Shock and Awe – Methodology for Recruiting Students.

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Abstract

Oftentimes, a university is faced with a group of prospective engineering students, but only has limited time to explain many different facets of engineering. Data exist showing that in today's "digital/information age" high school students can process large amounts of information quickly if their interest-level warrants. A methodology based on existing models has been developed and tested to show that students can be enticed and informed about a university's engineering program within a limited time span. The method uses "shock and awe" to help students grasp information in a dynamic manner and helps them to remember their experience at the university. For recruitment purposes, the shock and awe method helps to explain what engineering is and/or why it is needed. When students are shocked and/or awed by a display or presentation, they pay attention and actively participate. For example, to recruit mechanical engineering students, a university may want to present a demonstration about projectile ballistics. A shocking and awing demonstration can accompany the presentation involving the burning of smokeless gun powder and black powder. The resulting smoke and flame will shock and awe the students. The shock and awe method is not simply a demonstration; a series of steps should accompany the demonstration. The instructor presents questions to visiting high school students. The students have to answer using their instincts, and when using the shock and awe method properly, their instincts lead the majority of the students into wrong answers. A shock and awe demonstration with supporting engineering data proves that their answer was wrong. The conclusion for the students is that engineering is valuable (because of the data, analysis, and answers it produces) and fun (because of the shocking and awing type of work they will do). The shock and awe method can and should be used for Freshman "Introduction to Engineering" courses as well. The shock and awe method opens communication between instructor and student. Once the lecture becomes dynamic, learning becomes fun.

1. Introduction

In 2003, the United States entered the Iraq War. The opening campaign was intended to stun the opposing forces (hopefully into quick submission). This battle plan is based on a concept

developed at the National Defense University called "Shock and Awe" and "it focuses on the psychological destruction of the enemy's will to fight rather than the physical destruction of his military forces[1]." Essentially, the U.S. military forces would hurtle a tremendous amount of fire-power into/at/around their opponents[2]. Although the campaign was short relative to the war, it was quite memorable. " '…You have this simultaneous effect …not taking days or weeks but in minutes,' says Harlan Ullman, one of the authors of the Shock and Awe concept….[1]" Before the campaign even began, the media introduced the term "Shock and Awe" to the public.

The method of shocking and awing an audience has been applied to engineering recruitment. The idea is not to "stun a student into submission" but to create an exciting and memorable experience that will lead to student learning (or enlightenment). When students are shocked and/or awed by a display or presentation, they pay attention and actively participate. In addition, a university is often faced with a group of prospective students, but only has limited time to explain many different facets of engineering. Data exists showing that in today's "digital/information age" teens can process large amounts of information in a short time span if their interest-level warrants. The shock and awe methodology based on existing models has been developed and tested to show that students can be enticed and informed about a university's engineering program within a limited time span. "Shock and awe" helps students grasp information in a dynamic manner (not unlike the imagery presented by television) and helps them to remember their experience at the university. Also, the shock and awe method helps to explain what engineering is and/or why it is needed.

Not only will the students receive and remember a large amount of information in a short time span, but hopefully any negative image of engineers be will be dismissed. The U.S. general public has an opinion of what an engineer is, what they are like, how they behave, and what they do. The public views engineers as dull, non communicative, and loners that push a pencil all day. This image is one of many factors adversely affecting recruitment[3]. During the past decade, the total number of bachelors degrees in all fields has increased by 16%, but engineering bachelors degrees decreased by 15% during the same period. By showing that engineers do some adventurous (i.e. shocking and awing) activities, this image will hopefully be alleviated among the young generation of recruited students. New innovative techniques that cater to the young generation, such as shock and awe, can help to reverse this trend.

The platform with which the shock and awe method was implemented is a recruitment activity at Lawrence Technological University (LTU) known as Engineering Exploration Day. The premise behind these events is to give high school students the opportunity to explore engineering on a college campus during the academic term. While many schools have campus visit programs, successful programs have shown that the information presented during the campus visit should not be boring or static (e.g. Davis et al.[4]). Therefore, for LTU's Exploration Day, hundreds of high school students (mostly juniors and seniors) visit the university for part of a day and have the opportunity to participate in many hands-on/interactive activities led by faculty and current undergraduate students in mechanical, civil, and electrical engineering and engineering technology. For many of the visiting students, Exploration Day is their first

exposure to engineering. As will be shown in Section 7, recruitment/enrollment results have been outstanding. Because of limited time, each student only had time to visit two of the four disciplines, and the shock and awe method presented in this paper was only used in the mechanical engineering presentations. Therefore not all of the students participating in Engineering Exploration Day experienced the shock and awe presentations.

2. Existing Models

The television media and its trends, successful adventure-based youth organizations, and interactive college recruitment programs were used as guidelines when creating the shock and awe method.

A. Guidance from television media

Today's television media is a good resource when making recruitment activities memorable, exciting, or shocking. Within seconds of viewing television, one is flooded with multiple camera shots or scene changes. It is well known that television scenes change at a pace much greater than only 20 years ago[5]. One reason for this fast pace is that some believe that it helps to hold one's attention to a single space[6], also known as attentional inertia[7, 8, 9]. The full extent that the fast pace of television helps to hold one's attention is not yet fully understood and is beginning to be studied[10], yet some studies have shown that fast pacing and exciting content do improve memory and attention[6, 11]. The result has created a new mentality amongst young people. They can process information very rapidly, their reactions are quicker (also due to video games), and they can view and gather large amounts of data at one time[9, 11].

A televised sporting event is a good example of the changes in television both in pacing and in amount of simultaneous information displayed. For example, only 7 to 8 years ago, broadcasts of Major League Baseball games contained simply the action on the field itself. Occasionally the inning and strike-count would be displayed on the screen, but only when there was no action. Today, the screen is loaded with information, and a multitude of camera angles are presented in succession. The inning, the number of outs, the number of strikes, the number of balls, and the runners on bases is displayed continuously while the action is taking place on the field. Often while all the aforementioned data is displayed on the screen, the scores from other games will scroll across the bottom, the statistics of a player will be displayed, etc. All of this information is being processed by the viewer very quickly, and surprisingly important bits of it are being retained[9]. News channels, such as CNN, are similar in pacing and simultaneous information display: stocks, latest headlines, top story, and video action are all occurring at once. Some people have termed the generation of television viewers raised on fast-paced information the "MTV Generation"[12, 13, 14, 15], because of the cutting-edge, quick-cut video imagery explored by MTV. The MTV Generation enjoy presentations that are fast-paced, clear, concise, and relevant. In fact some claim that "despite a general sophistication and worldliness, members of the MTV Generation have short attention spans" and thrive on fast-paced presentation[12]. Although this is likely a gross generalization, studies have shown that job training based on the MTV style of

presentation has proven very effective[12]. What does all of this have to do with recruitment? First, the MTV Generation is of an age that is being targeted for recruitment (i.e. high school students). Second, universities are often faced with a very limited time span to recruit students, and therefore are forced to present a very large amount of information in only a few short hours. The shock and awe method has shown that this is possible, thanks in part to television (and to an extent, video games).

Shocking images are engaging and memorable. Thus, besides fast-pace, another scheme used by television to promote attentional inertia and information retention is shocking images, dramatic scenes, and "edge-of-your-seat" displays. As eluded to above, MTV uses this scheme. Another example is a Mountain Dew™ commercial from a few years ago. As a group of young men mountain bike down some very difficult and steep terrain, one of the men slams into a tree. In reality, such an impact would seriously injure or kill a person, but the man walks away and "slams" (the manufacturer's term for gulping) a Mountain Dew in celebration. All of the action and advertisement occurs in 15 seconds. The commercial is very fasted-paced, and of course shocking which helps make it memorable. Other examples include U.S. Army recruitment commercials. (In fact, it seems logical to use the U.S. Army recruiters as a resource since they are enticing the same age group as an engineering college.) The advertisements show a rapid series of adventurous/shocking images: jumping from airplanes, rappelling down steep jungle cliffs, machine gun toting night missions. The images are accompanied by loud heavy metal music which intensifies the shocking elements. The irony is that the fast-paced media (such as CNN) helped promote the phrase "Shock and Awe" during the 2003 Iraq War. Although it cannot be documented, one wonders if the U.S. Army's enlistment increased from the media's use of the phrase "Shock and Awe."

B. Successful Youth Organizations

Young people are drawn to adventure[16], and adventure has been defined as a dangerous, exciting, or perhaps shocking experience[17]. (This helps explain the popularity of fireworks among teenagers.) Imagine watching a 12 years old grab an axe and proceed to sharpen it. Next the youth begins chopping at some logs. Then he/she starts tossing the logs into a bonfire that is blazing next to him/her. All of these activities are relatively dangerous, are perhaps shocking to observe, and would likely get many 12 year olds into trouble by their parent(s). Yet this scenario is one of the tools used by many youth organizations to recruit, retain, and teach middle to high school students. The youth organizations that use these tactics successfully include the Boy Scouts, Girl Scouts, Venturing, Learning for Life, Campfire Boys/Girls, the YMCA, and the YWCA. The World Organization of the Scout Movement (including all forms of Scouting for boys and girls) is the single most successful youth organization in the world (based on enrollment of nearly 29,000,000 members), and it is commonly known within the Boy Scouts of America community (which includes male and female membership) that much of the success is attributed to the fact that the organization is based on outdoor skills combined with adventure[18, 19, 20]. In fact the Scout handbook promises adventure while "wield[ing] an axe…[around] the glowing embers of a campfire." In other words, much of the success of various youth

organizations is attributed to the fact that the youth get to "play with" shocking items. Therefore, if high school students and college freshmen (and consequently the MTV Generation) can see that that the engineering field is an exciting adventure, they will be more likely to enter the field. That is not to say that everyone is seeking adventure, but based on existing models of youth organizations, a great majority of youth are looking for some form of excitement[19].

C. Interactive Recruitment Programs

Many universities have incorporated recruitment programs aimed toward teens, and some of these programs have stressed that a "talking heads" format is less successful than interactive presentations (e.g. Davis et al.[4]). The use of videos, hands-on activities, and multimedia are incorporated into these interactive presentations. In fact, for LTU Engineering Exploration Day, the exit surveys of participants indicated that the least interesting presentations were those that were lecture style (i.e. chalkboard and spoken word only). Presentations that are boring, too in-depth, or take too much time must be avoided. As will be shown in following sections, interactive tools are one of the keys to a successful shock and awe presentation. The main focus of this paper is not to introduce interactive tools to create an interesting presentation (that has been done in other papers), but to use them in conjunction with shock and awe presentations to make a presentation memorable and enlightening.

Based on media schemes, the mentality of the MTV Generation, successful youth organizations, and elements of successful interactive recruitment programs, the shock and awe method uses a relatively fast pace with a shocking "real world" demonstration to promote the adventure of engineering.

3. Tactics and "Rules"

Shock and awe demonstrations are effective when presented with supporting material. In addition, some "rules" can be followed to aid in the creation of the shock and awe presentation.

A. Recruitment

As explained in Section 1, Lawrence Technological University conducts Engineering Exploration Days as well as various other on-campus visits by prospective high school students. For these on-campus visits, the students have, at most, 35 minutes to visit an engineering discipline (e.g. ME, CE, EE, ET), and at least, 10 minutes. During that time frame the students must be enticed and informed; then they must retain the information that they gathered. During the visits, an overview of the engineering discipline is presented. A spoken overview is not very shocking and certainly not awing. Visuals should be employed. A simple "bullet point" slide show alone will not awe the students, and it is unlikely that the information they read and hear will be remembered when considering engineering as their career. Instead, make a fast-paced slide show with some "unexpecteds." For example, for mechanical engineering I have an overview slide show that tells of the various aspects of mechanical engineering: solid

mechanics, thermal-fluids, metallurgy, automotive, robotics, manufacturing, etc. The slide show consists almost exclusively of photographs that are successively shocking in a humorous way. I will show the fluid mechanics aspect with a slide of a jet plane (an attention grabber) then will show a toilet schematic (the shocking contrast to a jet plane but still a fluid mechanics topic). For metallurgy, I will show tank armor and then show an armor penetrating bullet (a shocking contrast that falls under the same topic of metallurgy).

After the presentation, the students' interest is set. They are now ready for a something dynamic. Take the following example of a dynamic (and awing) recruitment presentation. Imagine that a faculty member is recruiting a group of prospective students in mechanical engineering. (Mechanical engineering will be used to help explain the methods presented in this paper. Examples for other engineering disciplines are given in Section 6.) The faculty member shows the group the Society of Automotive Engineering student section's Mini Baja race car. The prospective students would certainly enjoy seeing the vehicle, yet three questions emerge: Will the students be very interested in a car simply sitting around looking nice? Will it interest the students in mechanical engineering? Will they remember the experience? Answers: Perhaps, Maybe, Probably not. Therefore the vehicle must be driven. Simply driving the off-road vehicle through a parking lot may not be much more worthwhile than the static display, and obviously you can't have high schoolers jump in and drive. You can do next best thing. Build a four foot tall ramp. Have one of your SAE students drive the vehicle screaming around a corner from out-of-sight and jump through the air for a dramatic (i.e. shocking, awing) display (see Figure 1). In my experience, one of the first questions that the prospective students ask is if they will get to build and drive one of those Mini Baja vehicles if they attended the university in mechanical engineering. When I tell them yes, they appear ready to apply.

Figure 1: The SAE Mini Baja Vehicle in action.

The preceding example demonstrates a few of the guidelines, or "rules", for a shock and awe presentation. If some "rules" are followed (not necessarily all), shock and awe will be implemented to its full effect. The rules in general are shown in Table 1.

	General "rules" to follow to implement "Shock and Awe"
1	Things that move
2	Things that go fast
3	Things that make loud noise
4	Things that are bright and flashy
5	The unexpected
6	The dramatic
7	Single-out loud mouth/smart aleck/clown and get a joke started
8	Use undergraduate students as proof that students do get to do this stuff

Table 1: Rules to create shock and awe demonstration

The Mini Baja vehicle presentation obviously follows rules 1, 2, and 8. Screaming around the corner and jumping the ramp follows rule 5. Indirectly, rules 3 and 6 are also followed. The more rules that are used, the more shocking and awing the presentation will be. Keep in mind that the presentation took very little time yet was effective at LTU.

There are many ideas for shocking and awing presentations that take very little time. To recruit mechanical engineering students, a university may want to present a demonstration about projectile ballistics. A shocking and awing demonstration can accompany the presentation involving the burning of smokeless gun powder and black powder. The resulting smoke and flame will shock and awe the students (see Figure 2). The SAE Formula Car performing various maneuvers can be used as an awing demonstration. One of the senior projects teams built a 2 person hovercraft (see Figure 3). The students presented a display of the hovercraft doing some things that the prospective students would not have imagined that they could do themselves someday.

Figure 2: Smokeless gunpowder (right flame) and black powder (left flame) demonstration just before the surprised student reaction.

Figure 3: The 2003 hovercraft after its demonstration.

The Material Science Laboratory is an excellent tool for shock and awe, and will illustrate rule 7. First observe one of the natural leaders or class clowns from the group of prospective students. Have a wire coat hanger that was heated and slowly cooled and a second hanger that was quickly quenched. Have one student hang their coat on the quickly quenched hanger. No problem. Next have the "clown" hang their coat on the slowly cooler hanger. The jacket will easily bend the hanger and fall to the floor. Why the clown? Because when the joke is played on him instead of by him, it is much more shocking (and humorous and memorable) to the other students. Next open a preheated oven with a couple of steel specimens inside. They will be glowing bright orange. Quench one in water and one in oil. (You may even catch the oil on fire: a shock value bonus.) Next use the tensile tester on the cooled specimens. Watching the brittle specimen snap first unexpectedly while the force is increased creates enough drama by itself. The snap of the metal will be quite a shock. Putting a second more ductile specimen into the tensile tester will

add to the drama, because the students will continually be expecting a snap as the metal necks down. Impact testing machines are also quite awing to visiting high school students.

All of the aforementioned shock and awe demonstrations take very little time: 5 to 10 minutes. Therefore if one is trying to recruit, for example, mechanical engineering students and there is 35 minutes allotted, a "round-robin" style can be set-up. The students can witness 6 or 7 of the topic areas within mechanical engineering. They will see a spectacular display at each station, so their interest will be high from one station to the next. Using the fast-paced media as a guide (see Section 2A), learning about engineering and retaining the vast amount of information will be nothing new or foreign to the students. This round-robin style that displays many topics is in fact how the Mechanical Engineering Department at Lawrence Technological University operates their Exploration Days.

B. Freshman Classroom

Besides recruitment, the shock and awe technique can and should be used in Freshman "Introduction to Engineering" classes. Obviously limited time is not really an issue in an entire course, and of course, an instructor cannot continually be performing shocking visuals. Instead, an *occasional* shock and awe demonstration should be used. As with the 2003 Iraq War, using a barrage of shock and awe demonstrations near the beginning of class will engage the students' interest. Also, use the unexpected (shocking) visual randomly throughout the class period. For example, when explaining fluid work and turbomachinery, I will pull a child's Elmo submarine bathtub toy out of my bag. The submarine has an operating screw on it, so I will put it in a bucket of water and let it demonstrate fluid work. The last thing that the students expected was to see a toddler's toy in a college classroom. (By the way, this example also helps to reinforce the idea that engineering principles are all around us – even for 2 year olds.) Finally, to keep a demonstration shocking, stay away from examples that are too static and projects that become boring quickly.

5. Methodology to assist shock and awe demonstration

When applying shock and awe presentations, there is a very effective methodology that can lead into and through the shock and awe demonstration. The methodology serves two purposes. First, it helps explain what engineering is and why it is needed. Second, the drama of the shock or awe demonstration is heightened. The steps are summarized in Table 2, and explained in an example below.

1	Ask the students a question.
2	Let them answer the question using their instincts. The answer will probably (hopefully) be the opposite of the true answer.
3	Show the shock and awe demonstration.
4	Again, ask the students the same question. Their answer will likely remain the same as in step 2 (but it doesn't have to).
5	Show some experimental (engineering) data to reveal the true nature of the demonstration.
6	Explain that their answer was wrong based on their instinct. Thus, without engineering we never would have gotten the true answer.

Table 2: Methodology to assist Shock and Awe demonstrations.

A favorite and very shocking demonstration will be used to explain the methodology: a black powder versus smokeless gun powder demonstration. The purpose of the demonstration is to introduce one topic within an engineering discipline. For this example, the topic of ballistics propellants are demonstrated within the chemical or mechanical engineering discipline. First I present a few slides showing modern firearms and early firearms. I pass around a black powder barrel with its very thick steel walls. Next I pass around a modern smokeless powder barrel with it significantly thinner walls. I ask the students, "which explosive propellant do you believe is more powerful: black powder or smokeless gun powder?" Because they had just seen and felt the wall thickness and weight differences in the two barrels, they answer that the black powder must be more powerful; the walls were thicker to contain the greater forces. This leads to the demonstration in which I burn some powder samples. One 2x4 wooden board is laid out with a strip of black powder and another board with smokeless powder. I hold a match to the smokeless powder first. (It is interesting to watch the students begin to flinch and cover their ears expecting an explosion which never will occur if the strip of powder is thin. Some of that television that they have watched was misleading.) The smokeless power burns in a very slow and quiet manner. While it is still burning, I hold a flame to the black powder. It flares up and disappears very quickly and dramatically (although with very little noise) (see Figure 2 again). I ask the students again, "Now which explosive propellant do you believe is more powerful?" Obviously the black powder burned more rapidly and dramatically, so their answer remains unchanged: the black powder. Next it is time to show them an experimental rig that was built onto a gun barrel. I explain that the rig can measure pressures within the barrel. Data is presented from experiments using black powder and smokeless powder. The pressures from the smokeless powder (and consequently the projectile velocity from the barrel) is much greater than the black powder showing that the students' original observations were wrong. I explain that when the smokeless powder is contained in a shell, it creates much more pressure than black powder. The demo and supporting data proved that the students' answer was wrong, and it is now easy to explain the point that engineering is valuable (e.g. data) and fun (e.g. shock and awe demonstration). (By the way, I also explain that the black powder barrel is thick simply because inferior grade metals and processes are used for their manufacture.)

Some of the students attending the demonstration had no interest in science, math, or engineering, but by the end of the shock and awe demonstration they recognized: 1) what engineering is in general, 2) why it is valuable, 3) that engineering can be exciting, 4) that assumptions must be made during the course of a study and those assumptions must be proven to be valid, and 5) that they may enjoy engineering.

6. A Few More Examples

Four shock and awe examples were noted in the preceding sections: the materials laboratory presentations, the black powder demonstration, the SAE Mini Baja vehicle display, and the hovercraft. The SAE Formula Car was also mentioned as a possibility. While these examples are used for mechanical and/or chemical engineering, other disciplines can also use shock and awe methods. During LTU Exploration Days, the Civil Engineering Department loads huge concrete and/or steel structures. The sudden, shocking explosion, destruction, and resulting data are enjoyed by the visiting students. For an Alternative and Emerging Energy Engineering Program, shock and awe methods can be used for solar energy demonstrations. Explain that there is approximately 1000 watts of energy from the sun per square meter of surface area. Next a parabolic mirror can be used to concentrate a portion of the sun's energy. Hold a rolled-up newspaper in front of the mirror and enjoy the resulting explosion of flame, smoke, embers, and ashes. Electrical/computer engineering and computer science may be more difficult disciplines to implement shock and awe demonstrations, and that exercise is left to the reader. Table 3, shown below, is similar to Table 1 except that examples have been added to illustrate the rules. With a little thought and some set-up, shock and awe can be used successfully for recruitment of any engineering discipline.

	General "rules" to follow to implement "Shock and Awe"	Example
1	Things that move	Mini Baja, Hovercraft, Impact tester
2	Things that go fast	Mini Baja, Formula Car
3	Things that make loud noise	Gunpowder demo, quenched metal, turbines, hovercraft, destructive testing
4	Things that are bright and flashy	Explosion, flaming steel/furnace/oil fire, Formula Car
5	The unexpected	The explosion, Mini Baja, hovercraft, oil fire, destructive testing
6	The dramatic	Tensile tester, explosion, furnace, oil fire, destructive testing
7	Single-out loud mouth/smart aleck/clown and get a joke started	Materials lab
8	Use undergraduate students as proof that students do get to do this stuff	Many

Table 3. Rules with examples to create a shock and awe demonstration

7. Initial Results

The enrollment data from the entire Lawrence Tech Engineering Exploration Day (covering 4 engineering disciplines) was excellent. In the fall of 2003, the overall enrollment percentage for students applying to the university was 36.8%. That number increased to 65.9% for students who attended the Spring 2003 Engineering Exploration Day. This contributed to an overall increase in freshman enrollment at the University of 12.6%. Note that approximately 28% of the Exploration Day participants were female. Unfortunately, it is unknown how many of the women applied and enrolled. It is also unknown how many minorities were present for Engineering Exploration Day, but personal observations revealed that many minorities were present. This is attributed to the fact that many of the high schools invited to Exploration Day have very high percentages of minorities.

The shock and awe method has only been used once at an Engineering Exploration Day (Spring of 2003) and was only used in 4 mechanical engineering presentations during that day. 85 high school seniors participated in the mechanical engineering presentations (recall that each student visited 2 engineering disciplines). The results were very good. Of the students that participated in the mechanical engineering presentations and applied to LTU, 77.1% enrolled in the university (not all in mechanical engineering). Of the participants that indicated that they were interested in mechanical engineering (in an exit survey), 64.3% applied to the university and 77.8% of those that applied actually enrolled.

Since the shock and awe method was based on methods of existing youth organizations that include both genders, and since women are underrepresented in engineering, it is important to recognize the results of female participants. Approximately 20% of the mechanical engineering presentations participants were female. While the shock and awe presentations in this paper were not specifically implemented to attract women (and minorities), the presentations certainly did not dissuade women from applying and enrolling. Approximately 29.4% of the females applied, and 40% are enrolled. Because these results are lower than the overall results, some shock and awe presentations may need to be developed that appeal to a more diverse group of students.

Finally, the high school teachers that attended the mechanical engineering demonstrations of Exploration Day gave enthusiastic reviews of the presentations and were very appreciative of the method used to introduce engineering to their students. In fact, it was not uncommon that a few students stayed after the presentation ended to enthusiastically ask more questions.

8. Conclusion

Shock and awe methods have been used successfully for engineering recruitment where presentation time is limited. The method is based on media schemes, the mentality of the MTV Generation, successful adventurous youth organizations, and successful interactive university

recruitment programs. A shock and awe demonstration will reinforce that engineering is not dull but can be an exciting adventure. To create a shocking and/or awing demonstration, some elements (i.e. rules) should be followed. Also there is a format that can be applied to assist the shock and demonstration to form a full presentation that explains the need and use of engineering. Shock and awe demonstrations can be used to recruit students for any engineering discipline and can be applied to the engineering classroom. The LTU faculty will continue to use the shock and awe method so that more application and enrollment data can be gathered to verify its success.

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