professor in the 1950's who encourages her Wellesley students to question their traditional conservative values. While she possesses many of the necessary traits, she may lose your vote in the scene where she publicly and inappropriately confronts recalcitrant student Betty Warren (Kirsten Dunst) in class. However, she never used that technique with any other student and it was Betty Warren, who chases Ms. Watson's departing taxi the longest and touches her hand from her bicycle. Later Betty writes,

> *"She came to Wellesley to make a difference, but to change for others is to lie to yourself. My teacher Ms. Katherine Watson lived by her own definition and would not compromise it even for Wellesley. I dedicate this, my last editorial, to an extraordinary woman who lived by example and compelled us all to see the world through new eyes. By the time you read this, she will be sailing to Europe where she will find new walls to break down and new ideas to replace them with. I have heard her called a quitter, an aimless wanderer, but not all who wander are aimless, especially not those who seek truth beyond tradition, beyond definition, and beyond images. We will never forget you!"*[15]

VII. Conclusions

This paper constitutes the beginning of a list of teachers from the movies and television that can be analyzed, discussed, and categorized to fit Lowman's Two –Dimensional Model for effective teaching. While some categories are better represented than others in the movie archives, the examples at least form a common collection that all learners can access. Hopefully, these examples will bring greater understanding to Lowman's Model and will help place it in a context that is more meaningful to other teachers. A significant danger in these classifications is that they are based to a certain degree on the opinions of the authors. Others may disagree and vociferous debates may ensue. Whether a particular teacher from the movies is ultimately judged as exemplary lecturer or a complete exemplar is not that important. It is the discussion and analysis that form the basis for the classification that is most valuable.

Disclaimers

Any opinions expressed here are those of the authors and not necessarily those of any supporting agencies. Some of the quotes in this paper may be determined by some readers to be vulgar or inappropriate. The authors gave this matter careful consideration and determined the quotes to be necessary and relevant to the points being made. We regret if anyone is offended by them.

Bibliography

[1] Estes, A.C., Welch, R.W., and Ressler, S.J., "The ExCEEd Teaching Model," Teaching Lessons Learned. Journal of Professional Issues in Engineering Education and Practice, ASCE 131 (4), October 2005, pp. 1-5.
[2] Lowman, Joseph, *Mastering the Techniques of Teaching*. San Francisco: Jossey-Bass, 1995.
[3] Excellence in Engineering Education Teaching Workshop, American Society of Civil Engineers, July 24-29, 2005, United States Military Academy.
[4] Angelo, T. A. and K.P. Cross, *Classroom Assessment Techniques*, 2nd Ed. San Francisco: Jossey-Bass, 1993.
[5] Ferris Bueller's Day Off, IMDb, The Earth's Biggest Database. http://www.imdb.com/title/tt0091042/quotes, 1986.
[6] Back to School, IMDb, The Earth's Biggest Database. http://www.imdb.com/title/tt0090685/quotes, 1986.
[7] Fast Times at Ridgemont High, IMDb, The Earth's Biggest Database. http://www.imdb.com/title/tt0083929/quotes, 1982.
[8] Blackboard Jungle, IMDb, The Earth's Biggest Database. http://www.imdb.com/title/tt0047885/ , 1955.
[9] Paper Chase, IMDb, The Earth's Biggest Database. http://www.imdb.com/title/tt0070509/quotes, 1973.
[10] Officer and a Gentleman, The Earth's Biggest Database. http://www.imdb.com/title/tt0084434/quotes. 1982
[11] Renaissance Man, IMDb, The Earth's Biggest Database. http://www.imdb.com/title/tt0110971/quotes, 1994.
[12] Welcome Back Kotter (1975-1979). Basil Wilson, edited by Kris High http://www.rollanet.org/~khigh/kotter.html#episodes, 6/95.
[13] Dead Poet's Society, IMDb, The Earth's Biggest Database. http://www.imdb.com/title/tt0097165/quotes, 1989.
[14] From the Earth to the Moon, HBO Films. Flying Dreams, http://www.flyingdreams.org/tv/gallery/earth.htm#ten, 1998.
[15] Mona Lisa Smile, IMDb, The Earth's Biggest Database. http://www.imdb.com/title/tt0304415/quotes, 2003.