Enlivening the Engineering Classroom through Popular Culture: A Survey of Usage

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Abstract

Teaching engineering subject matter can be a drab affair using conventional teaching methods alone. Perhaps the teaching-learning situation can be improved through the inclusion of elements of popular culture like fiction, films, comic books, songs and cartoons. The inclusion of elements of popular culture should help make the teaching-learning process more upbeat and entertaining. This paper seeks to gauge the extent to which these elements have been incorporated by engineering instructors in their classroom to enliven lessons and also to identify the kind of problems that they encounter. If these elements have been missing from their array of teaching techniques, then what could be the reasons for the omission? The paper is based on a survey done on several engineering instructors at several institutions of higher learning in northern Malaysia.

The Use of Popular Culture in Education

The inclusion of popular culture forms into the educational realm has been around for quite some time and has been accepted as a valid teaching strategy, in some realms. For example, using elements of popular culture in educational films and videos has been a welcome reality for decades. Yet, research in the field of popular culture forms like dramatization, television commercials, and rock and rap videos, how it pervades the lives of young people, and how schools should respond, is clearly meager (Dimitriadis, 2001).

Several teachers have successfully used popular culture in the classroom. Jeremiah (1992), for example, outlines several ways that teachers can use rap music to teach traditional language arts concepts. He provides texts of rap songs popular among students and shows how reading skills such as activating background knowledge, inferential thinking, and even phonics might be taught. Remarkably, plans for rap music and a focus on traditional grammar lessons such as

sentence structure and verb tenses are provided as well. In terms of literary skills, he shows how simple, metaphor, alliteration, and allusion are used in rap music, which is essentially just another form of poetry.

Hurrell (2001) describes a high-school English classroom in which the teacher used the popular film *The Matrix* (Wachowski and Wachowski 1999) to teach the importance of plot development, scene analysis, visual motifs, sound effects, and music. The students then wrote critical reviews of the film and shared their interpretations. Hobbs (1998) explains a project she conducted with her English students in which they compared the writings of Mark Twain to the popular and controversial cartoon series *The Simpsons* (Groening and Brooks 1989–2002). In discussions on social criticism, students discovered that the issues satirized by Mark Twain are similar to those dissected in *The Simpsons*. Seeing a clear connection between a text of their time and the words of Mark Twain helped them make better sense of Twain's work.

According to Huang (2002), a law professor at Penn Law School, jurors and other players in the legal arena are influenced, or sometimes even motivated by popular culture and theatrics, both positively and negatively. He opines that the advent of court television and legal commentators on television has both raised popular awareness of the legal system, criminal procedure, and civil rights as well as led to popular simplifications of the nuances and subtleties of those areas.

Squire (2000) argues that video games are such a popular and influential medium for a combination of many factors. Primarily, however, video games elicit powerful emotional reactions in their players, such as fear, power, aggression, wonder, or joy. Video game designers create these emotions by balancing a number of game components, such as character traits, game rewards, obstacles, game narrative, competition with other humans, and opportunities for collaboration with other players. Understanding the dynamics behind these design considerations might be useful for instructional technologists who design interactive digital learning environments. Further, video game playing occurs in rich socio-cultural contexts, bringing friends and family together, serving as an outlet for adolescents, and providing the raw material for youth culture. Video game research also reveals many patterns in how humans interact with technology that become increasingly important to instructional technologists as they become designers of digital environments. Through studying video games, instructional technologists can better understand the impact of technology on individuals and communities, how to support digital environments by situating them in rich social contexts.

According to Hahn (2000), employing popular culture mediums in education must be a part of today's education not only because it heightens student retention, but also because of popular culture's role in shifting paradigms. Student learning has changed drastically over time mainly due to advancements in technology. Popular culture changes and influences the way we think as a society. How then can the educational realm ignore the influences that shape its very existence? Specifically, the societal impact born from popular culture affects student metacognition, the way students learn how to learn. Students respond to visual learning more often due to heavy integration of television into society. Students enjoy "video game" and computer experiences due to the world's heavy value of these mediums.

Researchers for evident examples of how popular culture has changed education can look at how the active "MTV culture" has created a new form of discourse in both speech and written modes of communication. Scapp (1993) points to a move away from silence due to popular culture examples as a plausible explanation of this phenomenon. Scapp states, "[g]iven the significance of the very act of no longer not speaking, we can begin to understand why there is such intensity associated with this movement towards 'centre stage'..." (24).

In her essay entitled, "Rock N' Roll and Horror Stories: Students, Teachers, and Popular Culture," Lewis (1998) noticed in her observations of active popular culture discussions within her classroom would allow for high participation on behalf of all the students. Lewis significantly notes, "...[t]he students who are speaking in this segment (and others in this Y_2-hour discussion) are all academic outsiders within their classroom; a few are social outsiders as well. Here they are animated, engaged, and participatory; a stance that is highly uncharacteristic for them and one they maintain throughout this literary event" (15). Hence, popular culture brandishes the capability to integrate all students in learning in a fun and creative way.

The use of popular culture also promotes the growth of a globalization of cultures while allowing for the maintenance of individual identities. Scapp (1993) in his article, "Education and Popular Culture: Identities in Conflict," focuses on the historical separateness and ongoing battle between the realms of education and popular culture. Scapp denotes that the lengthy history of educational discourse has concentrated on texts "belonging to a certain tradition" (27). Scapp describes this tradition as one of a legitimate "high culture" that diverges from perhaps more widespread values of popular culture (27-28).

However, according to Hahn (2000), there are those who caution us against the use of popular culture in the classroom. They most often cite three negative implications as their reasoning. [1] Popular culture simplifies education in a way that lessens the attention span of students. [2] Popular culture is merely a capitalistic enterprise in which students merely become mindless consumers of the media. And finally the most fashionable and timely, [3] popular culture is the leading and most central cause of violence in individuals.

Despite this caveat, there are benefits to be derived in using forms of popular culture in the classroom

Statement of the Problem

In this study we are interested in finding out the use of popular culture or the lack of it in the engineering related classroom.

Objectives of Study

The objectives of the study are:

1. to identify the extent to which engineering instructors use elements of popular culture in their classroom
2. to identify the reasons for using them in the teaching and learning process
3. to identify the reasons for not using them in the teaching and learning process

Significance of Study

Results which accrue from the study will give us an indication of the extent to which elements of popular culture have or have not been used in the teaching and learning of engineering related courses. A discussion on the reasons for using or for not using them will provide a platform upon which those who are interested in using them can capitalize on.

Methodology

A questionnaire which was specially designed to gauge the use of popular culture forms in the engineering classroom and the reasons for using or for not using them were administered to several engineering instructors in 3 institutions of higher learning in northern Malaysia. Results which accrued from the study were analyzed descriptively.

Findings

A total of 30 instructors from three different institutions of higher learning in northern Malaysia, viz. Polimas, Universiti Teknologi MARA and Universiti Malaysia Perlis, responded to the survey from a total of one-hundred questionnaires distributed over a period of three weeks in the month of August, 2008. Out of the thirty respondents, 13 indicated that they have used forms of popular culture before in their class and 17 indicated that they have never done so. Data are grouped into three sections based on the format in the questionnaire.

SECTION 1: DEMOGRAPHIC DATA

1. Age:	No. of Response
20-25	3
26-30	14
31-35	4
36-40	3
41-45	6
> 45	

2. No. of years teaching:	
1-5 years	20
6-10 years	4
11-15 years	2
> 15 years	4

3. Gender: Male 9   Female 21

4. A. Bachelor's degree: Local institution 10 or overseas 2
   B Master's degree: Local institution 17 or overseas 1
   C. PhD: Local institution   or overseas

SECTION 2: USERS OF POPULAR CULTURE IN TEACHING

1. Which of the following forms of popular culture have you used in your teaching? (Please √)

		Frequency of Response
• Movies	□	*6*
• Fiction	□	*2*
• Cartoons	□	*1*
• Comic books	□	*1*
• Advertisements	□	*2*
• Songs	□	*1*
• Other	□	*6*

2. If possible, could you please name/ identify them:

Air Foce 1   (Control System)
Terminator   (Robot Control)
Die Hard 4
JPS Campaign, Iklaneka, Documentaries, TV programs, Discovery Channel, National Geographic

3. Why do you use them in your teaching?

		Frequency of Response
• To highlight some important points	□	*5*
• To make students think creatively	□	*9*
• To make lessons livelier and interesting	□	*10*
• Other reasons:	□	*0*

- *To show some examples*
- *To make students understand me*
- *To show examples – real examples*
- *To show examples that are not available/ difficult to obtain*

4. How frequent do you use them in your lessons?

		Frequency of Response
▪ Almost always	□	*0*
▪ Sometimes	□	*8*
▪ Once in a while	□	*5*

5a. when you were a student, did any of your instructors use popular culture in teaching Engineering related courses?

	Frequency of Response
Yes □	*12*
No □	*1*

5b. If "Yes", did you find it to be:

		Frequency of Response		
• Enjoyable	Yes □ *12*		No □	*1*
• Educational	Yes □ *9*		No □	*4*
• Useful	Yes □ *11*		No □	*2*
• Waste of time	Yes □ *1*		No □	*2*
• Boring	Yes □ *1*		No □	*5*
• Other comments		*None*		

6. In your free time, do you like to do any of the following?

	Frequency of Response	
• Watch movies	Yes □ *13*	No □ *0*
• Listen to music	Yes □ *12*	No □ *1*
• Read fiction	Yes □ *5*	No □ *9*
• Read comic books	Yes □ *9*	No □ *4*
• Read magazines	Yes □ *12*	No □ *1*
• Go to a play	Yes □ *10*	No □ *3*
• Play video/ computer games	Yes □ *9*	No □ *4*

7. What are some of the drawbacks or problems that you have encountered when using popular culture to teach Engineering?

Some of the comments are:

Time and syllabus constraints, difficult for students to understand.

SECTION 3: NON USERS OF POPULAR CULTURE

1. What are the reasons that you would give for not using popular culture in your lessons?

		Frequency of Response
• Never thought about it before	□	*0*
• Not enough time to complete the syllabus	□	*5*
• Don't know how to incorporate them in my teaching	□	*3*
• They are just a waste of time and not feasible at all for use	□	*6*
• I am aware of it but I'm not quite ready to use it yet	□	*4*
• Other reasons		

2a. When you were a student, did any of your instructors use popular culture in teaching Engineering related courses?

	Frequency of Response		
Yes □	*6*	No □	*11*

2b. If "Yes", did you find it to be:

• Enjoyable	Yes 6	No
• Educational	Yes 4	No
• Useful	Yes 4	No
• Waste of time	Yes 0	No 2
• Boring	Yes 0	No 2
• Other comment	*None*	

3. In your free time, do you like to do any of the following?

	Frequency of Response			
• Watch movies	Yes □	*13*	No □	*4*
• Listen to music	Yes □	*14*	No □	*3*
• Read fiction	Yes □	*5*	No □	*12*
• Read comic books	Yes □	*8*	No □	*9*

- Read magazines   Yes □   *12*   No □   *5*
- Go to a play   Yes □   *5*   No □   *12*
- Play video/ computer games   Yes □   *7*   No □   *10*

4. Have you ever

- Read a novel or short story that you feel can be used in your teaching?

    Frequency of Response

    Yes □   *5*   No   □   *12*

- Watched a movie that you feel can be used in your teaching?

    Yes □   *8*   No   □   *9*

- Listened to a song that you feel can be used in your teaching?

    Yes □   *3*   No   □   *14*

- Read a cartoon strip that you feel can be used in your teaching?

    Yes □   *2*   No   □   *15*

- Read a comic book that you feel can be used in your teaching?

    Yes □   *3*   No   □   *14*

- Come across an advertisement that you feel can be used in your teaching?

    Yes □   *10*   No   □   *7*

5. If possible, could you please name/ identify them:

6. If there is a workshop on the use of popular culture in teaching, would you be   interested in attending it?

    Yes □   *16*   No *1*

Discussion

As we can see from the above, those who have used elements of popular culture in their class do so for a variety of reasons, the most notable being to make lessons livelier and interesting followed by the need to highlight some important points. Most of those who have never used forms of popular culture before indicated that either it was because of time constraint or they did not know how to incorporate them into their lesson plans. Those who have incorporated forms of popular culture in their teaching also indicated that some of their former instructors had done the same in their class and even though some the non users have not been applying it, some do admit that the inclusion of popular culture in class was enjoyable, educational, useful and certainly not boring or a waste of time. As for their penchant for indulging in popular culture in their spare time, those who have used forms of popular culture in their teaching seem to have more affinity for it compared to those who have not used them before. In the final analysis, however, non-users of forms of popular culture indicated that they had come across elements that they felt could be used in their class and that they would be interested in attending a workshop on ways to incorporate them into their lessons.

Conclusion

This paper has set out to explore the extent to which forms of popular culture have been utilized in the engineering classroom and discovered that there are those out there in the real world who do use them for a variety of reasons albeit some technical problems. The array of elements used is quite extensive and this is a reflection of the value that these elements have for those who have used them before to enhance the teaching-learning process within the engineering context. Those who have never used them before are not totally biased against them but are somewhat constrained by time or lack the knowledge on how to do so. It is hoped that this paper has provided some insights into the use of popular culture by engineering instructors and most definitely more research can be done in this area in time to come.

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