2015 Best Writing
About the Cover Photo

Najla Badar’s photo was selected by a panel of Texas A&M at Qatar and industry representatives. The editors would like to thank John Small, Jowaher Al-Marri, Khaled Hassiba, Abdulrahman Al-Darwish, Maha Al-Sulaiti, and Eyad Masad for choosing such a great photo for our cover. The runner-up photos appear in this volume as chapter dividers. Thanks to all of our student participants in the photo contest!

Najla Badar

My Boum

One night during the summer of 2014, I was excitedly unwrapping my high school graduation gifts when my uncle knocked on my door. He had just come back from the UAE to congratulate me and tell me that someone had sent me something.

He entered my room, but what caught my sight was the wooden object in his hands. At first I couldn’t believe it, but then it made sense. He was holding a handmade model of a dhow! I immediately knew who sent it, for there is only one person I know of who can build those: my great grandfather Ali Mohammed Al-Mansouri. It was the most unique and precious gift I received that night. I rarely see my great grandfather because he lives in the UAE and his health conditions do not allow him to come visit Qatar.

My great grandfather used to be a professional dhow builder. In 1944 when he was 16 years old, he started attending workshops. Then after 11 years of practice, he officially became a professional at the age of 27 and began building dhows in the 1950s. When he began to grow old and his eyesight became weak, he turned to building small models of dhows as a hobby. The type of dhow he sent to me is called a boum. It is a bigger version which was widely used in the Gulf for transporting merchants and pearl diving because it was easier to maneuver. It was my first time receiving a gift from my great grandfather, and I remember being so fascinated by its beauty that I couldn’t resist grabbing my camera to photograph it on that fortunate night.
Dear Readers,

Welcome to the second volume of *Best Writing*, featuring the work of undergraduate students at Texas A&M University at Qatar who are on the path to becoming chemical, electrical, mechanical, or petroleum engineers. We hope this book also shows that these students are on the path to becoming critical thinkers, creative problem-solvers, and concerned citizens with a desire to give back to their communities.

Similar to the first volume of *Best Writing*, this year’s anthology includes a great variety of selections from a range of students: those just beginning to understand what it means to be an Aggie and to study all their subjects in English, all the way to seniors writing up their capstone projects as they contemplate the workplaces they will enter when they graduate. As teachers and readers of student writing at Texas A&M at Qatar, we want to share with you a sampling of the many “genres” or kinds of writing our students engage in mostly within – but also beyond – their college coursework. In this volume you will read true stories of how students learned to write and/or read as they trace the memories of their developing literacies. You will also read explanations of why students joined Texas A&M at Qatar, plus thoughtful investigations of ethical issues associated with current topics in engineering. You will read student interpretations of literature, paintings, sculptures, and films as well as students sharing their own original poetry in either Arabic or English. You will come across creative suggestions in the form of proposals for improving a product, system, or protocol. We think you will be impressed by the depth and breadth of the many different kinds of writing in this volume, and we hope you find something that engages, surprises, entertains, or even challenges you as a reader.

This book is part of the movement to transform STEM (Science, Technology, Engineering, and Mathematics) education to STEAM (Science, Technology, Engineering, Arts, and Mathematics) education (Heath, 2014). Aligned with innovative engineering schools such as Stanford and MIT, Texas A&M at Qatar is dedicated to educating “the whole engineer” – one who bridges the heart with the mind in the creative acts of collaborating with others to “think outside the box” when engineering solutions to real world problems. Therefore, Texas A&M at Qatar students are required to take a minimum of ten liberal arts courses (e.g. history, anthropology, political science, sociology, kinesiology, language, writing, literature, music, and other creative arts) to help them become well-rounded citizens and life-long learners who are capable of considering the human impact of their work and evaluating the ethical responsibilities of their decisions. Other engineering schools have also recognized the importance of educating the whole engineer, such as the University of Michigan whose vision includes the following:

*Traditional engineering education has focused on the delivery of knowledge at the expense of the development of the capacity for applying this knowledge to make judgments. Because engineers are continuously called upon to make judgments related to problems in complex systems, it is critical that*
we engage students in the development of an internal voice [emphasis added] that provides them with the capacity to define their beliefs, identities and social relationships, guided by their own visions and responsible for their own experiences and decisions. (Meadows and Edington, 2015)

In the seven chapters of Best Writing 2015, we invite you to look for signs of this “development of an internal voice” so integral to the complete education of an engineer as advocated by the STEAM movement. In their book Education of A Whole New Engineer, David Goldberg and Mark Somerville remind educators that it is our responsibility to help “students develop as complete human beings, with whole minds and bodies engaged in learning” (2014).

We think you will find that the best pieces in Best Writing 2015 reveal a deep engagement between learner and subject, between writer and world.

In publishing their papers, poems, and personal thoughts, our students show you how sharing their writing is “a powerful act of being, an intense awareness of ourselves, […] a potentially powerful vehicle for transformation” (Yagelski 139). The very fact that 165 pieces were submitted for publication in this year’s volume shows that Texas A&M at Qatar student writers want an audience besides the teacher and beyond the classroom, and, more importantly, that they had the courage to share their developing voices with this larger audience that includes you!

Because most of the contributions to this collection were originally written in response to particular course assignments, we strongly urge you to read the writer’s reflection at the beginning of each piece to help you understand the writing context, and we also encourage you to skim the brief biography at the end to inform you of who the writer is and what matters to him or her. These framing paragraphs and the body of the text contribute to what almost any reader wants from a writer: to have been given a glimpse of another mind mid-flight, struggling to make sense of something important. Join us in applauding this year’s student writers for having the courage to share their opinions, to expose their beliefs, and publish their priorities.

The highlight of last year’s book launch celebrating the first edition of Best Writing featured some of Texas A&M at Qatar’s student voices as they recited excerpts from their published pieces to a crowd of parents, classmates, and both academic and industry guests from across the city of Doha. Some of these visitors to Texas A&M at Qatar seemed shocked that our engineering majors were such talented and capable writers, but the parents of these students were not surprised. In fact, one mother approached the editors after the literary reading to say, “Thank you for providing a space for my daughter to publish her work,” adding that “long before she decided to become an engineer, she was a writer, and I was sad to see her give that up.” And now we know that she doesn’t have to – nor do any of the other Texas A&M at Qatar engineering majors – since writing and other humanities courses aid students in developing the critical thinking skills necessary to perceive multiple ways of understanding an issue or approaching a
problem. More and more engineering educators are realizing that “soft skills” such as “empathy and emotional courage are essential for engineers wishing to comfortably collaborate in solving today’s complex problems” and so they “need not sacrifice their humanity on the altar of mathematical rigor!” (Shelton, 2014). By reading the pieces in *Best Writing 2015*, you will witness many instances of students demonstrating emotional courage and concern for others as they share their writing with the world.

Above all else, the editors of *Best Writing* would like to see our series serve as a catalyst to activate the “liberal artist” (Jolliffe, 2015) inside each one of our engineering majors. We plan to continue to emphasize the role of liberal arts in the education of a 21st century engineer, to let all of our students know that they do not have to give up expressing themselves in writing in order to become an engineer, and that, in fact, the most successful engineers have an excellent command of language and are persuasive communicators – just ask the former and current deans of Texas A&M at Qatar and perhaps they will share their stories of writing with you!

All the best,

**Mysti Rudd** and **Amy Hodges**, co-editors

**References**


Acknowledgments

The editors wish to acknowledge all of the students who submitted their writing for review – even those whose pieces were not selected for this particular volume. Without all of your contributions, the second volume of Best Writing by Texas A&M University at Qatar students would not exist, and we honor the courage required to share your writing with the world.

We also want to acknowledge the Best Writing Committee, made up of faculty, staff, and students, for demonstrating commitment to this project by volunteering many hours.

Rida Ahmad, Class of 2016
Hassan al-Mazrooei, Class of 2016
Ahmad al-Rchid, Class of 2016
Bea Amaya
Lorelei Blackburn
Fatma Hasan
Maheen Hyder
Brenda Kent
Antonio La Pastina
Hanaa Loutfy, Class of 2016
Deanna Rasmussen
Nancy Small
Michael Telafici
Sherry Ward
Kelly Wilson

Special thanks to Dr. Troy Bickham and Dr. Eyad Masad for funding this year’s volume through the STEAM (Science, Technology, Engineering, Arts, and Mathematics) initiative.
Dedicated to the students of Texas A&M at Qatar – past, present, and future – who move through the world as both poets and engineers.
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Ghadeer Al-Haddad

Aggie Muster: Remembering Hassan Hussein

I can’t forget the man’s words while I was exiting the university library. I can still hear him shouting, “Someone is dying.” I can still hear myself saying it, my heart beating it, and my mind rejecting it.

During my first summer course at the university, something unusual happened. In that day, I was in the library sitting on one of the library tables. I was in the middle of solving a long math problem, and I was trying to give up. The sun was up in the sky trying to give up. Everything seemed to give up, nothing was hopeful. No one knew that there was someone else trying to not give up, to not die but there wasn’t a chance to live. Everything exploded: his life, his wife, his children, his dreams and then the fire alarm sounded off. When he needed help, no one could give him the help that he needed. People betray each other, life betrays, and even death betrays.

When the fire alarm went off, I was in the library. I left the library, and a man came running out from the library door behind me shouting, “We need help; someone is dying.” Everyone ran to him, and I stood in my place. Suddenly I felt like I was in the middle of a desert; no sounds, no people, but a strange smell. The nearest door to the exit was a side door near the blue area. I exited from there and walked to reach the front door of the university. I saw people gathered in the main university entrance, then they started to walk to the student center. While I was walking with them, a sound behind me said my name. I looked, and I saw my math teacher. She asked, “How are you?” and I answered, “I’m afraid.” I don’t know exactly why I was afraid – maybe because I didn’t know what was going on. Even though my mind refused what I heard from the man, still I was anxious.

After a few hours, we knew that a lab technician had passed away. He was in the lab, doing the experiment of his life. I don’t really know what happened to him, and I don’t know him, but I know his story. I know that he was part of this university, and he gave to this university some of his time, his effort, and his life. As a university community, we have to remember him. Aggie Muster is a way in which Aggies remember and honor those who were part of the Aggie community.

We write about those who left us because that’s how we keep them alive; through our words, we unbury them. Death comes to remind us, to awaken us, and to tell us that life is important. I think all who left us are still alive inside us, and therefore we can’t forget them.

Biography

Ghadeer Al-Haddad is a chemical engineering student. She studied at the Academic Bridge program before joining Texas A&M at Qatar. She believes that her journey in writing is just at the beginning, and her Composition and Rhetoric teacher was the one who motivated her.
Hassan Imam

This paper is essentially a short summary of my journey through the vast world of reading. The word reading has different meanings for everyone, and in this paper my understanding of the term changes from a simple problem-solving tool to something that is completely different and a wonderful part of my life. In the paper I also highlight the other benefits besides pleasure that reading gives to a reader. I believe that reading should be a part of everyone’s life as it is one of the few habits in life that does not bring any harm to the person doing it.

The Power of a Bright Red Book

Reading gives me immense pleasure and confidence, but it was not always like this. In my early years reading was a simple concept. I had always thought that anyone who reads anything did so just to get information about something and that reading was only done on a “need to know” basis. I grew up believing that the only way books can serve you is by giving you facts and teaching you how to accomplish certain tasks. I had never seen anyone in my family reading any sort of fiction, and the bookshelf in our home was filled with forgotten math and science textbooks and an old ragged Britannica encyclopedia. My mom was a math teacher and the only time I saw her reading something was when she was checking her student’s assignments or going through the school textbook to prepare for the next day’s class. Thus from an early age I saw reading as a task with no pleasure associated with it whatsoever. Even in my school, readings were done in the form of comprehensions where you read these long essays and then answered the questions at the end. These questions always focused on the specific details (the date, results) and the person who scored highest was the one who could copy the information from the essay the best.

My perception of reading was forever changed in the 6th grade when I got a new English teacher who wanted us to write a book report, and it was as if my worst fear came to life. She took all of us to the school library to pick a book within an hour and then read it and submit a book report on it in the following week. I never had any interest in reading apart from my schoolwork, and I never enjoyed going to the library. The unnatural silence bothered me a lot, as did the setting: rows of old wooden tables and chairs covered with green upholstery and huge shelves with all kinds of books stacked in them and labeled under various sections like drama, fiction, mythology, history, etc. A grim looking librarian sat at the reception looking at all the goings on in the library with an eagle’s stare. I still remember that day as I circled the library for almost three-fourths of the hour and still was not able to pick a book. I remember going through countless books looking at their covers, judging their conditions, and looking at the number of pages, but as the hour came to an end, I was still lost. I was filled with disappointment as I realized that I would have to pick up some random book. So in my hopelessness, I picked up a dark yellow book whose title I cannot remember, and I finally joined the line in front of the counter to check it out. As my turn was coming up,
a bright red book on the counter caught my eye. I remember picking it up and seeing an amazing looking hi-tech race car on the front cover with the title under it Hover Car Racer. It was as if something clicked within me, and I put the yellow one back in its place and checked that one out instead.

That red book, written by Mathew Reily, is one of the most wonderful books that I have ever read. This novel set in a futuristic time was about an orphan named Jason Chaser and his journey as he tries to become a top hover car racer in the world. Even writing about this book makes me want to read it all over again, and that is how much this book has influenced me. The book in many ways shaped my childhood and made me realize the importance of family, friends and loyalty in one’s life. Though the book taught me a variety of valuable lessons, there is one lesson that stands above the rest and that is to never give up. Now this concept of never giving up may seem like a cliché, but it is in fact one of the hardest things to learn to apply. For the first time in my life, I was not rushing through the book simply looking at the words; rather, I was reading. This book introduced me to the magical world of books and started my journey in reading. For me reading became a pathway to completely different worlds filled with a plethora of captivating experiences which helped me to form new perspectives and explore ideas from different viewpoints.

After I had finished the book, I realized the importance of books and why people read them. A good book can give the reader immense pleasure and joy and can shape the way the reader thinks. However, I feel the most important thing that I learned from reading the fiction was the ability to empathize with others. Through these works of fiction, I traveled from world to world in a matter of seconds and through the eye of each protagonist, I gained the insight necessary to understand and interact with people on a much better level. For me the Hover Car Racer was just the beginning and since then I have never looked back. I have read over 50 different titles from sci-fi to mystery to even an autobiography such as Mahatma Gandhi’s My Experiments with Truth. I remember in high school, my friends and I used to compete with each other to see who had read the most books, and this was so much fun for me. Reading certainly changed my outlook on a variety of things, and I am now a proud owner of my very own bookshelf that has all the books I have read. I am thankful to my 6th grade English teacher whose book assignment impacted my life in a way that I could have never imagined. It still amazes me to this day the way a bright red book transformed me into an avid reader and filled my mind with invigorating theories and ideas about life.

Biography

Hassan Imam is a sophomore student at Texas A&M University at Qatar, majoring in Electrical Engineering. He hails from India but was born and spent his entire life in Saudi Arabia. He is an avid reader of science fiction novels and hopes someday to write one himself.
Muneera Al-Muhaiza

“The Girl Without a Fear” tells the remarkable story of a young woman who took her experience of rejection to another level of success.

The Girl Without a Fear

I remember the first time I experienced rejection. I was in my last year in high school, and I was waiting for universities to send out their acceptance decisions. A month after applying to different universities, I heard back. The rejections started rolling in. I received my first email of rejection, and then the second, and then the third. And believe it or not, Texas A&M University was one of them!

I cried for a whole week. That week turned into two weeks – I know I was such a drama queen. I was devastated and mad. Mad because I never thought I would experience this harsh rejection, and miserable because I knew that I deserved to be accepted more than anyone else. And part of me wouldn’t accept the truth and attributed my friends’ success to 

wasta – or an unfair gain from connection.

After getting rejected, I went to the Academic Bridge Program for two years, although it was supposed to be just for one year. The reason I stayed for two years was that people kept telling me to go to Qatar University and join their great failure into not getting accepted into the universities of Qatar Foundation. I did not want to be one of them.

Throughout these two years I applied again, and I got rejected again.

Sad, I know! But I did not give up. My father wanted me to just give up on everything and work instead of studying, while my mother sat beside my bed and cried with me until my tears dried out.

After the Academic Bridge Program, I went to the College of North Atlantic for a whole year, and guess what? I applied to the same Qatar Foundation universities again. I got two rejections, and finally one acceptance from Texas A&M University. I still remember the feeling that I got when I heard the happy news; I went to my class crying out of happiness.

Throughout all of my school years, people kept telling me I cannot and I will not achieve anything in my life. My chemistry teacher used to tell me I am stupid. My English teacher told me I could not write a decent paper. Eventually, I realized it was not because I was stupid or weak in English, but that some people like to discourage others, and they do not like to see someone else succeed in their life.

I went through ups and downs, and at some point in my life I wanted to just give up on everything and sit in front of my laptop and watch Modern Family for life! But I am not a quitter and have never been one! Therefore, I decided to take all these failures and turn them into something else, turn then into motivations, and that is what I did.
So, now whenever I look back, I laugh at myself, but at the same time I feel proud of myself and of my achievement.

Today, I am here, a student at Texas A&M University, studying what I love, and I have never been happier.

Biography

Muneera Al-Muhaiza is a freshman at Texas A&M University at Qatar. She is 21 years old and was born and raised in Qatar, although she always identified as a Spaniard deep down in her heart! She reads all sorts of books and can watch a whole season of any TV show on any given day. She loves the color blue, except for the sea because A) she can’t swim and B) she has a phobia of being dragged into the bottom of the sea by an octopus or being swallowed by a whale.
My Secret Hobby

I remember opening my eyes to the first console I ever saw: Sega. I had some trouble understanding what was written on the screen (which was in English) because I was six years old, and I could not read Arabic or English. When I finally managed to turn on the device and play the game, I immediately got hooked and started to play for hours and hours in my family’s living room where the Sega console was kept.

My family usually gathered up at my cousin’s house and my girl cousins get together and play. Because of my Sega habit, I started to distance myself from the other girls in my cousin’s house. At first, I thought it was normal for me to play video games, but I noticed that the other girls in my cousin’s house did not have any interest whatsoever in video games. “Why do you play video games?” they would ask, adding, “It is just something dumb and a waste of time. It is not something a girl would do.”

Because of that, I felt totally different from my cousins. I also encountered the same reaction from the others girls in my school. My mother noticed that I didn’t play with the girls anymore and played on my own instead, so she decided to change this habit of mine. She took me aside and decided to have this one on one conversation. She placed me in a chair and said, “Why are you not playing with the other girls? Why do you always play video games?” I responded, “Because the girls think that it is stupid for a girl to play video games.” She responded, “Then stop playing video games and end this habit and start playing with the other girls.”

I felt sad and disappointed in myself like I was doing something wrong that needed to be changed. I felt like I lived in a different world and that no one could understand me. Due to all these reasons, I started to hide this habit as much as I could. I felt like I was committing a sin in playing these video games, but at the same time I felt joy and happiness. It was like I was contradicting myself.

Even though I was playing video games, it did not affect me as a girl. Everyone thinks that girls who play video games are boyish and act all manly; however, I was the total opposite. I used to take care of myself as a girl should. That is why people get shocked when they know that I play video games.

As time passed, people started to accept who I am and even the whole world started to change to this point of view. People started to accept the girls who play and enjoy video games.
In playing these games, I feel like I am in a weird, vast, different world that is waiting to be discovered. When you control the character, you feel this kind of emotional connection to the character. You sometimes sympathize with the character and make sure to fulfill his quest in the game. You make sure that your character is powerful enough and fully healed to face further challenges. You feel like the character’s life is in your hands and you have to take care of it. Sometimes games test your morals and the way you think to make decisions that will alter the ending you get.

So I will play video games as long as I want to, caring for the character until my heart is content.

Biography

Sharouq Al-Malki is a student at Texas A&M at Qatar. She graduated from Albayan high school and then from Qatar Aeronautical College in Qatar with a higher diploma in Ground Avionics. She is a junior in electric engineering and soon will be working at Hamad International Airport in the Control Tower. She recently got married.
Asadullah Farid

This paper was written as part of a Fall 2014 Engineering and Ethics course assignment to construct an argumentative essay in response to a set of articles concerning women in engineering. The topic is centered on incorporating feminist ethics in the engineering arena, and argues why it may not be a good idea. Contrary to popular belief, feminism and feminist ethics do not completely encompass the same spectrum of morality. Where the question arises of prioritizing care and emotions instead of upholding fairness and justice in situations, the article takes a clear stand against such possibilities, which can be dangerous in a high-risk, high-value, and rationally oriented engineering background. Nevertheless, while the core of the debate presented in this article focuses on the elements of care ethics, it realizes that there may be significant certain aspects of feminist ethics that can prove helpful to engineers. All in all, there is definitely a healthy (in fact, much needed) potential of dialogue between ‘masculine’ and feminist ethicists to compromise on the extents to which feminist ethics should be used in engineering. Also, it should be kept in mind that the stance presented here is not a rigid one, that this piece is a classic example of an argument for argument’s sake. It is my hope that readers appreciate the construction of the argument rather than getting mired in the content itself.

Incorporating Feminist Ethics in Engineering: Good or Bad for Moral Business?

For centuries, the concept of morality and ethics, whether in engineering or in general, has been governed by rationality. Many critics, notably feminists, have argued that ethics as we know it has always had a male bias that accompanied it. The dominance of rules, rights, universality, and abstract ideals in the foundations of morality has come to be viewed rather sullenly by advocates of feminist ethics. They argue that the importance of personal emotional relationships, the context’s nature, as well as communication, are all factors that create a more complete picture of ethical issues. Is feminist ethics the answer, then, to a more comprehensive ethics of engineering? Or is it doomed to fail? This paper examines the elements of feminist ethics, particularly the ethics of care, and argues that it is not beneficial to incorporate such elements in the broader engineering ethics arena. First, feminist ethics, particularly the ethics of care, will be defined, and it will be shown how its advocates’ reactions stem from their own inability to exercise moral power. Secondly, an insight will then be given into how care ethics influences morality by emotions and subjectivity. Thirdly, this will be linked to an engineer’s employability in the modern world, showing how such elements would potentially affect this idea. Fourthly, the characteristics of feminist ethics in engineering students’ responses to ethical issues will be mentioned, showing the negative effects of context and relationships. Finally, the central role of the codes of ethics will be examined to see why feminist ethics do not support them at all.
Firstly, to show how feminist ethicists are incapable of exercising moral power, a definition of feminist ethics is in order. *The Stanford Encyclopedia of Philosophy* defines feminist ethics as “an attempt to revise, reformulate, or rethink traditional ethics to the extent it depreciates or devalues women’s moral experience” [1]. Riley follows not far behind by stating that feminist ethicists begin by “uncovering sexist norms…identifying ways in which women and others have been excluded or silenced” [2]. From its very conception, feminist ethics is a direct sociological response to male bias and feminist exclusion in the exercise of moral agency. There is no doubt that women and feminist ideas in engineering ethics have been at the sidelines of ethics more often than not. Yet often times, this has resulted from feminists’ lower self-perception of power and moral agency. As Riley rightfully quotes, “how people identify themselves can influence their own awareness of their ability to act” [2]. The argument that masculinist bias solely has led to prominent feminist philosophers and ethicists not being explicitly mentioned in ethics textbooks cannot, on face value, be taken seriously. Ethics has its own history, and, like history, different people across different timelines have sought to include what they thought was more important; hence the appearance of bias in everything. The fact that Riley could go ahead and even identify such “acts of inclusion” [2], despite them being religiously excluded, serves only to reinforce the fact that it is not so much as masculinist bias as it is the inability of feminist ethicists to exercise their moral agency and power with consistency.

Secondly, another reason that can be taken for this lack of feminist acknowledgment in engineering is the stigma of care ethics, which is based on “observation of difference in how men and women spoke about ethical questions: men tended to use rights language, and women the language of relationships and care for others” [2]. Relationality and caring for others stems from emotions, which are fluid, malleable phenomenon. They cannot be compared to the solid grounds on which rational principles are based, and hence cannot be understood to be universal. Moreover, Riley herself describes care ethics as “potentially re-inscribing women’s subordination” since “women’s tendency to care is constructed from power dynamics that restricts women’s choices” [2]. Also, what if conflicts involving people unconcerned with the orientation of caring arose? Agreement may be hard to reach, as demonstrated by the in-class example of ENGR 482, where a man, Andrew, faces an ethical issue of stealing to save his wife, or letting her die. Students altered their justifications as the contextual relationships changed; a classic effect of feminist ethics. Resultantly, there were calls for behavior that tailored to each individual situation. If this is the case, then there is no true theory of ethical behavior, since the concept of what is acceptable and what is not is being changed by the respective moral agents at will. In short, the care based approach clouds the moral code, since emotions and feelings make it easier to break them as and when the person cares, which increases subjectivity, unreliability, and inconsistency. Should the maintenance engineers of the Concorde on Air France’s Flight 4590, a fatal flight resulting from a missing spacer in the landing gears, be left unaccountable simply because of the context of hectic routine operations and negligence?
Thirdly, an even harder place to incorporate feminist care ethics is the concept of Conlon’s “new engineer,” where “Engineers need to reflect on the kinds of problems they choose to solve and the criteria used to solve them” [3]. This directly implies critical thinking, much of which is objective, fact-based, and has no room for emotions. Can engineers be taught critical thinking by way of feminist care ethics, and thus, emotions? The two do not go hand in hand. Conlon also defines employability as “a set of achievements… that makes graduates more likely to gain employment and be successful in their chosen occupations” [3]. If subjectivity, context, and emotions are indeed the way, why have a standard of employment at all, when people could be offered employment simply on the basis that they possessed the desirable relations and context? From this perspective, there would be no fairness in the world. In addition, by saying that “it is not always possible to behave ethically” [3], Conlon essentially hints at contextual, inconsistent situations, which in turn encourage changing ethical behavior to suit engineers’ needs when needed, going against the principle of establishing ethical codes (and thus self-policing) in the first place.

Fourthly, feminist ethics tend to create apathy towards a moral problem until a significant relationship level has been established, which leads to undermining the fundamental principles of justice and fairness. Hashemian and Loui [4] demonstrate this unreliability of feminist care ethics by observing responses of engineering students to ethical issues and their variants. Students who had taken and excelled in the ethics course, ECE 216, “felt responsible in every version of the case and said that they would take some sort of action” [4]. They recognized and stuck to the core moral problem at hand regardless of context [4]. In contrast, “about half of the non-ECE 216 students and prospective ECE 216 students thought they were not responsible for the moral problem until they were more directly involved” [4]. Non-ECE 216 students were consistent in their inconsistency, so to speak. The fact that their judgment was based on relationships, even saying it’s “none of my business” [4], only illuminates the impact of feminist ethics in the moral discussion. Hashemian and Loui further mention that “in an ethical conflict, individuals who have greater personal involvement experience stronger emotions,” which can “affect the individual’s ethical decisions” [4]. Therefore, is it not better to have an ethics which inculcates in students a sense of “higher purpose” [4], even when they do not have the main responsibility? To reiterate, emotions and ethical decision-making do not go hand in hand.

Finally, elements of feminist ethics have also served to contextualize and inhibit engineers’ rights, by forcing them to seek public good and approval in order to be classified as professionals, as put forward by Stieb [5]. Stieb makes a notable objective argument that “if society chooses to honor or reward engineers, then it should do so based on the competence of the engineer, not on her purported service” [5], hearkening away from the context in which the engineer performed his/her service. One should remember that it was not the context of 1914, but the higher ideal of maintaining the “profession’s honor and
dignity” that led to the first code of ethics’ adoption, as stated by Little et al. [6]. Even in the National Society of Professional Engineers’ code of ethics, Canon 3 requires engineers to give public statements “only in an objective and truthful manner” [7]. Stieb further goes head to head with Little et al. [6], justifying that the context of “politics should be removed from engineering and ethics as much as possible” [5]. If feminist care ethics were to be adopted, objectivity would be replaced by subjectivity, a bad omen for engineering.

Some might argue that the very creation of the codes of ethics, based on abstracts, is grounded in the social and political context of engineering works. Engineering, after all, is a social experiment. What would have happened if the context had not been changed, and the codes of ethics would still emphasize employee loyalty and professionalism over all? The profession of engineering today would most likely be quite alien in its details. Yet the fact remains that the pursuit of engineering would always be guided by the abstract moral ideals and universal principles of the profession, regardless of them being for the benefit of humanity, the employer, or some other agent.

Critics may also argue that the sample size employed by Hashemian and Loui [3] is too small to make the conclusions on behalf of all engineering students. An interesting underlying assumption in [3] is that all students have the same level of moral and ethical education at the time of the study. While the number of students interviewed is indeed small, the fact that randomly selected students gave consistent answers repeatedly cannot be ignored, no matter the case and the variation. Another strong argument is that context, relationship, and communication are perfectly suited for the new engineer. There can be no doubt that engineers increasingly need to know the wider social and professional context in which they function, but to lay burden of all social responsibility solely on them without reproach of existing corporate and social structures, where engineers are “held captive” [4], is supremely unjust and trivializing.

An inherent weakness of Riley’s [1] argument is that, because feminist ethics focuses around women and their exclusion from ethics, it favors a scenario in which gender free morality may become impossible. Many women philosophers shape the traditional roles of women (silence, obedience, and service) into an ethic of care, and thus introduce a gender basis in ethics.

With everything having been said, it would be wrong to deny the presence of emotions in moral judgments, since morality itself draws on some emotions. However, for a universal system of ethics to endure, emotions hardly represent a strong foundation, one which varies from person to person, and is not necessarily shared. Reason and logic, on the other hand, are things that can be argued for, along with context and communication. There is a reason that a lot of ethical systems are based on rationality rather than emotions. If emotions are a legitimate basis for moral decisions, then what is to stop someone from taking a twist on traditionally good things, and justify the murder of innocent children
on the grounds of anger, jealousy, and hatred? Emotions aside, perhaps it is best to pursue
high moral development through universality, justice and fair judgment, while using the
important nature of the context and associated relationships to help focus on the core
moral and ethical issues at hand. Perhaps it is better if only some, and not all, of the elements
of feminist ethics were used in a more comprehensive ethics of engineering, and utilized to
enhance the rationality of engineering decisions. The burden of responsibility, ultimately,
lies with the one who makes that judgment, be it the engineer, or the profession.

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Biography

Asadullah Farid is currently, (un)like many other students, a senior in the Mechanical
Engineering Department at Texas A&M at Qatar. He was born in Karachi, Pakistan, but
relocated thrice, from Karachi to Lahore, Islamabad, and back again, thus getting to call all three
places home. Having never heard of engineering in his secondary school days, a pair of spectacles,
fate, and love of airplanes shaped his hopes from aviation into the field of mechanical engineering.
An avid enthusiast of the written word, Asadullah’s love of writing has led to countless promising
storyline pieces. He resides in Doha, Qatar.
Sandra Fomete

My life used to be almost always structured. I used to wake up with an idea of how my day will look like, or at least what I wanted it to look like. I always tried to maximize every second and to be highly productive. Unfortunately like many people, I usually failed to pause and reflect on what and why I was doing what I was doing. I think I would have been happier back then if I took time off daily to think about my progress and to just simply count my blessings.

The Importance of Mindful Meditation in My Life

“The present moment is filled with joy and happiness. If you are attentive, you will see it.”

– Thich Nhat Hanh

This morning I was sitting at the cafeteria with a friend of mine, and we were both talking about how it seems like our lives stopped once we started college. It seems that from when we were babies up to high school, life felt weightless. There is no doubt that life can feel overwhelming sometimes, especially when you are an engineering student in college or just about anybody above the age of 18. As I age, I realize that time is increasingly a scarce commodity. As a result, it becomes increasingly hard to be very mindful of our actions and thoughts. In this brief article, I will be sharing with you one of the best stress management techniques that have helped me throughout my college years thus far: mindful thinking and meditation.

A couple years ago, I was going through some rough times and more devastating was the fact that I was trying to adjust to life as an engineering college student. I was always “busy” with school, life etc. like almost everyone in the world today and I never really paused to think about “the present.” Midway into my years in college, I was very absent minded most of the times because I was always thinking about the many things I had to do. Many times, I was in places but I was never really there. In today’s world, it is increasingly hard to have time for just about anything because even being on social media can consume one’s entire day and make us feel “busy.” It is also very easy to ignore our environment with all the gadgets we have around keeping us busy all the time. However, it is very important to constantly engage our minds and to continuously reflect on what/why/how we do things. When I started purposefully engaging in mindful meditation, I noticed a change in my life: a positive change not only in my life, school but also in my relationships with people around me.

The way I started mindful meditation was a bit unusual. I would sit on my bathroom floor almost every evening when I got back home and I would just try to focus on the things I had achieved during the day. I would also think about the things that I thought I should improve on or change. Sometimes I would play some of my favorite music to help me focus
on my thoughts. These meditation sessions felt wonderful because I wasn’t in a rush and I was very intentional about my thoughts. Though these meditation sessions never lasted more than 10-15 minutes, they had a great impact on my life, helping me tremendously, especially during stressful periods such as during exams. More and more, I was able to focus for longer periods. As I started mindfully thinking beyond the walls of my bathroom, I became more aware of my surroundings, and instead of just routinely doing things, I started thinking of every experience as a new one as I tried to focus on it and eventually it seemed more enjoyable. Though I still don’t find everything in life enjoyable, mindful thinking helped me at least find the beauty in those things I might have overlooked before, such as broccoli (yes, thinking about how healthy it is made me to start eating it).

Eventually – after two years of amateur meditation, I learnt in more detail the importance and ways of meditation in my Yoga class with Mrs. Kelli Campbell. Though not very different from what I was practicing, it added the yogic breathing aspect which my daily meditations needed. I now try to take as many deep breaths during the day as possible. This helps clear my thoughts as well as releases my stress. Also, during my workout, especially when I run, I have found that inhaling and exhaling deeply has helped me tremendously as it makes my heart pump more blood and reduces the risk of low blood pressure as well as heart attack. Overall, my yoga experience with Mrs. Kelli was wonderful because not only did I become more flexible, I had the chance to learn about different ways of focus my energy on a more positive lifestyle.

Overall, mindful meditation and thinking has helped me focus better on my studies and be more intentional about the relationships and decisions I make every day. It is easy to think that a healthier lifestyle starts with exercise, which is not necessarily false. However, I think we all need to engage in mindful thinking and to set aside some quiet time to meditate each day as this will help us focus on making better and healthier life choices. Also, we need to continuously be actively engaged in our thoughts (without judging people or the world) and to be mindful of the relationship we make and actions we take.

Biography

Sandra Fomete is a senior chemical engineering student originally from the Republic of Cameroon in Central Africa. Sandra was born and raised in Cameroon where she graduated from high school. She then moved to the U.S in 2012 to pursue her college education. She started College in Montgomery College in Rockville, Maryland, where she studied chemical engineering. She then transferred to Texas A&M University in College Station where she is currently continuing her studies. She plans on working for two years after graduation and then obtaining an MBA. Her life goal is to bring development to third world countries through educating their children and promoting small and large businesses.
Ashley Bender

This is a personal piece that I wrote as an exchange student about my time and experiences in Doha, Qatar, which have impacted me in immeasurable ways. I will never forget this time and have commemorated it in writing. Qatar will always hold a special place in my heart.

Desert Beauty

Jittery with nerves, I said goodbye to my family. Little did I know it would be for far longer than I expected.

At the end of the summer, I arrived in Doha to study abroad at Texas A&M University at Qatar. Not only was this the first time for me to live in a new country, but this also was the first time to move out of my family home. From the moment of arrival, the people I met were different from what I was used to. Spending evenings late into the night, I conversed with newly made friends about their lives and asked questions to clarify my understanding. Scheduled to stay for four months, I realized within a few days that would not be long enough and decided within the week to stay for an additional semester. The diversity and character of the people of this region are why I chose to stay. In two days, I met someone from every continent, except Antarctica, and more nationalities than I have ever encountered in my entire life. Generosity, hospitality, sincerity, and kindness are characteristic of every individual I have met and come to know. Qatar is a striking country, from its desert beauty to its crystal clear blue oceans, and I have fallen in love with it.

Each day of this eventful year holds something new, whether it be a new friend, a new experience, or new knowledge. I made more friends during this time than I have ever before and traveled to more countries than I have in my lifetime. I have made innumerable memories with the friends I have met here. The opportunities are endless – from conferences to leadership trainings. I had the chance to compete in two different desert challenges; one was through a leadership program for which my team won the Best Team Spirit award, and the other was a professional desert challenge, in which Texas A&M University sponsored 5 selected individuals for a team and where we won 6th place as well as Best Team Spirit. From watching sporting events, such as the FINA World Swimming Championship, to participating in sports, such as the TAMUQ basketball team, these are activities that I do not have a chance to do elsewhere. Service is another area that has greatly impacted me; service-learning trips to Indonesia and Jordan are blessings I could not participate in if I were not in Qatar. Educational prospects have blown me away. Cross registering at another university would not be possible in Texas and the caliber of professors and visiting lecturers is astounding. The more I live in Qatar, the more I grow to love it.

Through it all, I have grown more than I could have imagined. My confidence has increased from living on my own, in a new environment where I must learn to do
everything on my own. I have ridden the roller-coaster of culture shock, but it has surprised me. In the beginning, my view of a glamorous country and people were fashioned and remain in a realistically tempered form. As time progressed, I fell into step with daily life and learned about, appreciated, and accepted most everything around me. Five months into my stay was the first time I felt the pangs of longing for my family and home. While loneliness overcomes me at times, the lessons I learn and experiences I have are well worth it. My values have changed as I see what is truly important and have become more focused. The world has become a smaller, more accessible place and my plans now include expanded horizons. I would like to live, work, and volunteer outside of my own country for a great part of my career. Traveling will now always be a part of my life. If I had never traveled to Qatar in the first place, I would not have known about so many amazing experiences or learned so much about myself or the world.

Extremely fortunate to have this opportunity, I hope to use it well in my future and in influencing others. Learning about my potential to do more than I ever thought I could has been the most enlightening experience. I love the country and people who have welcomed and taught me so much. One day, I dream of coming back to Qatar, whether that be for medical school or a job opportunity. Most importantly, I will always be thankful for this epoch, though longer than originally expected. A piece of my heart will forever remain in the country of Qatar. Alhamdulillah!

**Biography**

As a chemical engineering exchange student from Texas A&M University in College Station with hopes of becoming a physician, Ashley Bender has thoroughly enjoyed her time in Doha, Qatar. She hopes to live and work outside of the USA for a great part of her career because of the experience she has had. She will always call Qatar her second home and hopes to return in the future.
Razan Al-Fehail

This piece of writing opens the reader’s eyes to a hidden harm that some advertisements hold. It is an argument essay about stereotypes in advertisement, mainly considering gender stereotypes. I analyze a McDonald’s ad that I think is very harmful regarding female stereotypes. Prior to writing this piece, I personally did not give much attention to the issue of stereotypes in advertisements. However, while analyzing a couple of ads, I realized that a lot of the bad habits we have in our society rise from advertisements. This has boosted my willingness to deliver this message to people. My choice of the McDonald’s advertisement was because it is one example in which the harmful effect is huge, and even a person who is not an expert in ad analysis can see that. Also, I have chosen this ad because I believe that the idea the company is trying to promote could have been illustrated in any other way that is not socially unsafe. With encouragement from my professor, I have decided to submit this piece to Best Writing since I believed that the message involved is worth being delivered to people. Also, the fact that this essay is my first ad analysis piece gave me the courage to have it published.

Between Ethics and Money-Making

We all naturally want to take shortcuts in our lives every day. Mainly, we tend to choose the less time-consuming practices which make our efforts more efficient. But, what about taking a shortcut when it is not a choice but rather mandatory? How about when time is a critical part of the work and you need to find the quickest method to achieve a certain goal? Advertising is one aspect of life that requires shortcuts. The main goal of advertisers is to find a technique to persuade the audience about buying a particular product or going for a certain service. However, time is always a limitation. And advertisers, in many cases, use harmful methods to create a “positive consideration” as Cory Noonan calls it in his article “In Defense of Advertising.” One harmful approach that advertisers bring into play are stereotypes. Stereotypes are actually all around us, and I believe that stereotypes shape commercials, and that including them is inevitable, but advertisers threaten society through the cruel way of representing stereotypes, leading to the spread of many immoral practices.

Presenting stereotypes unkindly in commercials hugely affects us. To verify that, first I’ll be mentioning why the issue deserves the attention of everyone. Secondly, I’ll clarify the scope of the issue and how it plays a strong role in the society: Then, to prove my point, I will analyze one ad that includes a gender stereotype and illustrate the harm it holds to the society. Finally, I will present our role, as audience and consumers, regarding this issue.

One might think that the belief that stereotypes in advertising harms society is just an exaggeration. It is not. Dr. Robert Rydell of Indiana University has found that women don’t learn as well when they are reminded of negative gender stereotypes before performing an exercise, according to Psychology Today (qtd. in Razanne Chatila). We are all, as audience and consumers, hugely affected by the stereotypes in advertisements,
especially the hidden ones. And the most evil part about hidden issues is that they internally harm society. This makes people believe it is not very dangerous. And in most cases, harmful stereotypes are hidden. Using them in ads is like offering poison with a smile to society.

Advertisers use stereotypes as a tool to communicate with their audience, without taking into account that such action has a negative effect to a particular group of people, and that using stereotypes at times might appear cruel, having the power to harm the society. I emphasize that I am not against stereotypes in advertisements, nor do I say that advertisers should stop including them in ads, because it is almost impossible to avoid stereotypes in most cases, and some ads actually contain stereotypes but still don’t really negatively affect the society, but advertisers must understand that it could be a weapon if they don’t choose them carefully. Advertisers take control in making the harm of the stereotype infinitely small or huge; it is not about presenting the stereotype, but it’s about the way that stereotype is presented, and the message the advertisement holds besides promoting for the product.

The advertisement I am analyzing is an Arabic McDonald’s commercial titled “McDonalds Arabia.” First, they give you this picture of two couples, where the guy plays the role of a typical Romeo: he gives his girl a rose, pushes the car while she’s inside it, goes shopping with her, and finally takes her to McDonald’s for lunch; all with a background music that says “I would do anything for love. I’d run right into hell and back.” Then, the guy orders a meal while the girl orders a sandwich. Things unexpectedly change when the girl tries to take a piece of the guy’s fries and he changes from romantic to aggressive all at once. They physically fight, the guy wins, and proceeds to enjoy his meal alone, revealing the fact that he would actually “do anything for a McDonald’s meal.” The advertiser, at this moment, proves the point that a McDonald’s meal is irresistible.

This ad successfully promotes for McDonald’s, but I’d say it is the definition of dangerous. It is a typical gender stereotyping fast food advertising, but an extremely harmful one. Let me clarify: it puts focus on males as its target to a point where it overlooks the effect that it has on females as it abounds in plenty of gender stereotypes. The girl ordering a sandwich instead of a meal shows how girls usually pretend to be on a diet, and then when she switches her mind by taking some of the fries, this presents how girls are indecisive and change their mind in the very simple things; also, the guy transferring suddenly from Romeo to violent at once shows how guys are deceiving and untrustworthy. But most importantly, the ad promotes a very cruel idea which is violence against women.

As I have mentioned, this ad is very dangerous, especially by promoting the idea of violence against women; what’s dangerous about it is that it expresses the idea in a very
humorous way which makes it seem pleasant to the audience. The illustration of the guy beating the girl for the meal – and winning the fight – goes far in supporting the fact that McDonald’s meals always come first and shows that it is actually that delicious. But what kind of method is used to advertise? Beating females? As a matter of fact, the exposure to violent and degrading images of women affects our attitudes and behaviors towards them in real life (Plank). Let’s think about the effect of this ad on typical males: the idea sneaks into their mind when watching the ad and will definitely come to think that it is an acceptable social behavior, which will stimulate them to apply this in their society. The ad will seem very pleasant for guys, since it promotes the idea that men are strong, tough, and always win. And this will probably encourage them to apply that in their society. However, what people won’t think about while watching the ad is how it gives guys the desire to become violent, especially against women. Jean Kilbourne says that when women are constantly shown as objects, the abuse and the violence makes a chilling kind of sense (qtd. in Plank). And this supports what Freeman and Merksin have mentioned in their article about women enduring “a cycle of objectification, fragmentation, and consumption” (458).

Cory Noonan addresses the people who oppose harmful stereotypes in advertising, asking them to “Learn to vote with their money.” He closes his article by saying “Take it or leave it.” Noonan uses this argument to defend advertisers in using stereotypes. I do not think that this makes advertisers less guilty, but it points to a very serious step we, as audience members, can take: voting with the wallet at this point would be a rational choice and will give us the chance to express our position about the issue. If we fight against it enough, it will definitely result in advertisers thinking twice before presenting such stereotypes. However, we also come to realize that only a small number of people are actually able to make a distinction of the stereotype in a commercial; people just get harmed by it but rarely realize this because most people, when watching an ad, won’t think deeply about it. This is implied in the McDonald’s commercial. Because the ad is funny, it never gives the audience the feeling that it ever carries a cruel message. This kind of naivety makes the issue bigger. Even when people actually realize it, how many, currently, will take action to the point to be willing to stop buying from the company? Also, let’s think about how many females hate that McDonald’s advertisement but still think MacDonald’s is their favorite restaurant. I am a female, I hate the ad, and I know McDonald’s is my favorite. This makes us comprehend that the main problem is that people do not recognize the issue enough to actually take action. That’s why our role is to fight against it, and the first step is through increasing the awareness of the issue itself, until we reach a point where people are willing to give up buying the product. If people truly know the actual result of such ads, they will come to realize that the quality of the product does not matter as much as do the values of our society. I stress that our action through the issue does not mean that it is not the company’s complete responsibility not to present such cruel stereotypes, but it is rather the most efficient way, since government censorship is a tricky business.
What I have done in this paper was nothing but stating the obvious. It is not necessary to pinpoint all advertisements that contain stereotypes and attempt to ban them, but it is definitely necessary to stand against those that hide evil messages and stimulate the society to behave in an inhumane manner, such as the McDonald’s ad. Our society becomes very flexible when it comes to stereotypes in advertisements; it is the advertisers’ choice whether to promote a positive or a negative vibe in it, of course, through what they choose to illustrate. However, as audience and shoppers, we have the choice to minimize the issue, or make it grow bigger.

Works Cited


Biography

Razan Al-Fehail, a 19-year-old Sudanese teenager who was born and raised in Qatar, successfully enrolled at Texas A&M at Qatar and began her journey in studying chemical engineering. Razan has taken the advantage of living far away from her hometown to immerse herself in new cultures and gain familiarity with the unfamiliar. Her dream is to make use of all her life lessons and be productive. She is passionate about the past and present, about the old and modern music, about Jane Austen and John Green.
Byanne Malluhi

The piece that I have contributed is a proposal to develop a chapter for an online book called “Engineering Communication in the Arabian Gulf.” The chapter that I proposed to develop investigated the relationship between communication and the engineering work hierarchy. This was a required assignment in my Technical Writing class where we explored several technical writing genres that will be used in our profession as engineers. Proposals were the first pieces of writing we studied and in order to effectively learn about their content, style, format, and writing mechanics, we wrote one. The following piece reflects the basics of how a proposal should look and what it should include.

A Technical Proposal for Engineering Communication in the Arabian Gulf

MEMORANDUM

To:       Technical Writing Instructor
From:    Byanne Malluhi
Subject:  Develop Chapter 4: Engineering Communication in Subfields

Summary and Introduction:

There is a lack of knowledge about engineering communication in the Arabian Gulf setting. Engineering communication is greatly influenced by factors such as language, culture, environment, and work system. As TAMUQ students and faculty, we should not simply rely on Western books, articles, and journals for context-specific information, as these sources can easily be irrelevant to our context. This semester, you issued a Request for Proposals asking students to continue working on your book project, Engineering Communication in the Arabian Gulf. I propose to revise chapter four, Engineering Communication in Subfields, to further develop the book for a context particular to the Arabian Gulf. Of the factors that influence engineering communication, the focus of this chapter will be on the relationship between communication and work systems. This would include a thorough assessment of how communication occurs across the organizational work hierarchy of Arabian Gulf companies as well as the functions which communication serves within them. Educating TAMUQ engineering students about the demands of writing and communication within their working environment will prepare them in advance with knowledge of what to expect and why. Communication is no doubt an integral part of engineering. For us to understand this communication, we must assess its relationship with the work system. The project will take no longer than three weeks; the expected date of submission is March 19th. The project does not require a budget.
Project Description:

The section that I propose to revise is poorly organized and is missing a lot of necessary information (refer to Appendix A to view the current outline of Chapter 4 with my comments and concerns). Although the limited information in the chapter is useful, it is not structured in a way that helps the reader relate the writing to the main point. The chapter also does not discuss significant aspects of engineering communication, like roles of genre and how engineers communicate between subordinates. The chapter also lacks analytical interpretations of why a system of work requires certain communication styles as it only explores one case study. The existing gaps in the chapter make it difficult for the eager engineering student to understand the relationship between the working environment and communication in the Arabian Gulf. I developed a thorough understanding of an engineering hierarchy and its ways of communication from reading Writing Power by Winsor. I am capable of conducting the appropriate research methods to close the existing gaps as much as possible.

Project Deliverables:

Below are bullet points of the specific products that I am proposing (refer to Appendix B for the proposed headings and sub headings for Chapter 4):

- A new and revised section: 2. Arabian/Gulf Companies’ System of Work. This section will include a new case study of Qatar’s system of work, with more elaborate information on the general structures, common procedures and protocols, and how a company establishes common ground. The ways in which a working division runs and the way in which communication is practiced are two very overlapping ideas, and it is impossible to talk about one and leave the other. This is because the types of communication that occur are greatly influenced or sometimes determined by the system of work of the company. Therefore, it is important to assign a whole section focusing on a system of work to the chapter.

- A new section 3. How Engineers Communicate, which will merge the current written section, 4. Teamwork, as well as provide more information on communication that occurs across the hierarchy, particularly engineers with engineers and engineers with project managers. In an engineering environment, communication has to occur among and throughout sectors and across the hierarchy in order to execute projects efficiently. Therefore, an understanding of the means of communication would prepare the readers for what is expected of them.

Project Constraints:

The project will not offer comprehensive discussions about all levels of communication across the hierarchy. Specifically I will not discuss how engineers communicate with technicians, clients, workers, other companies, etc. It will predominantly focus on
communication that occurs between engineers and between engineers and managers. Also, I will not explore details about certain communication functions such as generating and storing knowledge or stabilizing power structures. It will primarily focus on functions of collaboration (teamwork) and maintaining order (how work productivity is kept under control).

**Research Methods:**

**Primary Research:**

I will conduct two interviews; one with a chemical engineer and the other with a mechanical engineering senior who completed an internship in Qatar. I have no relationship with the first interview candidate and have contacted him through email after finding his credentials on the company’s website. I chose him because he is an experienced engineer who has been working in Qatar for a while. The second interview candidate is a good friend of mine who readily accepted my request for an interview. The two interviewees come from different engineering majors, and this facilitates an analysis of the differences and similarities in communications within engineering subfields. Both interviews will help me gather information about an engineer’s daily communication and writing tasks, as well as the system of work in their subfield. To view the interview questions see Appendix C.

**Secondary Research:**

I will research theories revolving around communication in engineering centers, mainly from *Writing Power* by Dorothy A. Winsor. The book discusses this topic in a Western setting, but it will be noteworthy to realize where ideas of communication overlap in Western vs. Arabian Gulf centers. Another e-book from the TAMUQ database called *Communication Patterns of Engineers* by Carol Tenopir will also be used for similar reasons. These sources would help develop good arguments about the importance of communication in engineering centers, as I understand the theories behind why they work. Secondary sources will offer me insight on engineering communication that would help me develop questions for my primary research. It will also help me interpret interview results because of the knowledge and insight secondary sources have. If, in the course of the project, I find that more information is needed, my secondary research will focus on scholarly articles, research papers, and websites (refer to Appendix D for specific secondary resources that I have looked through).

**Risks and Alternatives:**

Risk: There is a possibility that the interview with the chemical engineer does not get approved.

Alternative: I will try to find a local replacement. A local possibility is my father's friend, a chemical engineer at a different company. And as a last resort I will interview my uncle who works as civil engineer in the UAE.
Risk: The proposed list of headings and subheadings (in Appendix A) may not resemble the final outcome. This could be due to several reasons including:

- Discovering a better way to organize the ideas
- Not having enough information for a section that would be removed or replaced

Alternative: A different and more suitable list of headings.

Time Line:

<table>
<thead>
<tr>
<th>Due Date</th>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb 22th 2015</td>
<td>Complete the sections that only require primary research</td>
</tr>
<tr>
<td>Feb 25th 2015</td>
<td>Interview with mechanical engineering intern</td>
</tr>
<tr>
<td>March 6th 2015</td>
<td>Interview with chemical engineer (tentative)</td>
</tr>
<tr>
<td>March 10th 2015</td>
<td>Complete the first draft of Chapter 4</td>
</tr>
<tr>
<td>March 12th 2015</td>
<td>Allow peers to read through and check my work</td>
</tr>
<tr>
<td>March 17th 2015</td>
<td>Revise my work</td>
</tr>
<tr>
<td>March 19th 2015</td>
<td>Submit Chapter 4</td>
</tr>
</tbody>
</table>

Budget:

The project does not require a budget.

Conclusion:

This proposed chapter would greatly improve the quality of the book as it would be the only chapter that deals with the intersection between the system of work and the means of communication. I have proposed to develop Chapter 4 by reorganizing the chapter’s content and developing sections 2 and 4 with context specific information. The primary audience, engineering students in Qatar, would value such information because it would not only give them insight to the atmosphere of working in a local engineering company, but it would also give a sense of the technical communication and writing that has to take place. The request for proposal highlighted the issue that there are very few publications on Arabian Gulf engineering and communication practices. The chapter I am proposing to revise tackles the crux of this issue, because not only will it provide valuable information, it will also target an Arabian Gulf audience.
APPENDIX A:
Current Chapter Four Outline with Comments

Current Outline

TOC Title: Engineering Communication in Subfields

Chapter Title: Engineering Teamwork and Sub Disciplines in Qatar

1. Engineering Industries and Sub-Disciplines
   1.1 Main Industries/Companies List & Brief Descriptions

2. 2.1 Sub Discipline Descriptions

3. Arabian/Gulf Companies Systems of Work
   3.1 Procedures

4. Team Work
   4.1 Engineering Team Structure
   4.2 Work Distribution
   4.3 Overlap and Cooperation

5. Ethics and Priorities
   5.1 Code of Ethics of Sub Discipline

Includes information that does not seem very relevant to the subject of chapter

An important heading that needs further development

Nothing written under the following headings, which don't seem to relate to the subject of chapter anyway

Titles are different

No title??

An important function of communication. However there are unmentioned others.
APPENDIX B:
Proposed Headings and Subheadings for Chapter 4

New Outline

TOC Title: Engineering Communication in Subfields

Chapter Title: Engineering Communication in Subfields

1. Engineering Industries and Sub-Disciplines
   1.1 List of Qatar’s Main Engineering Industries
   1.2 TAMUQ Sub-Discipline Descriptions

2. Arabian/Gulf Engineering System of Work
   2.1 General Structure
      2.1.2 Case Study: Engineering in Company 1
      2.1.3 Case Study: Engineering in Company 2 (tentative)
   2.2 Common Procedures/ Protocols
   2.3 Roles of Genre

3. How Engineers Communicate
   4.1 Within a Team
      4.1.1 Engineering Team Structure
      4.1.2 Teamwork
   4.2 With Project Managers
      4.2.1 Maintaining Common Ground

Appendix C:

Interview Questions

Questions for Experienced Engineer:
1. Introduce yourself to me. What is your name, education, work history?
2. What types of projects do the engineers work on in your respected field?
3. How is a team of engineers working on a project usually organized?

4. Talk me through the paper work that has to be done while completing a project starting from the proposal.

5. Describe the system of communication and the means of which you use to communicate.

6. How does communication occur through the hierarchy, from technicians, to engineers, to managers?

7. Managers are relatively more focused on minimal budget and time, engineers are focused on quality of the project, so how does everyone that is involved in a project establish common ground?

8. We have established how communication helps with teamwork and common ground; what other functions does communication serve?

9. How does the communication/writing of newcomers differ from the communication/writing of experienced individuals?

10. Is there an impact of technology/development in the way communication occurs?

11. Do you see a place of improvement in communication? If yes, why and where?

12. A final question, from your experience is there any differences in communication between subfields?

**Questions for Student Intern:**

1. Introduce yourself to me. Your major and where you have interned?

2. What did you do in your internship?

3. How did communication occur between engineers? Meetings, emails, presentations?

4. How influential were managers on the work of engineers?

5. How did engineers communicate with technicians?

6. Would you describe the working structure of an engineering company as a hierarchy? Why or why not?

7. How did the company establish a common ground for the project you were working on?

8. In what situations during your internship did you realize the significance of technical writing/communication?
9. (After I explain the term “distributed cognition” to them.) How do you think this term applies in an engineering environment?
10. What functions do you think communication serves? And how does it occur?

APPENDIX D:
Secondary Resource Examples
Books
• Writing Power by Dorothy A. Winsor
• Communication Patterns of Engineers by Carol Tenopir

Articles
• Title: Trans-discipline engineering communication characteristics and norms: An exploration of communication behaviours within engineering practice
  Authors: Mary K. Pilotte, Diana Bairaktarova, Demetra Evangelou
• Title: The Visual World of Engineers: Exploring the Visual Culture of Engineering as an Essential Element of Communication from Design to Production
  Author: Elena A. Danilova

Websites
• http://writing.colostate.edu/guides/guide.cfm?guideid=84
  The website serves as a writing guide for engineers. It offers information on the different types of communication engineers use. It also has a section dedicated to different perspectives and advice on engineering communication from experienced engineers.

Biography
Byanne Malluhi is a current chemical engineering sophomore. She is anxious to finish her engineering degree to pursue a master and PhD degree, in what she thinks is far more interesting, biological sciences. Her dream is to become a professor to teach and share all that she learnt. She also loves self-reflecting and creative writing. Her motto that keeps her going: no hard work goes undone.
Samozai Farheen Mansoor

The following work is a poetry piece that highlights the analogy between stars and life’s blessings, and how the two are akin to each other with regard to their imperceptibility and incomputability.

A Thousand Stars

Through cold streets and cobbled paths,
I make my way through the stumbling dark
of despair, ignorance, fear and hurt,
searching – now frantic – for a guiding spark.
With a sinking heart, I turn my face up,
to the desolate, moon-bereft sky;
A solitary star flickers, desperately,
as it massacres my quaint expectations; I cease to try.

I run blindly, desperation governing each step,
struggle to escape this numbing dark.
My feet fly out from under me,
yet barely even leave a mark.
Suddenly, I am soaring,
borne aloft, I trip, and
with a thud, ’m brought down to earth;
pain-benumbed and tasting sand.

In trepidation and cold sweat,
I steal a glance; my blood runs cold –
for, in this abruptly brighter mishap of a street,
amidst the dampness, rot and mould,
I’d stumbled upon one that could see naught.
Aye, not a glimmer pierced those eyes!
But when those lips broke into a smile,
I swear I could have thought otherwise.

With gentle words, he reached out to me;
slowly, surreally, my regrets fall away.
And when he spoke, I could see
the light within him – greater than that
the eyes could ever ensnare.
I walk away a different person, a different entity,
exhaling a beholden, long-overdue prayer.
A smile of gratitude cracks my face
as I look skywards, meet the sparkle of
a thousand stars.

Explication of “A Thousand Stars” by the Author

Stars, we know, are always in the sky, whether we see them or not. On first view, the sky (your life) may look starless and “moon-bereft”, but when you stare hard enough, you begin to see the stars, and then they’re just uncountable. They’re everywhere. This is symbolic to life’s blessings. In order to see them and make the most out of them, you have to want to see them.

The first stanza depicts hard times in life and how one would normally react to them when in “despair, ignorance, fear and hurt.”

The second stanza shows the narrator “running away desperately” from life and its problems as he is not able to see a light or a source of hope. His feet fly out from under him (his life passes by, day by day) yet barely even leave a mark (he feels he is unable to make his mark on the world or change it in any way). As he trips and falls, he is forced to stop and rethink his outlook on life.

The third stanza finds the narrator on the ground, glancing over his shoulder to see what he has tripped on. “ Abruptly bright mishap of a street” – The street represents life, it is abruptly brighter because he suddenly realizes that the man who he tripped on in his haste is blind, and in comparison, the narrator’s life seems much brighter all of a sudden. The blind man represents those who are less privileged than us. Yet most of them make more of their lives than we do (“I swear I could’ve thought otherwise”).

The fourth stanza sees the narrator realizing that although the man cannot see, the “light” within him (which can represent his wisdom or his appreciation of life) is much greater than any amount that can enter the eye, and well over-compensates for his lack of vision.

In the last few lines, as the narrator walks away, he feels changed as a person. He looks up again at the sky and he is now able to see the thousands of stars that are – and always have been – up there, waiting to be discovered.

Biography

S. Farheen Mansoor is currently a Mechanical Engineering sophomore at Texas A&M University at Qatar. She was raised in Qatar and loves animals, countryside, mountains, beaches and small towns. She is very passionate about writing both prose and poetry. In her free time, Farheen loves to organize and categorize her papers and her massive book collection. Her favorite poets include John Keats, William Blake, and William Wordsworth.
Moza Ahmad AlObaidan

In my Composition and Rhetoric class, we were asked about our writing rituals, a question that confused me. And since it took quite a lot of time for me to answer, more than what I expected, I decided to do a study about myself as I write. This article, however, is a brief summary of what I learned from my self-study. My goal of writing this piece is to let others know that by doing this study, they will notice the small details they used to do, and perhaps still do, without realizing them. This study will help you know more about yourself, I believe.

In the Middle of My Thinking Universe

The little details keep mysteriously hidden until someone brings them up. I realized this after a question that was thrown randomly to me by my Composition class’s professor. She simply asked, expecting a direct and quick answer. This answer, frankly, has taken hours to cross my mind. To me, I see it as a simple yet complicated thing! Perhaps this is not the case with everyone, but the thing is, I did not feel myself continuously falling into those things except when I had heard the lively question that leads to them. This reminded me of the feelings of Donald M. Murray, a sophisticated writer who was surprised by the results he got after being interviewed by Carol Berkenkotter: “I realize how eccentric my work habits appear. I am aware of how fortunate I am to be able to work with my wife” (233). However, I think of my writing process more as a ritual than a habit. So, “What are your writing rituals?” my professor had asked.

As I drink my cup of coffee, or more accurately, feel its presence next to me while listening to a light soft music, the answer is being ensured to me. I wondered when and how these things stuck to me with writing, and I discovered that the Academic Bridge Programming played a big part of it. As a very, very beginner writer, I tried to escape from writing without admitting it to myself, to avoid the feeling of guilt. It was when my previous Composition class’s teacher first assigned us to write an article, a response paper, which was new to me. I went to Starbucks, ordered a coffee, and opened my laptop. I kept staring at the screen while listening to music to get into my own world far away from the outside noise. I started to type some words whose accuracy I do not actually remember, but from that point, I never left my coffee and headphones. Along with that, I now notice that I do play with my lips, which is a meaningless weird habit whenever I stop for a while, thinking of the sequence or phrasing of the next to-be-told sentence.

Prior to that, and while planning or brainstorming the ideas, I always walk. No matter where I am, at home or university, I keep endlessly walking until everything is settled and apparently done in my mind. I weirdly react with my thoughts, and I sometimes face problems with others because of my unbalanced expressions. Once my friend came to me hiding her laughs as she told me about her cousin who was saddened from me. I asked her about the reason, and she said that I saw her cousin, stumbling almost going
to fall, and kept obviously smiling while looking down, nearly laughing at her; then my expressions changed and I frowned and bit my lips while looking away. They did not know that I was smiling to the idea I finally got for my next blog post, then got confused of how the opening of it would be; I did not even see or recognize her cousin in the middle of my thinking universe.

While writing, I keep anxiously looking away from the screen whenever my thoughts get mixed. I write, delete, and then write again endlessly. A single short paragraph can sometimes take me more than 30 minutes. I now notice, while keeping in mind that I want to know more about my doings as I write, that I get out of my own control even though I try to keep an eye on my actions; in other words, I realize them later. The more I reflect on my writing process, I am certain that I will come to know even more about myself as a writer and will probably be just as surprised from the results as Donald Murray was.

Works Cited


Biography

Moza Ahmad AlObaidan is a freshman Electrical Engineering major at Texas A&M University at Qatar. She graduated from AlBayan International Secondary School. She is very interested in the fashion field, but she decided to earn an engineering degree to help develop her country to a better and brighter future. She always aims high.
Overcoming Obstacles
Shaikha Nasser AlJaber

This essay was written for my Composition course in Spring 2015. It is about my younger brother as he is the one who made me stronger and made me the person I am today. This essay is like a thank you to him and how grateful I am for having him in my life. Although this essay is not my first nor my last, I consider this one the most precious one, and I think while reading it you’ll be able to figure out why. I’m not a writer and I never wanted to be one, but sometimes we should do what we don’t want to do.

The Source of My Strength

I’m the only daughter between three brothers. As an only daughter, I’m supposed to take care of my brothers and to make sure that they won’t need anything when my mother is away. I think being the only daughter has taught me to be independent, confident, and caring.

I learned to be independent at a young age, beginning when my mother used to teach us and solve our homework with us. I remember when we were in the living room with my mom sitting at the head of the table while I was on her left and my elder brother on her right. She would focus on my brother while leaving me alone to solve my homework. She was always telling me, “You are different, you are smarter, that’s why I’m not afraid if you do your homework alone.”

After solving our homework, my elder brother and I used to play together (when I say “play” I mean we sometimes fought instead). There were just two kids in the family at that time, just my brother and me. When my second brother came and joined our family, we went to UAE. My elder brother and I were running to press the elevator key first. We entered the elevator without my parents and my second brother. I think we went to the wrong floor and ended up in front of an apartment crying and asking for help. When the police officer came, I tried to be stronger and show him that I was not afraid any more because I knew my parents went to the restaurant, but I wasn’t sure which floor the restaurant was on. When we reached the right floor, we played as if nothing had happened.

Two years after that incident, my youngest brother came into our lives. We realized he was different when he turned two years old but wasn’t able to talk, and when you called him by his name, he wouldn’t reply. My parents went to many places to diagnose my brother. After going to various hospitals and doctors, he was diagnosed with autism. We went to Bahrain, where we stayed for a month because there was a good doctor there who might help. When I asked my mother why my brother is not talking, she told me “He’s just different than the other kids. He is special, and when you grow up you will know what I mean.”

Everyone in our big family knew about my brother’s situation. I have a total of 12 aunts and uncles from my mother’s side and six uncles and aunts from my father’s side.
Therefore we have many cousins and some of them are my younger brother’s age. When we went to our grandfather’s house, some of my cousins would hide or cry when they saw him. That is because his way of playing was different than their way. He would grab your shirt or pull your arm to have your attention. Whenever I saw my cousins feeling afraid of him, I would feel bad because I know how good my brother is and that he just wanted to play with them.

To be honest, whenever I felt bad for my brother, I started fighting with my cousins who were my age and had brothers and sisters of my younger brother’s age. I would fight and eventually I would win because I would cry and go to my youngest aunt and say, “Everyone is hitting me, and they don’t want to play with me.” I would cry louder which made her feel more sorry for me. Then she would be on my side and make my cousins cry by yelling at them, “She’s just a girl! You shouldn’t treat her like this. Be good to her or else.” (Is it because I look like her that she was always by my side?)

Among my cousins who were my age, I was the smartest. I’m not being arrogant – that is just what everyone always told me. I think that is why when I was in grade six my mom told me, “Shaikha, you’re old enough to use the computer by your own and do what the school asks you to.” I was happy because I loved the fact that I’m the one responsible for doing my work and no longer had to ask my mother to do it because she gave me the green light to use the computer on my own. My brothers still depended on my mother to do their computer related homework, and they didn’t want to do their work by themselves.

In the sixth grade, my school friends were always chatting about different kinds of game websites. They told me to type “games” in Google to find thousands of websites or try www.g9g.com. So I decided to give it a try, and I played whenever I had free time. My brothers were curious and they, too, wanted to try my games. My mom had to make a schedule for us so we wouldn’t fight. My younger brother watched us whenever we played or worked. He was curious about the computer and how it worked. We allowed him to play whenever we found an easy game.

One day one of my brothers was playing “Hot Dog Bush” while my younger brother was watching him. I don’t know why, but my younger brother became obsessed with that game. He would cry until we opened it and let him play for a while, and then when any of us played, he would grab a chair and sit next to the one playing and watch. He was so obsessed that sometimes we would hide in our rooms or in the bathroom so he wouldn’t force us to play. He loved computers so much that he would not let us work; he would cry to be the one sitting in front of the computer. That’s why my mom told us “Leave your work on the computer until he sleeps.”

We moved from games to educational videos and music on YouTube for my younger brother. We would open a video on YouTube (for example, the Alphabets song) for him,
and after a while we would find him watching something else. After a while, we saw him going to the history bar and changing the video or going to another website he wanted. No one taught him this – he actually taught himself. He began using the computer better than my other two brothers.

When my brother was 10 years old, iPads were released and we bought one for him because he was in love with electronic devices. We downloaded some games on the iPad, and he would open them, close them, delete them, and play on his own. He actually played PS4 better than I did! He sometime changes the setting of the TV without any help, like changing the language or blocking some channels. Whenever we figure out that anything was changed on the TV, we would know that my youngest brother did it. We never get mad because this showed us how smart he is. He’s also left handed, isn’t it obvious?

When I was 16 years old, I attended a few autism events with my mother, including one at AlShafallah where my younger brother studies. I remember the big entrance, the classes on my right, and the valley in front of me leading to the conference room. I remember sitting in the fourth row to the left, listening carefully to what the instructor was saying about how to communicate well with an autistic child and some good techniques that any mom could use.

When we went to meet his teachers, they told me and my mother, “Abdullah is the best one in the class; he’s willing to learn, and happy to play or do things. He’s also clever.” When I heard this, I was very proud and I almost cried, because although he was different, he was still better than others.

I feel bad when people don’t know what autism means and just make assumptions. I remember when I was in middle school in English class, one of the girls was making fun of another girl because she was sitting alone. She said, “What’s wrong with her – does she have autism?” When I heard her sentence I was angry, so very angry that I wanted to punch her and cause her brain damage that when she wakes up she will know what autism is. But I removed these ideas and told that girl, “If you don’t know anything about autism, you should keep your mouth shut and never make fun of others.” When the class ended, I cried outside and my friend told me, “That girl is stupid and she just wants attention, that’s all.”

People tend to make assumptions without realizing what’s going on. When they see someone alone in a restaurant, they might say “Oh, no one likes him.” or “He doesn’t have any friends.” or “He has autism, that’s why he is sitting alone.” We shouldn’t judge people on their appearances without knowing what’s going on in their lives.

When I used to go out with my family including my younger brother, he would show some weird actions like sitting on the floor and crying if we didn’t buy him a new game, or pantomiming as if he’s drinking when he’s thirsty just to show us what he wants; it’s
his way of communicating with us. We see people’s eyes looking at us with sympathy because my brother looks 100 percent normal, but they just don’t know what’s going on.

People should stop making assumptions and stop judging others and mind their own business. Few people, excluding my family, know that my brother has autism, and whenever I tell them they would look at me with sympathy. I don’t need their sympathy because I know that although we have gone through a lot, my brother is a gift. He’s not so different from me, you, or anyone else; he’s just a special one.

When someone gives you a gift, you’ll take good care of it because it’s a gift. My brother is gift from God and we’re doing our best as a family to take a good care of him. Even if we struggle, even if we can’t understand him, even if we are not living like others, we are proud of him. By being with him, I have learned a lot, things people might not understand because they haven’t experienced it. It’s like trying skiing and you’re friends asking you how it went. You won’t be able to tell them; they’ll just have to try it on their own. One of the reasons I’m strong is because of my brother; he might also be the reason I’m open minded and people like it when I give them advice. I think he was also the reason for my passion for reading. I wanted to learn more through reading to help him, and to be by his side because one day he’ll be someone who inspires people and helps others in his own way.

Biography

*Shaikha Nasser AlJaber dreams of being a Chemical Engineer.*
The Gender Gap in Engineering: Effects of Using Gender as a Social Structure on the Underrepresentation of Women

Introduction

Science, technology, engineering, and mathematics (STEM) fields are considered critical to economic advancement; expanding the workforce in these areas is vital to develop a nation’s economy. The existing workforce is predominately male; in order to expand in these fields, it is important to attract women and, just as importantly, to retain them. The underrepresentation of women in STEM fields has led to overlooking women’s needs and catering advancements for males only. For example, the first generation of airbags in cars, which were developed by a male-majority group, were made specifically for male bodies; this created danger for female passengers [1]. If female representation had been present, this issue could have been avoided.

In order to integrate more women into the STEM workforce, it is important to look at the reasons why women are underrepresented in the field. The gender gap in engineering can be attributed to using gender as a social structure at the individual level, the interactional level, and the institutional level. The individual level involves the socialization of people into gender identities; it is what develops “gendered selves” [2]. The interactional level deals with facing different expectations based on gender, which includes gender stereotypes and people’s expectations of gender roles [3]. The institutional level involves formal organizational divides between genders, such as resource distribution. These levels do not operate distinctively, but they work together to perpetuate gender stratification, leading to the underrepresentation of women in engineering. This paper focuses on how the gender structure affects females at the interactional level, looking at how stereotype threat, self-assessment, intelligence mindsets, and spatial skills limit women from entering and staying in the engineering field.
Background

The gender division in engineering undergraduate degrees and the engineering workforce in the United States is presented in Figure 1 [4]. The percentage of female engineering undergraduates is significantly lower than males, and the gap increases even further when moving on to the workforce. In Qatar, the percentages of males and females in STEM is presented in Figure 2 [5]. Data specific to engineering was not found. The percentage of female tertiary graduates in STEM is significantly lower than the percentage of students.

Figure 1. Engineering undergraduates (a) and the engineering workforce (b) in the United States

Figure 2. Gender division of tertiary level STEM students (a) and graduates (b) in Qatar
I. Threat of Stereotyping

Gender stereotypes play a large role in the underrepresentation of women in engineering. The main stereotype which negatively affects girls in STEM is the belief that males are naturally better at mathematics than females. This leads to the threat of stereotyping, which creates the additional burden on girls of worrying they will contribute to the stereotype, negatively affecting their performance. The existence of this threat can lead to girls avoiding these situations, and, consequently, to their “disidentification” within the entire STEM field. Many report they are not interested in the subject anyway, avoiding confronting the negative implications of the stereotype [6]. Even if people deny they believe in this stereotype, the belief persists unconsciously as implicit bias, which could lead to discouraging girls from pursuing STEM education from a young age.

II. Role of Self-Assessment

In a 2004 study by Shelley Correll, a sociology professor at Stanford University, it was shown it was not gender, but cultural and social beliefs on gender, that affected students’ self-assessments of their math skills. According to Correll, “Boys do not pursue mathematical activities at a higher rate than girls do because they are better at mathematics. They do so, at least partially, because they think they are better” [6]. In the study, when a test group made up of equal number of males and females were told “men are better at this task,” women consistently underperformed when compared to the men in the group. When the group was told “there is no gender difference in performing this task,” there was no measurable difference in the performance based on gender. Another outcome of the study is that in the former group, women consistently held themselves to higher standards than the men [6]. The study suggests that if women think they must have higher skills in order to do well in STEM fields, fewer women will enter those fields even when they have the same abilities as their male counterparts. Women’s negative self-assessment, encouraged by social norms and constructs, tends to limit their achievements.

III. Intelligence Mindsets: Fixed Versus Growth

Beliefs about intelligence along with stereotypes have a large impact on females’ performance in STEM fields. There are two approaches to intelligence, a fixed and a growth mindset [6]. Seeing intelligence as a fixed trait leads to girls succumbing to the stereotype of having inferior mathematical skills and they are thus less likely to succeed in STEM areas. A growth mindset, on the other hand, promotes persistence whenever encountering challenges; the problem is no longer a lack of ability, but rather a learning and growth opportunity. In order to combat issues associated with stereotypes, it is important to encourage the growth intelligence mindset over the fixed mindset. Girls must be introduced to female role models to counter the stereotypes, and both students and teachers must be taught about the threat of stereotypes so they can put forth efforts to avoid stereotyping. As an example, one way
this could be done is by avoiding gender questions on an exam along with comments about differences in gender performance in class.

IV. Development of Spatial Skills

There is a difference in skill persistently observed between males and females which is considered important for success in engineering: males tend to have more developed spatial skills than females. In a study by Sheryl Sorby, a mechanical engineering professor at Michigan Technological University, female students with less developed spatial skills tended to face frustrations in introductory engineering courses, especially courses involving isometric drawing. Sorby found 3D spatial skills can be developed over a short period of time, thus increasing female student retention in engineering majors [6]. This issue could be avoided by addressing it when girls are at a younger age. Debbie Sterling, founder and CEO of GoldieBlox, Inc., links the development of those spatial skills to playing with construction toys. To develop girls’ spatial skills, she started a line of engineering toys for girls called GoldieBlox. It utilizes the verbal skills girls already have by including a book about a female engineer, so girls can follow her adventures and build at the same time, developing their spatial skills along the way. Toys like GoldieBlox can help develop these vital skills for girls from a young age, mitigating the spatial skills hindrance to girls’ advancement in STEM areas [7]. Thus, it is important to understand spatial skills are not innate skills that males possess, but they are skills females can develop.

Conclusion

The underrepresentation of women in engineering can be attributed to using gender as a social structure. Most of the reported problems involve the consequences of gender structure at the interactional level, focusing on gender roles and expectations. To overcome these problems, it is important to combat the threat of stereotypes by encouraging the growth intelligence mindset over the fixed mindset, by introducing girls to female role models to counter the stereotypes, and through understanding that spatial skills are not innate, and can be developed in girls from a young age. The solutions presented for each issue can help increase female interest and advancement in engineering.

References


Biography

Noor Alakhawand is a Mechanical Engineering major in the Class of 2016. Her main interests involve science fiction, dystopian and satirical literature, and discussing social issues. Noor would like to work towards creating a future without gender discrimination.
Mansoor Abbas

Social responsibility, as a necessary consideration for professional decision-making, has its proponents and opponents. Some view it as an important obligation in a vocation that inevitably produces externalities on various publics, while others doubt its necessity and claim that it is an unnecessary burden on the rights of the engineer. The focus of this paper is to explore the need and practicability of social responsibility as a concern in the decision-making process of the engineer. I wrote it for my Ethics and Engineering class in Fall 2014.

Utilitarian Consequentialism and Social Responsibility in Engineering Ethics

The famous Ashtabula Bridge and Tay Bridge disasters marked the beginning of a new era in engineering ethics. Much of the engineering profession has since realized the limitations of deferring ethical responsibility entirely to the individual engineer. Hence, standardized codes of conduct and ethics have been established to guide the engineer in making professional decisions. The idea behind such codes is that the common values and interests of the engineering profession as a whole are better protected if decision-making is guided by a mutually agreed collective conscience instead of a personal one [1]. One fundamental canon of this mutually agreed collective conscience that has generated considerable controversy in recent years is that of social responsibility.

Social responsibility, as a necessary consideration for professional decision-making, has its proponents and opponents. Some view it as an important obligation in a vocation that inevitably produces externalities on various publics, while others doubt its necessity and claim that it is an unnecessary burden on the rights of the engineer [2]. The focus of this paper is to explore the need and practicability of social responsibility as a concern in the decision-making process of the engineer. The main thesis is that the engineer should possess a sense of social responsibility based on utilitarian consequentialism in today’s world of constrained professional agency, and that such a sense of social responsibility does not burden the rights of the engineer unduly. This paper is divided into four parts. After defining social responsibility, it discusses the efficacy of the utilitarianism doctrine in making socially responsible engineering decisions. Next, the matter of constrained professional agency and the relevance of consequentialism are discussed. The paper concludes with a rebuttal of the rights-violation and competent creation arguments against social responsibility.

Before the discussion proceeds, the term social responsibility must be clearly defined. According to Baillie and Pritchard, social responsibility is “a commitment to a socially just, equitable, and sustainable world” [3]. However, this definition is very subjective in nature and raises jurisdictional questions. What exactly is a socially just, equitable, and sustainable
outcome? Who decides whether an outcome is socially just, equitable, or sustainable? To avoid these confusions, the definition presented by Baillie and Pritchard has been tweaked slightly. For the purpose of this paper, social responsibility is defined as a commitment to hold paramount the safety and welfare of the public – which is a more tangible end than that described by the Baillie and Pritchard’s definition presented in Conlon’s paper.

Social responsibility is an important decision-making concern in engineering because the profession works for the public. According to the National Society of Professional Engineers (NSPE), engineering is the “knowledge of the mathematical and natural sciences gained by study, experience, and practice to develop ways to economically utilize the materials and forces of nature for the benefit of mankind” [2]. Merriam-Webster, on the other hand, defines engineering as “the application of science and mathematics by which properties of matter and the sources of energy in nature are made useful to people” [2]. Common to both these definitions of engineering is the idea that the engineer works to add value to human life by contributing to the making of useful devices, machines, processes, and structures. By extension, the engineering judgments, decisions, and practices that are incorporated into these devices, machines, processes, and structures directly influence public safety and welfare [1]. When this is the case, it is the engineer’s moral obligation to consider the manner in which professional decisions might influence other people.

The question is then not whether but how the engineer should be socially responsible, and the answer is utilitarianism. Put simply, utilitarianism is the doctrine that a decision is ethically correct in so far as it promotes the greatest good for the greatest number of people [2]. By working towards maximizing good and minimizing harm for the maximum number of people, the engineer acts in a socially responsible manner while holding true to the fundamental promise of engineering: to add value to human life.

Consider the example of William LeMessurier. When building the Citicorp tower, he was faced with an ethical dilemma: is it acceptable to compromise on safety by putting the building braces together using cheaper bolted joints instead of welded joints? LeMessurier went out of his way to ensure that all braces were welded together [2]. In utilitarian terms, this decision is ethically correct; by choosing welds over bolts, LeMessurier put public safety over private monetary gain and therefore the good of the greatest number of people over the good of a smaller number. This is also the socially responsible outcome, because it demonstrates a commitment to hold paramount the safety and welfare of the public over such other concerns as cost reduction.

A utilitarian approach is also important vis-à-vis the common values and interests of the engineering profession as a whole. Like any other field of work, engineering has to undergo a continuous process of professionalization to maintain its position and recognition in society. As Greenwood correctly points out, professionalization
presents a simple trade-off to the engineer: “more compensation and social status for more responsibility” [4]. However, Stieb rightly points out that it is more important for the engineering profession to avoid disapproval of the public rather than gain its approval - because the social costs associated with disapproval outweigh the benefits associated with approval [2]. This is where utilitarianism becomes a consideration. As the engineer is motivated by adding value to human life, an idea central to the definition of engineering, there will inevitably be situations wherein his or her work will be judged by some public or the other. In such situations, the engineer has a great obligation towards the engineering profession at large: to protect the common values and interests of the vocation by demonstrating social responsibility. This entails demonstrating a commitment to the public safety and welfare in professional decision-making, and utilitarianism again presents the best possible outcome.

Consider again the example of William LeMessurier [2]. By choosing welds over bolts, LeMessurier put the good of the greatest number of people (public safety) over the good of the smaller number (monetary gain of the contractor). This utilitarian decision ensures that the net public approval increases and the net public disapproval decreases. Benefiting the greatest number of people is the optimum solution because it gains the approval of the greatest number and the disapproval of the least, thereby protecting the common values and interests of the engineering profession as a whole. A feature of utilitarianism that is particularly relevant here is its tendency to advocate for the greater good over blind maximization production and economic efficiency – something the engineer is being increasingly associated with because some peers lack the commitment to social responsibility and place greater emphasis on personal gain instead.

The practical problem of constrained professional agency of the engineer forces the utilitarian doctrine proposed by this paper towards some degree of consequentialism. In the simplest of terms, utilitarian consequentialism is the doctrine that a decision is ethically correct in so far as the final consequence promotes the greatest good for the greatest number of people. The idea is, as Riley rightly points out, that social structures and power relations have a direct impact on the agency, or ability to take action, of the engineer [5]. Conlon is correct in pointing out that “commitment to particular outcomes” and “the power to achieve these outcomes” are the two crucial elements of agency [6]. Indeed, the ability of the engineer to be utilitarian in both ends and means is limited because he or she does not always have the power to do so. This ties in well with the observations of Whitbeck, who notes that ethical decisions are subject to such a plurality of constraints that it is unrealistic to expect that all of them will necessarily be met [7]. A similar concept is echoed by Walker, who talks about moral remainders that exist because moral decisions inevitably involve compromise and settling on an imperfect but best possible solution [8]. In such situations, the engineer should focus on the final consequence and not the intermediate outcomes of his or her course of action.
Overcoming Obstacles

– the latter might be a concession to constrained agency but the former should maximize utility for the greatest number of people.

There are two good examples of social structures that inhibit the engineer’s ability to make professional decisions purely based on the utilitarianism doctrine. The first includes undemocratic regimes such as China and Zimbabwe [1]. Professional decision-making in these nations is constrained by political pressure; the engineer is not always able to make decisions that promote the greatest good for the greatest number of people because it might run counter to the expectations of an intrusive government. The second example is religiously inclined governments such as Pakistan and Iran [1]. In these countries, engineering practice is not fully secular and independent; the engineer has to strike a balance between utilitarianism and a code of ethics based on religious principles. Both examples point to the fact that the engineer can only meet utilitarian ideals partially because he or she is usually constrained by such factors as limited decision-making authority in the workplace hierarchy or the employer’s drive for profit.

However, it is important to realize that this does not discount the engineer from social responsibility. It is the responsibility of the engineer to try and follow the doctrine of utilitarian consequentialism: subject to multiple constraints, the ethically correct decision is the one that produces a final consequence that maximizes benefit for the most number of people. Granted, doing so might not always be easy – the engineer cannot always be certain of the ultimate outcomes of his or her work just as he or she cannot be sure whether it will benefit the public, which is a complex entity and not simply the aggregation of individuals and their preferences [1]. However, this is a challenge that the engineering profession must rise to rather than shrink from because it is far more important to hold true to the fundamental promise of engineering (as defined earlier) and, by extension, standards of social responsibility.

A very common grievance against social responsibility is that it is an unnecessary burden on the engineer and that competent creation should be the sole criterion for professional evaluation. Steib, for instance, argues that as long as the engineer’s work is competent, he or she is not unprofessional – regardless of whether the ends of his creation benefit humankind [2]. There are two problems with this argument of competent creation. First, competent creation assumes that social responsibility is associated with good works, or gratuitous service to society. It is important to realize that the social responsibility is at the very least a commitment to hold paramount the safety and welfare of the public and does not necessarily necessitate active service to society. Consider again the example of William LeMessurier [2]. By choosing welds over bolts, LeMessurier demonstrated social responsibility not because he was actively providing gratuitous service to mankind but because he chose public safety and welfare over private monetary gain. And as discussed earlier, social responsibility is essential because it protects the interests of the engineering profession as a whole and holds the engineer true to the fundamental promise of his or her vocation.
Second, competent creation discounts the engineer of responsibility when his or her work directly affects the public. Going back to the promise of engineering, the engineer works to add value to human life by contributing to the making of useful devices, machines, processes, and structures. As such, he or she is in a privileged position to directly influence public safety and welfare. Is it not then the engineer’s moral obligation to consider the effect of his or her work on other people? Consider Stieb’s example of the engineers who built the Nazi concentration camps [2]. Was their work competent in terms of meeting the objectives set by the German Reich? Absolutely – few would argue that the concentration camps were not efficient works of engineering. But was their work ethical? Most certainly not, because the concentration camps facilitated the systematic killing of around six million people in what was the largest genocide in the 20th century. The engineers involved are clearly unethical under the utilitarian consequentialism framework proposed by this paper but, somewhat alarmingly, absolved of any blame under the competent creation framework.

In a nutshell, social responsibility is an important consideration in the decision-making process of the engineer. This is because the engineering profession, by definition, works for the public and must therefore hold paramount the safety and welfare of people. Utilitarianism is a good guiding doctrine for social responsibility because it holds the engineer true to the fundamental promise of his or her vocation while simultaneously protecting the common values and interests of the engineering profession as a whole. However, it must be appreciated that the ethical agency of the engineer is limited by a plurality of constraints. As such, the ethically correct way forward is to settle for the best possible solution (given the constraints) that is as much in line with utilitarian consequentialism as possible. Doing so is a big challenge for the engineering profession but one that it cannot shrink from if it wants to hold true to its fundamental promise of adding value to human life.

References


Biography

Mansoor Abbas joined Texas A&M University at Qatar’s Mechanical Engineering Program in 2011, after spending his high school years in Pakistan. In his spare time he enjoys traveling, playing tennis, watching TV shows, and following soccer matches. He is also an avid reader, although engineering school has limited this pastime to textbooks and lecture notes.
Pavithra Manghaipathy

I wrote this poem on one of those nights when you just can’t fall asleep. I let the anger and fear just pour out of me and let the words be my anchor. The poem is about how we are being taught to become “ideal” students and people. I was feeling frustrated with how the world wants us to take after its model of a “perfect” citizen, student, adult and so many other titles. Our current world has managed to hide behind the facade of promoting individuality while actually trying to make us all the same. Originality is being slowly sucked out of us without us even realizing. This is a poem I did not want to share, to be completely honest, because it’s so raw and personal. However, I believe that showing others that there are people who feel like this could be beneficial.

Conditioned

The worst advice you could ever tell?
“Be yourself! That’ll definitely sell!”
You do not want the real me,
You desire the perfect & flawless effigy
Created and chartered
Through society’s bygone martyrs.

What lies behind the quest for individuality,
Hidden between those claims of fidelity
Is the truth of the non-existent;
The ideal person always willing to consent.
Follow, learn to follow
Learn to lead, by learning to follow
Become who they want you to be
But be yourself and only then will you be free
So go on,

Condition me to become your pawn
For I already do not know where the real me lies,
Behind the fake energy or beneath the wet eyes?

Conditioned,
That is what I have become,
To fit a construct dictated by some
Deemed fit enough to decide
How we must all live to survive.
Conditioned,
Because being your true self is wrong
Weakness, indecision, and irregularity won’t help you last long
Conditioned to always color within the lines
For crossing them would be a crime

Shall I break free?
Cross these lines and flee?
I do not want to be conditioned,
For I am not a commission
Not a project
And maybe I am a useless reject
But at least I can be set free
From being conditioned by society
Isn’t repetition against the rules of good poetry?
Well this is me
Breaking the conditioned ideology.
Yossra Osman

I wrote this piece during the first semester of my freshman year for my English Composition course. This piece discusses my journey through literacy. It reflects on past experiences, both the ups and the downs, the struggles and the successes. It takes you through the journey of how my literacy evolved and concludes with how the journey has shaped who I am as a writer today.

Striving to Survive Through the Journey of Literacy

I sat, shuffling around impatiently, on the corner of the sofa with my little feet dangling down in front of me, peering over at my older sister, who sat so composedly and did her homework on a desk beside me. I remember feeling envious that she was so grown up compared to me and was allowed to sit at my father’s prestigious desk, filled with all the gadgets that I wouldn’t dare to touch. I would sneakily climb off the sofa and skip around the room, with my bare, little feet slapping against the cold, icy tiles, pretending to look for something while secretly having the intention to steal one of my sister’s pens. The desperation to get a hold of a pen and wrap my little fingers around the perfectly curved object and feel the power within my hands was beyond anything I had ever dreamed. I was lost in wonder as I watched my sister read and write and become an intellectual human, wondering whether I would ever be able to do the same.

As I grew up, my mum saw my desperation to read and write like my sister and began to encourage that. Every weekend she would order a Disney book that would arrive by post first thing on a Sunday morning. On the very first day my first book was scheduled to arrive, I jumped out of bed at seven o’clock in the morning and came stumbling down the stairs to see if it had arrived. When to my disappointment it hadn’t, I sat patiently by the warm radiator in the corridor, facing the front door with my little legs crossed over, waiting anxiously for it to arrive. When I heard the clanking noise of something coming through the letter box, I ran to grab it. To have my hands on a hard cover book and smell the freshness of the crisp new pages was a joy that could not be exceeded. The pictures of Aladdin or Sleeping Beauty on the front cover were so exciting, so tempting, so daring, but when I opened the book I would shrink back in fear for the words seemed microscopic and intimidating. I would flick through the pages impatiently trying to scan the images and read the book visually, and then after several attempts of trying to pronounce really long words like because and magical (which I wasn’t in a high enough reading group to be able to accomplish), I would run to my mum and beg her to read it to me. When she read it, I remember her voice being so clear and continuous. There was no stumbling or mumbling or any sort of problem. I watched her eyes scan across the page from side to side and line to line, and studying her lips as she mouthed the words. I was amused by her confidence and the fact that she wasn’t scared of the ‘big’ words like I was. In the same way I used to watch my sister, I watched my mum in awe, wondering when and if I would ever be able to do the same.
Reading at home became a growing enjoyment. Sneaking under the covers with a torch to read a ‘rainbow fairy’ book late at night when my mum was under the impression I had gone to bed became a regular thing. My dad then saw my desperation to write, so he bought me a diary. I can still remember the excitement of that day when we went to ASDA and he bought me and my sister matching yellow diaries with four pink flowers on the front. It was my first ever notebook, and I could finally record something. I felt so grown up with my own paper and my brand new set of gel pens which my dad had also got for me. I neatly wrote my name at the front and just to feel more grown up, I printed on the inside cover ‘do not touch-private’ – just like my sister used to do. I would keep a very detailed account of what I did every day and sometimes I would write poems. My spelling was atrocious, but I didn’t care; I just wanted to write. The very first poem I wrote was called “Flower Power,” and I remember seeking assistance from my sister. I then went to show it to my parents and was so happy to receive full praise – I smiled smugly and convinced them that I was accounted for full credit. It was the best feeling in the world!

When I started to properly read and write in school, I began to see darkness in a previously lit path. All of a sudden there was this element of fear and difficulty. I remember in my first year at school having to read The Gruffalo. During reading time we would all stand up in a circle and go around as each person read a chapter. I remember counting down the number of people until it was my turn and watching the book, which was being passed round, come closer and closer to me. I wanted to run away somehow or stop the book from reaching me – but I couldn’t. For some reason I didn’t understand, we were all mesmerized, entranced, almost spellbound by this one book which seemed to magically hold us in and unite us. I hated it. I wanted to break this circle. I wanted to destroy this spell. I felt claustrophobic, almost ill, sweating with panic because I knew the book would be in my hands any second now. Finally the book was within my shaky grasp, and I held it with my small, feeble hands. I could feel the eyes looking at me. My lips trembled, my heart was beating like a drum and I was hyperventilating which made the words come out in small, interrupted mumbles. After we finished the deathly circle of reading, we were given a sheet to fill in with some questions on the book. I was so small and the sheet was so big in my eyes. I didn’t understand anything. The questions were hard to read let alone understand, and I didn’t know what to write or how to spell. I will never forget that moment when my teacher walked past me and stood looking over my shoulder at my blank sheet. I knew she was looking at me, but I was too scared to make any eye contact, so I sat in helpless fear until I felt a sudden tug on my jumper. Before I knew it, I was being pulled out of the classroom by my head teacher. Her footsteps were fast, and I could hear her thumps on the ground. By this point I had burst into tears and was almost tripping over my feet trying to keep up with her pace. Tears were flooding onto my red, soft cheeks, and I was so scared. This was a major turning point in my literacy life. I literally feared to read and write and even go to school. Reading was no longer something I admired, and being a writer wasn’t something I aspired to do. I had been humiliated, and I was so small and so scared.
At the age of seven I began to overcome my fears that I had experienced in my first year of school. The more I advanced with reading, the better I wanted to become. I remember in primary school the temptation we all had to be in a higher reading group. There were reading levels and the class was split accordingly into groups: top reading group, middle reading group and bottom. I was never in the top reading group; in fact I was normally in the bottom. At the time, this was the biggest worry in my life. This was the cause to all my stress, the reason my life was over. It was like a growing battle trying to get to a higher reading group, and those in the bottom group viewed those in the top group as their enemies. We would give them evil stares, and they would look down on us. Being in the bottom group was frustrating, embarrassing and ‘uncool.’ I remember getting so distracted when it was time for the top group to do reading with the teacher. Everyone was supposed to just get on with their work, but I couldn’t help but listen to the maturity in their voice, the perfect pronunciation, and the constant praise the teacher would give them. I would sit silently burning from the inside with anger and jealousy. Why couldn’t I be the same as them? Reading was always so challenging for me, especially comprehension. I dreaded doing that in class, and sometimes I would sit frozen and write nothing, waiting to hear the teacher’s yells. A lot of the time I didn’t understand what we were supposed to be doing, and when I whispered to ask my friends, I would instantaneously be interrupted by my teacher’s screaming. One day we were asked to fill in our “clard” which was basically a comprehension workbook based on the book we had read. I can’t remember if I had done it wrong, or I had not done it all, as I often did when I went into a day dream, but I remember one thing: Mrs. Anderson picked up my clard and glanced at it, then screamed at me in front of the whole class, “You stupid girl!” I was so astounded that she would say that to me when I was only seven years old. She had drained any sort of self-confidence remaining inside of me, and I felt truly stupid.

Now I can see that for me, the journey of reading and writing was like—and still is—black and white. Ups and downs. Joys and cries. It was never just a smooth journey filled with joy and ease; neither was it a completely dark journey filled with dread and hate. I have come to see that learning to read and write is like a long, rocky path with lots of obstacles. If you let those obstacles get in your way, then you will never fully reach your potential as a reader or a writer. But if you overcome every obstacle that you find along your path which tries to crush your confidence and hinder you in some sort of way, then your perseverance will serve you as you become a better reader and writer. I discovered that the longer you survive, the further you will get along and the more successful you will become. When I used to look up at my sister and my mum with that growing sense of admiration, wondering if I will ever be able to read and write like them, I was really asking myself if I would reach the end of the journey—if I would survive the obstacles which would try to knock me over. If I would keep going or if I would just breakdown and give up after the humiliation of my teacher, the fear of pronunciation, and the difficulty of spelling. No matter what I faced, I have always found a way to come fighting
out through it. After every difficulty I encountered, there was a highlight of improvement and growth. Whenever I was upset or humiliated or underestimated, I would become even more driven. I would work even harder by turning that upset inside me into energy and motivation for growth. Today, as a college freshmen at the age of sixteen I realize that every aspect of adversity I have faced through my literacy life has shaped who I am as writer today. My perseverance through my literacy journey has led me to begin a bright and successful future in university. Right now, as I look at my past, I realize that success and the ability to read and write were there at the end of the path, and each step forward and each obstacle I faced was like a stepping stone pushing me further along, giving me the strength to survive through the world of literacy.

Biography

Yossra Osman was born in Alexandria and moved to Scotland at the age of 5, where she was raised in the city of Aberdeen. This life transition and the beginning of her educational years instilled a sense of sentimental fear within her as she faced a big world in her little shoes. As she developed from a shy individual, her teacher described Yossra as a “snail emerging out of her shell.” Eventually, she became one of the most approachable individuals and made use of her potential. At the age 16 she moved to Qatar to begin her career in Engineering at Texas A&M.
Having written mostly for English classes at school, it had become a regular pastime for me once college started. It is a fantastic way of expressing oneself – something that I highly regard and also use as an outlet for humor, frustration, or to present brilliant ideas for the later generations. The following piece was written in response to an assignment to write a literacy narrative for my Composition course in Fall 2013.

Running Through Life:
Similarities Between Racing and the Rest

It's amazing how much you can learn through the pursuit of what you love. Like Musashi said, you can learn ten thousand things from just one. But you have to stick to it. And you will gain experience that will be valuable everywhere else. For me, I got it through running.

I began as a slow kid. I was quick to start but last to end. I remember sitting on the sidelines of the stadium when I was just 10 during sporting events and praying, "Please God! Please make me a fast runner. I want a little stardom like these guys..." Well, God answered, and I moved to a better school. I socialized by playing tag with my friends and was soon one of the faster kids.

A few months passed, and I never realized that I was fast; I still thought of myself as slow. Only after a while did I see that I could outrun most of the guys... well, that was it. The floodgates had opened. I would dash in and out of the corridors and courtyards, the tennis and basketball courts, and everywhere else you could imagine. I would chase buses I had missed for the fun of it, race with guys on bicycles, and train like mad people at home- doing pull ups, push-ups, sprints anytime the mood took me.

A year later I went to the tryouts for the school's track team. I still remember that day: the tieless uniform we were wearing, the poking of the track on our bare feet, the whistles and claps from the crowd, and the dust-spitting horrible mattress for high jump. Yup, it was the classic track and field festival – only for students...

I tried out for every event – only to be outdone by four guys. That didn't make any sense. How were they faster during the heats than while playing tag? After not quite making the cut, I tried for the last event, hopelessly. I still remember saying to my friend, "Let me try my luck here too..." I felt lost. And I had to run 400 meters. For me, that was half a kilometer – a lot!

The starting gun shot and the race began. I remember running like I was leaping four hopscotch boxes at a time. Imagine people making it through a river by jumping on stones placed in the way to aid crossing. That's what it felt like to me. It was a distance race, and I wanted to save energy. I had never run longer than 100m and feared the
unknown, balancing my breath and heart rate almost on a thread. I waited and waited, then blasted through the last hundred like a flash. I remember looking at the last guy and thinking “You’ve had it!”

It turns out I had much more stamina than I thought. And I had won. I was surprised and happy. I remember my coach saying “That was very good man…” “Thank you,” I replied. This began for me a new era – as a star. An era I am still grateful for.

Racing after that was much more serious. The first few competitions, I only won bronze(s). Five of them, in fact before I got a gold. This was partly because of my inexperience and partly because I was a 12 year-old competing with 16-17 year olds. Nevertheless, I was nicknamed “Bronze Specialist” by my father. It was annoying. That’s what made my first gold so sweet. I guess it’s always satisfying to out-do the fatherly expectations, right, Alexander? But I had never been a model for discipline and that is what separated me from Alexander.

Sixteen was my best year – I was in top form and recorded my best timings. I was doing great academically as well, which was a surprise as I slept through classes and skipped homework in lieu of running up and down the Corniche. This was soon to end as the next year I went to India!

In Varanasi, rain was pouring from the skies and the river Ganges was flooding a few hundred meters away. After what felt like miles of carrying heavy suitcases under the dripping rooftop of the railway station, we got into a tuctuc. Just a kilometer away, it got stuck in a pothole. I attempted to unhinge it and succeeded with the help of the driver. But I was out for a year after that with an injury. My dreams shattered. I was left with nothing but a long-term ankle plaster, unable to exercise properly or run.

So it was back to prayers, lying in my bed, weeping, watching Bond movies and thinking I’ll never have a body like that! This melodrama went on for a year until a doctor advised me to man up and I was out there running again. Not at my best, but taking one step at a time.

Years later, I have completely recovered, though I never regained my 16-year-old form. But I am going to take a shot at it again this year. Wish me luck!

They say literacy is “a way of perceiving, thinking, speaking, evaluating and interacting that characterizes a group of individuals and sets them apart from the crowd.” (Akinnaso, 139). I couldn’t agree more. I think it is a fantastic definition. Running has taught me a lot. It has changed the way I see the world, other people, and interestingly, time and distance. Every time I see people playing, my mind clicks to figure out how they could be better athletes in terms of speed and agility. I can measure distances and time with good accuracy. I once recorded 60 sec perfectly in Anthropology class and was accused of cheating. Only in college, everyone …
But most importantly, I have learned character. I always cheered my competitors after I had defeated them (generosity). It brought me happiness and a feeling of sportsmanship. I know now how to never give up (persistence). And to be thankful for what I have as I took my fitness for granted before the injury. I learned to wait for bliss while going through torture (the middle part of the race). And though it may look hard, it could be the best thing ever (the 400m race). I know now that champions are made when no one is looking – my form at 16, and that discipline is one field that is still evading me…
Well, I guess nobody is perfect now, are they?

So if you’re good at something, pursue it with rigor and passion. And do not become disheartened if your parents criticize. They are your well-wishers even though they may be critical. Go for it, achieve it, and you will have learned so much on the way that the time spent will become one of the best investments of your life.

References


Biography

Besides writing, Monib Ashraf is interested in science and math, though they quickly become tedious when forced upon himself (anyone who is a student can understand). Along with other hobbies such as running and spending time with friends and family, Monib best describes himself as a student of life, looking to achieve new and meaningful goals.
Hanaa Loutfy

This is a response paper I wrote in Spring 2015 semester for my Ethics in Engineering course. For this paper, I was required to read five articles and perform a comparative analysis of the different views stated in these articles. My thesis for this paper is that a balance between a professional code of engineering ethics and virtue ethics is essential for making successful decisions.

Engineering Ethics: Combining Virtue Ethics and Code of Ethics in Decision-Making Processes

Making decisions is never an easy process, specifically when there’s a conflict with your morals, personal values, and ethics. In many cases, there is more than one possible way or perspective to examine an ethical issue. In the short film Henry’s Daughters a father and his two daughters face a critical ethical dilemma in their engineering profession [1]. Laura (one of Henry’s daughters) becomes aware of her father’s unethical conduct and reports him to the appropriate authorities [1]. Henry receives a fine of two hundred thousand dollars and gets his engineering license revoked [1]. Laura might have used her professional code of ethics or virtue ethics to reach this decision; even better she might have referred to a combination of both.

Engineering professionals very often face similar situations due to economic, political, and social pressures and conflict of interest in their workplace. Philosophers have developed many guidelines, moral theories and approaches to making ethical decisions, of which virtue ethics and professional codes of ethics were more relevant to engineering practices. A good engineering decision achieves a balance between the various ethical perspectives on a certain issue. For this reason, I will argue that decision-making in engineering should rely on a combination of a code of ethics and virtue ethics. In this paper, I will examine the limitations of a professional code of ethics and virtue ethics and analyze how both complement each other.

There is rarely a solid agreement amongst philosophers on one specific strategy or way to solve dilemmas in the field of engineering, which illustrates the sheer complexity of decision-making processes. For instance, Downey et al. point out that France does not even have a national Code of Ethics and its engineers are expected to show a high level of technical skills to be perceived as good engineers [2]. On the other hand, Michael Davis stresses that a good engineer is one who follows his or her code of professional ethics [3]. While Davis believes that “a code of professional ethics is central” to decision-making and to “ultimately understanding engineering as a profession,” I will argue that all decisions cannot be solely based on it [3]. In contrast, Harris believes virtue ethics plays a huge role in engineering ethics [4]. I will not challenge Harris’s recommendations of “giving virtue its due in engineering ethics” and that it is essentially a quality of a good...
engineer, but I will argue that engineering decisions cannot be established through virtue ethics alone \[4\]. A balance between or a combination of Harris’s and Davis’s dissimilar views should be established.

Decisions cannot be based solely on a profession’s Code of Ethics for many reasons. Any code of ethics is subject to a plethora of limitations. First, there are several engineering organizations which have their own set of rules and codes. For instance, the National Society of Professional Engineers (NSPE) has its own Code of Ethics. The Institute of Electrical and Electronics Engineers (IEEE) provides a different Code of Ethics. Although both codes are very similar in content, their structure and language differ greatly. For example, the first rule in both NSPE and IEEE’s codes, respectively, requires from its members to “hold paramount the safety, health, and welfare of the public” and to “accept responsibility in making decisions consistent with the safety, health, and welfare of the public” \[5\] \[6\]. Both statements have the same focus, but the language in which the code is stated differs. Holding the safety of the public as paramount is not the same as accepting it as a responsibility. This differing language of the codes could potentially result in confusion.

The language and structure of the Code of Ethics limit its effectiveness. Davis stated, “The language of any document…must be interpreted in light of what it is reasonable to suppose its authors intend” \[2\]. This suggests that the Code of Ethics is open to interpretations and therefore could be misinterpreted. Both the NSPE’s and IEEE’s codes give attention to “public safety” without giving any explanation of who is considered “public.” Michael Davis discusses the possible interpretations of who “public” might refer to \[2\]. According to him, “public” could mean “everyone,” or “anyone,” or “those persons whose lack of information…renders them more or less vulnerable” \[2\]. A set of rules that is subject to interpretation, and which differs from one organization to another and from one country to another, will likely ensue the occurrence of loopholes, thus making decisions centered on these rules alone insufficient and inadvisable.

According to Davis, a professional code of ethics is merely a guide for and a convention between professionals \[2\]. It could be inferred from the language used by the authors of the Code of Ethics that the Code of Ethics is meant to be only a guide. It uses passive verbs such as “shall,” “may,” “avoid,” “understand,” and “encourage” \[5\] \[6\]. In fact, “must” appears only twice in the preamble of NSPE’s code and doesn’t appear in IEEE’s code at all. The language of the codes does not enforce an action, and leaves it to the engineer’s judgment to make the code his or her duty and obligation to follow.

Likewise, making decisions based completely on virtue ethics is very problematic. This is because serving self-interests is part of human nature. In Henry’s Daughters, Laura’s decision to report her father to the Honor Council was thought to be unrealistic because it opposed her personal interest \[1\]. Most of the time, one is forced to go against his or her
virtues under immense pressure. A person may steal to avoid starvation or lie to escape punishment. According to Harris, a virtue is a “trait that manifests itself in certain types of behavior when the appropriate circumstances arise” and it’s connected to “knowing what is morally right” and “knowing how to avoid vices” [3]. It is difficult to adhere to virtue ethics based on what one believes is “right” or “wrong.” For example, Henry knew his actions were wrong and was aware of the consequences of his actions beforehand [1]. However, to him, the unethical conduct he committed was “only normal business”; thus the definition of an unethical conduct changed from “wrong” to “normal” because many others have also attended to their own personal gain [1].

It’s perplexing to detach social and personal contexts when making decisions as a professional. Davis explains that people (engineers) are “persons with responsibility beyond their professions” [7]. He highlighted the gravity of including social contexts in engineering ethics because the “organizational culture” and “public interest” have an effect on the decision-making process [7]. A widespread understanding of professionalism is that personal contexts, including relationships and personal desires, must be suppressed in the workplace. This could be interpreted from the NSPE’s Code of Ethics: “Engineers shall not be influenced in their professional duties by conflicting interests” and “Engineers shall at all times strive to serve the public interest” [5]. To be a professional, one must put aside his or her personal (conflicting) interests and attend to the public interest. Opposite of this understanding, Harris recognizes the importance of incorporating personal contexts. According to him, “virtue ethics is [an] appropriate vehicle for expressing...aspects of engineering professionalism” because it allows for “discretion and judgment” and for “inner motivation and commitment” [3]. What Harris is implying is that virtue ethics allows the personal context to sometimes take precedence, where “inner motivation,” religious influence, and social context are taken into consideration when making ethical decisions [3]. For this reason, virtue ethics must be allowed to play an integral role in ethical decision-making.

There is no denial that virtues, seemingly universal, may be inspired from religions, beliefs, or cultural values. Harris supports this assumption, as he explains that “Greek ethics” and “an important part of Christian ethics” [fall] under the rubric of “virtue ethics” [3]. Incorporating culture and religion as part of the social context can result in challenging and often controversial decisions. An example of this would be the ongoing controversy regarding genetic engineering. Due to (mostly) religious reasons, many have disapproved of cloning human or animal organs. Some may argue that, in this case, virtue ethics is obstructing technological advancements, which results in the failure of “maintain[ing] and improve[ing] technical competence” as required by the IEEE’s Code of Ethics [6]. This is an example where decisions based only on virtue ethics contradict an important ethical guideline in the Code of Ethics. Therefore, there must be a compromise or a middle solution that satisfies both mindsets. A balance could be
achieved, for example, by allowing only certain organs to be cloned or allowing it to be used to save failing organs only.

An example where both the Code of Ethics and virtue ethics could have successfully been used is the Challenger Case. According to Davis, since “social forces...‘determine’ individual decisions,” “…“decision makers are understood to have ‘no choice’” [7]. Even though social contexts may exert some pressures on individuals in the workplace, their right to free will remains unaffected. I believe Lund, the engineer who authorized the launch of the Challenger, had a choice and this disaster could have been avoided. Assume Lund had doubts about virtue ethics since it gives room for personal “inner motivations” and “commitment” because his intentions were neither to result in the death of those astronauts nor to deliver a faulty product [4]. The Code of Ethics would have guided him to pursue “public safety” and prevent the loss of property and lives regardless of any “conflicts of interests” [6]. Assume Lund had any doubts about the applicability of the Code of Ethics, as his fellow professionals, supervisor and NASA’s officials, were in favor of the launch and disregarded his initial recommendations to delay the launch of the Challenger. Virtue ethics would have guided him to the right choice, as integrity and honesty are an integral component of one’s decision-making process. It’s thus clear that the Code of Ethics and virtue ethics complement each other. And since making decisions is a complex process, a combination of both appears justifiable.

Michael Davis developed guidelines for ethical decision-making, namely the Seven Steps Method [8]. One of the steps is to develop a list of several options to solve an ethical issue. After the options are developed, it’s essential to test these options. Such tests include the Harm Test, Publicity Test, Defensibility Test, Colleague Test, Organizational Test, Professional Test and Virtue Test [8]. All these tests must be passed before moving to the next step of making a tentative choice. Out of these tests, the Professional Test examines the extent at which the option follows the professional Code of Ethics. In addition, the Virtue Test analyzes the individual’s stance (good or bad) if the option were followed. Since passing these two tests is a prerequisite for making any ethical decision, it can be safely concluded that a combination of virtue ethics and a professional code of ethics is convenient and practical.

If Henry’s Daughters was set in an ideal world, Henry would have never committed any unethical behavior and would not have had his engineering license terminated. However, an ideal world is nothing but fiction. Henry’s unethical conduct was due to his immense desire to excel socially and economically. It is human nature to seek self-interests and personal gain, which heightens the complexity of making decisions. For this reason, the existence of a professional code of ethics and virtues ethics is undoubtedly of utmost importance. A code of professional ethics is a guideline for professionals, and virtue ethics is a reminder of what is right and proper and what is not. Although these approaches are not ideal as they’re subject to the limitations I’ve listed in
this paper, together they bring us a step closer to making successful, ethical decisions.

References


Biography

Hanaa Loutfy is an Electrical Engineering student who is expected to graduate in May 2016. She believes good writers are made rather than born. Her advice to everyone is to continue writing, keep trying and seek help from your instructors. University may be your best opportunity to acquire and improve your writing skills. Remember, engineers spend a significant amount of their time writing every day!
This essay talks about my experience during the Italy Leadership Seminar, which is a program that used to be offered at Texas A&M at Qatar. This program took five freshmen students from Texas A&M at Qatar and joined them with 30 students from Texas A&M University in Italy for three weeks in the summer before their first semester. I was lucky enough to go as one of the five students, and I wrote about this experience because it was the biggest turning point of my life, and it shaped the personality that I would end up taking with me throughout the four years of my university life.

1, 2, 3… BLEH!

They say that the only thing that stands between you and the impossible is yourself. I find myself, my values and character, embodied in this one saying. For the layman, this, and what follows as the anecdote of my biggest challenge so far, will undoubtedly sound clichéd. Yet it is the simple truths of our everyday lives that we so candidly ignore and overlook, forgetting to extract some of the most invaluable lessons we may ever have. Fortunately for me, life has been a bit more generous than usual in helping me discover something I was never accustomed to: getting out of my comfort zone.

Many people are just naturally introverts; they are uncomfortable in groups of people, preferring to be alone, and they just don’t like talking that much. Now there isn’t anything wrong with being like that. It’s human nature after all, but I felt that this characteristic was hindering me; it was an obstacle that I had to overcome. I’m an impulsive and energetic person; I like going out there to meet new people and try out new things, or at least that’s how I internally felt. Regardless, being a man of few words was no help at all.

So after I had had enough of just watching my friends talk without contributing much, or staying at home on weekends because I didn’t feel like being around others, I felt like I should do something about it instead of accepting it. I needed a big step, a leap of faith, something I wouldn’t normally do, and somehow, an opportunity presented itself out of nowhere. Around that time in the summer before university, I applied to TAMUQ’s program that takes students to Italy and joins them with other students from College Station. In an unexpected turn of events, I got accepted as one of five students from the whole batch. I couldn’t see this trip as anything other than a chance to start the change that I so dearly needed. With complete strangers from the other side of the world and in a foreign country away from everyone I know, what better place to begin?

The moment I stepped into that country, I promised myself that I would do everything I usually don’t do, and indeed that’s what happened. I started with my own group from Qatar, talking to everyone and striking up some interesting conversations with them, until I pretty much got used to them. After that, it was time to get to know the other group, so I took every chance to talk to the main campus students, asking about their
Overcoming Obstacles

I also tried to stay away from my group now, to completely step out of my comfort zone, so that I would have no chance but to lead the conversation myself, because to the other students from main campus, I was the peculiar person from an unknown country. I had no choice but to talk. I had to leave a good lasting impression.

At times I would get stuck and hesitate in asking something, so I had to make up some method to push myself to overcome that. What I simply did was force myself to ask that question after I counted to three in my head. A really simple technique, some might even make fun of me for it, but it took me miles ahead. If I feel like I have to say something, I count to three, and blur it out whatever it is. It was definitely a hit-or-miss thing since I wasn’t exactly sure what to say or not. Regardless, as one of my favorite sayings goes, if it looks stupid but it works, then it’s not stupid.

This was just one example of many things I followed to ensure that I’m actually on track. Soon enough, I found myself not hesitating anymore, and it became easier for me to carry on a conversation and contribute to it. To add to that, I made some close connections with those people thanks to my indirect efforts in trying to get to know them.

I can tell you that stepping out of my comfort zone was neither easy nor pretty. This act really defined the true meaning of challenge; I was going against my nature, but I knew that I had it in me to make that change and be the person I’m supposed to be. Usually, people who are in my spot don’t bother doing anything about it. They just accept the way they are. I’m glad I initiated this change and overcame the greatest obstacle of all, myself.

And four years later, I’m considered one of the most involved people on campus. I have taken so many different leadership positions and have been on four travel opportunities to represent TAMUQ. Now counting to three in my head doesn’t seem so stupid anymore, does it?

Biography

Mohammad Al Ramahi is a senior mechanical engineer from Palestine. Engineering has never been the focal point for him in university as he’s been focusing on the whole university experience and what it entails. He describes himself mainly as competitive and curious, and this has pushed him to excel in athletics and to pursue any unusual opportunity to travel or learn. He also has a great interest in biology, psychology, and sociology, which has given him a deeper insight into how humans tick.
Sara Al-Marzouqi

This piece of writing was written for my Composition course in Spring 2015 as a response to an assignment to write a literacy narrative. This piece is a true story that I have experienced in my life.

Until I Am Out of Words

My story does not begin from the beginning when I was very young. Instead, it begins from an event that happened to me and changed my literacy life when I was 12 years old. You may see it as weird, and you may not believe it. But, this is the truth that I want to tell you. This story affected my literacy greatly. I became a better writer and reader, and this is just enough for me.

To begin my story, I should tell you what happened to me in 2009. I discovered that I had cancer. Are you shocked? Because this is the first reaction that everybody has when I tell him or her. The treatment for my case was not available here in Qatar, or in other words, the doctors couldn't even tell if this was cancer or not. My case could not be diagnosed easily. For that reason, my family made a quick decision to take me to the U.S to have my treatment in one of the best cancer hospitals in the world.

The doctors in Houston at M.D. Anderson Cancer Center diagnosed my disease and confirmed it was a large cancer tumor. The doctor said that I would need about four to five doses of chemotherapy in addition to the surgery at the end of my treatment. I was totally shocked. I could not believe it, and my tears didn't stop for days and weeks. And then I reached a phase where I started to accept the fact that I have cancer. I looked at the people around me who have worse cases, the patients who died in front of my eyes, and I thanked God that at least I was better off than them. This affected my personality so much. I learned how to be patient in the face of problems. Patience is the most important state that is required in such hard phases and experiences in life.

The hardest phase was the chemotherapy. I still can remember the day I was lying on that white bed, in my room in the children's section of the hospital, where I slept for five days, twice a month, preparing for the chemotherapy. I don't feel it when it goes inside my body. However, it hurts every part of my body. It makes me feel so much worse. It changes my mood and makes me feel so sick that I just want the nurse to give me a medicine to make me fall asleep for so long so I don't feel anything inside or around me. Now you may ask what is the relationship between your story and your literacy history? Now I can tell you.

While I was there, I was feeling so bad about not going to school. In fact, I remained in the U.S. for eight long months, so I missed school. I didn't imagine that someday I would cry because I wanted to go to school, but I actually did! I wanted to be like other kids. I wanted to go to school, to read, write, play, and meet my friends just like normal kids do in their daily lives.
For this reason, I joined an English class in the hospital. They taught reading and writing. When I joined this class, I used to attend it twice a week. The teacher asked me to bring a small journal. Every day, she gave me a handout to read, and then she let me write about what I read. I sat there on the small chair in that class in the hospital, and wrote until I was out of words. My English was not so good, as my first language is Arabic, but this class improved my English, especially in writing. It improved my writing skills so much that I wrote a whole essay without stopping! I started to like writing, maybe because I felt that I needed to write, or I wanted to write to get the things and thoughts out of my heart and my mind. Because at that time, I was thinking so much, I couldn’t stop thinking about what will happen to me next. Will I die? Will I see my country again? Nothing was really clear to me.

Now, after five years, I am proud enough to tell you that I became a better, stronger person. I started to look at life in a positive way. I learned many things from those eight months. I learned how to be patient and that no matter how big your problem is, there are always problems bigger than yours, so you should always be thankful for what you have. I considered this as an addition to my literacy as well. I became a positive, smiling person. My life has changed. Cancer is not nice, but I am not sad about that, I am really happy because this thing made me a better person. This made Sara who she is right now. At the end, I became a better writer. This added so much to my literacy. Now, I go to school/university with a smiling face, full of positive energy, because I got my wish to go and learn just like other people.

Biography

Sara Al-Marzouqi is an 18-year-old Qatari girl. She is a freshman at Texas A&M University at Qatar, Class of 2018, majoring in petroleum engineering.
This poem portrays certain strengths a person can gain when inequality takes place.

Resist

They know I exist
But, they are oblivious of the fact that says: I can resist
A rigid wall of separation was planted
It was placed between me and the ‘other’ kind
Ignoring the wall is not a choice
In this matter, I am not supposed to have a voice
It is there
Maybe not physically, but it is there
You cannot proclaim the word: unfair
They know I exist
They may not know that I will... Resist

Biography

Tala Basem Anabtawi is a chemical engineering student who is originally Palestinian. She was born in Houston, Texas; however, she has lived most of her life in Qatar. She is interested in all sorts of sciences, especially those dealing with the human body.
Hussam Raed Al-Biltaji

This essay was originally part of a narrative assignment in my Composition and Rhetoric class. This piece talks about the struggles and the hardships I have encountered as I went through middle school. It reflects how I dealt with the harsh emotional conflicts that I associated with that stage, and how I finally came to peace with what I considered my destined fate.

A Bitter Past

Slammed to the corner of the corridor without being able to respond to the world around me, I was found by my teacher thrown to the side of the hallway in a state where she was in total disbelief, “Who could have done something like this to you!” she screamed, as I was just seconds away from going into a state of unconsciousness.

Back when I was still in elementary school, I remember myself going to school with the fear of coming back home to my mom with red eyes and a bruised face. (This, of course, would also come with the endless questioning that she would give me when this happens.) Yes, I was bullied. And it was not something I was overly proud of. It quite affected the way I approached people back then, being overly cautious of new faces that I came across, and not being able to sit in class with a mind totally free of distress. It was a daily thing that lasted a good while for me. Bullies are so fascinating to me; they feed on other people’s weaknesses, and they can never fully satisfy this hunger. Their animosity just keeps growing bigger and bigger towards the ones they are targeting, which ultimately results in the utter breakdown of these targets. I somehow was able to turn things around one day, a turnaround that affected how I perceived things mentally, rather than physically, and it completely changed the way I dealt with everything.

It was a crisp winter Thursday morning during a lunch break, and I was sitting on the bench next to the water fountain solving some problems for my math homework. My friend was sitting next to me as he came and joined me so that we could solve our homework together. (I was on top of our class back then, which was something that most people would think of as a good thing, and it is, but I found that being good at school makes bullies build this bubble of rage where it makes them feel less relevant, and it is in my opinion the reason why they are the most susceptible to this kind of insecurity.) I went to class and joined my other classmates as we all listened to our teacher babbling about how two-line functions would intersect at a point if their slopes were not equal. (She was especially excited about this lesson for some reason.) Going on with the day, I got out of the class to find three guys from my class standing with their eyes pinned on me waiting for me to step out of that classroom, and to their convenience, there was nobody around the corridor to witness what happened right there. How despicable of them! One of the guys mumbled something about how I
refused to give him the answers during one of the quizzes we had a few classes back, (And it would have been unfair if I did, because I spent countless hours studying for it, but all he had to do is show up and copy the entire thing? No way!) He went on to talk about that until a certain point where I remember myself being up against the wall. “You refused to hand over the answers, right? Well, I will hand over something else to you; I’ll let you take a guess.” Right there and then, I felt utterly relieved. I felt as if I accomplished something remarkable, and I came to realize something important with that too, and that thing was the fact that I didn’t let them have their way. I didn’t let them take my hard earned work for granted. I may have taken a beating that day, and made my maths teacher cry a little as she saw me in that state, but I learned something really important, and that thing was this: As long as you stand up to yourself and you try your best not to surrender to your weaknesses, you’ll make inner peace with yourself, you will find the true happiness that comes with self-acceptance, you’ll learn to accept the way you are even more, and that’s what makes the human being so great, it’s his incredible ability to endure and withstand pressure and cope with it.

So yea, I was the boy that got bullied, and I wasn’t entirely happy about it. It’s a stage in my life that got me to build courage and hope and other traits that last till now. It helped shape me into the person who I am today. And luckily for me, things started to get better after that day. The picture became clearer than ever, how bullies are reckless and immature, and they only seek the weaknesses and go from there. But things change after elementary school, students reach a stage where they have to move on with their lives and accept the fact that they are going nowhere with these acts, and that the world works in a different way.

Not everything is achievable through force; you have to work really hard to succeed in life, and to deal with the obstacles that life sometimes presents you with in an unwise approach may, in the end, cost you dearly. (They got suspended for a whole month after that incident.)

Biography

Hussam Raed Al-Biltaji was born in Amman, Jordan, and moved to Qatar at the age of three. He is the eldest of a five-child family. He has always had a fascination with music and technology since his early days. Currently a freshman, Hussam graduated from Omar Bin Al-Khattab Scientific School and joined Texas A&W at Qatar afterwards to pursue mechanical engineering.
Munazza Sayed

"What is this life if, full of care,” W.H. Davis wrote in the poem Leisure, “We have no time to stand and stare.” This holds true over a hundred years later today, when we do stare, and all day at that – only at our computer and cellphone screens. For something like the sublime beauty of nature, we simply have no time. That notion inspired “The Bird at Texas A&M,” which I penned after I forced myself to hurry past a little bird, while rushing to a lab. I would have like to have stood and watched, as it hopped under the sun without a care in the world. Yet I denied myself that aesthetic pleasure and continued instead, with nagging thoughts of mounting backlogs adding to the burden of the bag heaved on my shoulders. I realized that we are all chained, enslaved, to the chaotic conundrum of an education system – a subset of the adult life – that often deprives us of time, coercing us to smother our natural instincts. To stand. To stare.

The Bird at Texas A&M

A blithe bird on the window sill
Hops gracefully on its thread-thin feet
Dusted and sashed in sand and ash
Splotched in neon orange-beet.
I meet its curious black-button eyes
When the giant glass frame that juts
Twist wings and chains – my world and its
Fritters noiselessly to dust.
Its beak I see, the edge of its wings,
Glistening 'neath a thousand suns
Like rich embroidery on colored velvet…
I blink out of the hypnosis at once!
I have an exam in half an hour,
And my day is heavily peppered
With classes and meetings and deadlines!
But I tell you, the sight of that one bird –
Froze the eddying whirlpool of time
For a spilt second before the call of work
grew so deafening to my ears
that my feet felt a physical jerk.
I abandon my overwhelmed heart right there
and scold myself to focus on the day,
as I glance at nature’s palm-sized miracle
And walk away.
Biography

Munazza Sayed is a poetess, writer, artist – and a very proud Aggie. Born in Mumbai, she moved to Muscat at five, a place she still associates with the word home. She arrived in Qatar in 2008, officially becoming a Wildcat at Northwestern University in Qatar the following year. Two years into her journalism major, she made a “180 degree” switch to engineering, led by her penchant for science and mathematics. She believes that arts and mathematics go hand-in-hand – each is a breathtakingly beautiful and exquisite medium for the expression of human intellect and emotion.
Sarah Al Nouri

This essay is a bit personal to me as it describes all the hardships that I have faced during high school and before entering university. I find it embarrassing if people read my failures and how silly I am, but maybe whoever reads this would realize (just like me) that there is a message behind this story. I renamed it “A Miserable but Successful Path” simply because it describes my miserable path to university (success).

I have learned that stories and scenes really help improve an essay and make it much more enjoyable and fun to read. This essay barely had any scenes in the beginning, but now it has separate paragraphs of scenes. I also learned that essays don’t have to be perfect from the very beginning and can be improved later.

A Miserable but Successful Path

One sunny Thursday morning, I woke up to the voice of my mother, hardly believing what I heard! She just told me the happiest news of my life! I’ve gotten accepted by Texas A&M University at Qatar to join them in the spring semester! I couldn’t believe my eyes as my mother handed me the thick acceptance letter from the maroon folder. I had worked so hard just to receive this paper and fill my parents with pride. I went past so many obstacles and failures to finally reach where I am now.

I’ve faced so much pressure and difficulty during high school in the International School of Choueifat Doha, one of the toughest and most stressful schools in Doha. I had not done very well in most of my external exams and failed a subject (Mechanics) in the first term of eleventh grade. Those two failures lead me to not being accepted in any of the universities I had applied to. The format of our exams was changed just as we reached 12th grade, and we had Chemistry, Calculus and Physics every day. I had no real best friend to trust and hang out with (I was a loner/follower in other words), and the fact that I paid for the senior jacket yet didn’t receive one are some of the wretched problems that I faced during my high school life. Then again, graduating with no acceptance from university and pretending to be happy on that day is the saddest failure of them all.

I remember it clearly: I faked happiness in front of everyone the night of the graduation at the Four Seasons Hotel, and the moment I stepped inside my house, the smile that was on my face instantly faded away. On top of that, neither by older brother nor my older sister attended my graduation, as they were traveling. This is because we didn’t know the exact date of the ceremony beforehand. I was deeply hurt about this issue; I thought that they didn’t care about my graduation and the fact that my brother was coming back the next morning made me even more upset. My sister was doing a PhD in Chemical Engineering at Texas A&M University, and my brother was a doctor from Weil Cornell University; that made me feel unworthy and unimportant to them, because I didn’t even get an acceptance to university while they made it this far! It was a very bittersweet graduation ceremony.
which I would never forget, but where would I go after I graduate? If Texas A&M nor any other university accepted me, then my whole dream was basically ruined.

They were countless, the number of times I cried. I cried and cried everywhere: on my bed, on the floor in the living room, at the corner near the dining table, on the table with my head down, and in a lonely sunny or shady area at school. Most recently, I shed tears on my bed at 7:00 PM with a blanket over me while listening to “Magical Mirror” by Len and Rin Kagamine because of how disappointed I had made my parents feel. Just then my younger sister entered the room with a plate filled of oranges for us to eat as she asked me: “Were you crying? Why?”

“It’s nothing,” I replied while wiping the tears off my face.

Every time I hear my older brother and sister discussing my issues and insulting me, I think about how useless I am to my family and how stupid I am compared to them; I think of running away from home or even committing suicide. Then I remember that other people around the world have a worse life than me and that stops me from all these irrational actions.

I also recall the day when I received the rejection from Texas A&M. It was a Friday mid-afternoon in April 2014, and my parents had gone out shopping with my younger sister. My older sister was travelling, and my brother was on-call in Hamad hospital. I sat down on the dining table alone studying for an external exam. After listening to more sad songs by Len and Rin Kagamine, I kneeled down and started crying continuously in the nearest corner. My heart suddenly started pounding and ringing as fast as a morning alarm clock as I fearfully imagined a nightmare of email rejections. Dark thoughts began taking over my mind, but I shook my head and resolved to check my Hotmail to see if there were any new emails. I climbed up the stairs with the sweat of disappointment dropping down my face. I knew it was coming, the rejection letter from Texas. I carefully turned on the PC monitor and opened my email account to see the rejection letter right before my eyes. It wasn’t surprising, but it was certainly depressing. I hurried downstairs and continued crying like a baby. After a few minutes, my parents came back and heard the news, responding only with a look of discontent on their faces.

Nevertheless, I tried to remain as cheerful as I could; I didn’t want to reveal my sadness in front of others. It would be useless just to sit there and do nothing but cry over the failures that I’ve been through. I was determined to still work hard and not give up that easily because failing while learning from one’s mistakes is better than being successful without learning anything.

All these failures lead me to joining ABP, which helped me improve my skills and even allowed me to cross-register at Texas A&M for two courses. Thankfully, after many efforts, I’ve finally become overjoyed! At last, I was going to university, but I was warned that it is not easy. In school, they told us that universities are not going to babysit us.
and teach us about silly things, which made most of us quite worried about university life. However, I don't want to worry myself with the stress of university; I am quite enthusiastic about starting a new life since I waited twelve whole years for this. Twelve years of waking up at 5:40 to go to school at 7:00 AM, trying not to make my dad late for his work at 6:30 AM and then returning home at 3:00 or 4:00 PM everyday. Everyone is imprisoned in their school, but most are freed from jail after graduating.

Education changes our lives and leads to a successful future. What about me then? How am I going to affect anyone's life? My biggest dream is to make my parents proud and repay my family for all the hard work and money they have spent on my learning process. However, achieving that dream is not as easy as I thought. I have gone past so many hardships, but I have finally made it to university. I am finally content and satisfied with myself, and I will change my high school habits.

Biography

Sarah Al Nouri is a freshman student at Texas A&M at Qatar. She was born in the UAE, but moved to Qatar with her family when she was a year old. She is Syrian, but she has spent 16 years of her life in Qatar. She graduated from the International School of Choueifat Doha in 2014. She has enjoyed drawing ever since she was five years old and continues to draw in her free time. She also like to participate in other types of arts and crafts such as decorating objects and frames and coloring with digital programs.
Muhammad Ghufran Rafique

This essay is an analysis of the Ivy League admissions process that argues against applying solely to these universities by providing supporting evidence and tackling counterarguments. If you were to ask me, however, whether undergraduate admissions applications to the “Exclusive Eight” are worth it, I would say, “Yes!” It is simply much more convenient to argue otherwise, and I felt that a stronger case could be constructed by supporting the opposite view.

Impressing the Ivies:
Are Undergraduate Admissions Applications to the “Exclusive Eight” Worth It?

The letters start arriving in late March, just as high school seniors are approaching the end of a scholastic journey spanning four years. Seemingly innocuous, these missives carry a powerful message – either of acceptance or rejection – from the colleges that posted them. The significance of the letters increases tenfold in the eyes of the recipients if they happen to have been posted by the eight extremely exclusive establishments that comprise the Ivy League.

Having begun as an athletic association in the mid-1950s, the Ivy League – also known as the Ancient Eight – is an octet of highly selective and affluent universities concentrated in the northeast of the United States. The origin of the term Ivy may be traced back to the tradition of planting an ivy on class day that began at Harvard University in the mid-19th century (“Class Day – Old and New”). Gaining admission to these universities is extremely challenging, and yet, is the Holy Grail many high school students strive for, despite some of these universities being outranked by renowned non-Ivies, such as Stanford, Caltech or Michigan. This could be attributed to the exclusivity of the Ivy League since the term itself has become synonymous with academic brilliance and prestige. Notwithstanding this formidable reputation, there has been considerable debate in academic circles, and beyond, regarding the actual value of an Ivy League education, particularly at the undergraduate level. It is my opinion that high school students should avoid focusing on the Ivy League universities when applying for undergraduate admissions. The inherent repercussions of applying to this clique of colleges far outweigh the benefits – implicit or explicit – of the application process or of a successful outcome (i.e. an acceptance).

The dynamics of applying to the Ivy League make it a long-winded and extremely arduous process that begins, in most cases, years before the filling out of the application form itself. “According to college counselors, the 10 most important criteria are grades in college preparation courses; grades in other courses; strength of curriculum; SAT or ACT scores; essay or writing sample; teacher recommendations; student’s
demonstration of interest in campus visits and other contact with the admissions office; counselor recommendation; class rank if calculated; and the (optional) interview” (Chace). The sheer amount of factors that need to be taken into account by students and counselors alike is mind-boggling. This also indicates that admissions to the Ivy League are just as much, if not more, about strategizing as about brilliance or extraordinary academic and extracurricular performance. The matter is not helped by the Everest-like demands that an Ivy League admissions committee makes on applicants. For instance, former Yale professor Deresiewicz, recalling his experience of serving on such a committee at Yale College, mentions that the members of the committee looked for, among other factors, “academic rigor, as demonstrated on transcript,” and that applicants “who had five or six items on their list of extracurriculars – the “brag” – were already in trouble, because that wasn’t nearly enough.” What are the implications of these observations? Students who hope to apply to the Ivies are expected to choose courses that have to be varied and challenging at the same time, all the while maintaining good grades in all of them, which can lead to a significant amount of pressure. Additionally, they end up having to amass credentials by participating in a multitude of activities, some of which, naturally, they might not be interested in. This results not only in additional stress but added effort that can be wasted (since they are investing time in an activity they do not necessarily like). This energy can be better spent by concentrating on limited academic and extracurricular activities that pique the students’ interest and thus contribute to their personal and intellectual growth. Then there is also the margin of error that is inherent in the work of the admissions committee. In 2014, Ivy League colleges received a total of 253,457 undergraduate applications (“2018 Ivy League Admissions Statistics”). The huge number of admissions applications that have to be sifted through in the course of just a couple of months by the admissions committees comprised of just a few individuals means that the chances of omitting a deserving applicant are high (Chace). For such a deserving student, dejection is inevitable, and could potentially be detrimental to their self-confidence.

The Ivy League application process also contributes to the thwarting of intellectualism. Students who aim for the Ivies, despite their diverse interests, develop a ‘tunnel-vision,’ focusing only on blindly achieving as much as they possibly can. Deresiewicz states that such students avoid risks, and cannot fathom the idea of even “getting a B in a class.” Consequently, he believes, students who eventually do make the cut for the Ivies are high-achievers who end up merely having a thirst for winning accolades rather than developing a genuine thirst for knowledge. This, in my opinion, is their Midas touch: they wish to turn everything they touch to gold, but this goes hand-in-hand with their inability to swallow the fruit of learning. Then there is the college admissions essay for the Ivies, which serves to highlight the intrinsic inequity of the application process. The aim of the admissions essay is, ostensibly, to churn out the crème de la crème from the batch of applicants, since it provides the admissions officers with a look into
a non-quantifiable and more personal aspects of the candidates’ applications. And yet, as Deresiewicz observes, there are tailor-made summer programs for those who can afford to have an “outstanding experience” in their college essay, such as “a month [of] traveling around Italy studying the Renaissance.” The “cost” of standing out through the admissions essay makes the entire process uneven against students from financially weak backgrounds. The college essay also encourages the notion in students that the application process is about simply “selling yourself” as a minted product to the admissions committee, and that this, in itself, is not at all wrong. But worst of all, students are taught – through the application itself – to embark on a quest for social prestige. The image of the Ivy League is seeped in notions of exclusivity, esteem, and eminence. Students who expend their intellectual capital and the financial resources of their family on the application come to identify this as an investment whose just dividend is measured in terms of the respect and admiration they would indubitably receive from their peers, teachers, and from members of their social circle upon getting accepted to an Ivy League school, and not in terms of the possibility of a rich learning experience awaiting them at college.

The arguments on the other side of the spectrum that support focusing on the Ivy League for undergraduate applications, however, need to be acknowledged. John K. Wilson, a PhD student in higher education at Illinois State University, believes that the Ivies are better since schools lower (than them) in the academic hierarchy also have lower standards, and more importantly, “fewer resources.” The funding available to Ivy League schools is indeed phenomenal. Harvard, for instance, had an endowment of almost 31 billion dollars at the end of 2012 (Haynie). Consequently, most of the Ivies have generous financial aid packages on offer for those admitted students who cannot afford the exorbitant tuition, and most also follow a “need-blind” admissions policy. This means that applicants’ financial circumstances are purported to have no bearing on the decision of the admissions committee, thereby allowing students from all financial backgrounds to apply to most Ivies without fear of being rejected for financial reasons. The availability of these funds also enables these colleges to provide a better learning environment to students in terms of research opportunities, esteemed faculty members, and a much wider array of courses to choose from. Then there is the argument concerning the promise of prestigious careers upon graduating from the Ivies simply due to the Ivy League brand name. Wilson argues that there is considerable “elitist discrimination in academia and business” which results in Ivy League graduates being favored over others. For someone hailing from a minority ethnic group, an Ivy League application can prove to be the doorway to unprecedented opportunities (Tulshyan). The hopes of attaining an education at one of the Ancient Eight are, therefore, actually hopes of upward social mobility for members of ethnic minorities and other traditionally underprivileged groups. Apart from these explicit benefits of an Ivy League acceptance, it could be argued that the implicit benefit of the grueling application process itself is
that it brings out the best in students by pushing them to maximize their potential. The stringent requirements of the application process, including the tough and varied courses that they have to choose, excel in, and balance with the many extracurricular activities within inevitable time constraints, helps prepare them for the rigors of university life.

There is, however, a flip side to most of these benefits. Even though the Ivies are indeed leviathans when it comes to funding and endowments, the reality is that they give substantial weight to the applications of students from affluent donor families who are responsible, in part, for this funding. Legacy cases (i.e. students whose parents are alumni) are also given special consideration, acknowledges Deresiewicz. These factors make the application of a student from a financially weak background little more than a roll of the dice, in spite of the “need-blind” policy of the Ivies. Moreover, applying to the Ivies because one views an acceptance as a push up the ladder of social success simply feeds into the ideas of prestige, privilege, and power that are propagated by the Ivy League. Tying social success to an institution serves merely to dissuade students from having faith in their own capabilities. Moreover, students who do get accepted after having slaved through the application process soon discover that what stands between them and the ‘guarantee of a prestigious career’ are four more years of Herculean effort. Unsurprisingly, the cutthroat competition – for which the Ivies are notorious – starts taking its toll on many students attending these universities. Roughly 50 percent of undergraduates visit the Mental Health and Counseling Department (MH&C) at Yale for stress related disorders (Giambrone). Is not jeopardizing one’s health – particularly one’s psychological health – too steep a price to pay for the “promise of a prestigious career?”

I believe, therefore, that high school students should avoid being seduced by the Holy Grail that is the Ivy League, and pursue a meaningful alternative to the “the sky’s the limit” approach to undergraduate applications, which does not involve focusing on the Ivy League colleges alone. Regardless of their academic standing, high school students should apply to a mix of colleges, including second and third tier universities, and if their financial circumstances make it possible, even to universities around the world. This would serve to give them a break from the manic college application process that is specific to the Ivy League. Additionally, it would prevent them from associating all their aspirations of success to a specific clique of universities. Thus, instead of having transient life goals that are brittle enough to be shattered by a rejection letter from one (or several) of the Exclusive Eight, they can have more meaningful ambitions which are – largely, if not wholly – independent of the university they attend, and dependent on their trust in their own capabilities.
Works Cited


Biography

Muhammad Ghufran Rafique is a reluctant writer, avid debater, and coffee connoisseur extraordinaire. But more importantly, he is a chemical engineering sophomore.
Iresha Hemachandra

Affording the costs for college education is a common difficulty for many of us. However, there are numerous ways to solve the issue of funding. This piece of writing is about the financial assistances that are available in most countries and especially here in Qatar. As a student who joined Texas A&M at Qatar on financial aid and later transferred to a scholarship, I find it useful to inform others about the amazing opportunities available to students here. I originally wrote this paper for my Economics course in the Spring of 2015.

Costs of an Engineering Education – How Do We Get Around it?

The global economic market proves to be a very competitive place. Engineers will be able to bring about positive changes only by producing products and services that will be high in demand. These would have to be unique, affordable and useful. In order to have a good mix of the above, engineers need to be very talented and experienced. They also need to have a solid base of engineering knowledge. Furthermore, it is beneficial to have enough exposure to varied fields in order to be able to combine theories and concepts and invent new products for the market. Engineering is getting more diverse by the day and incorporates numerous different fields of study. The culture of engineering education has greatly changed and now includes a much different set of material and work in its curriculum, compared to earlier dates (Felder, Woods, Stice & Rugarcia, 2000). This change brings about a transformation in the way engineers perceive things, introducing better ways for innovative thinking. It also prepares engineering students to face the real world more confidently. However, it is also a major reason for the rise in the cost of an engineering education.

The cost of all systems of education are gradually increasing in the present world. Engineering especially is becoming costly, as the coursework is required to produce engineers with a wide variety of skills and values at the end of the program (Felder, 2000). Two main aspects of an engineer’s education include constantly keeping up with the increasing knowledge in the field and developing the ability to possess a wide array of personal and interpersonal skills (Crawley, Malmqvist, Östlund & Brodeur, 2007). Furthermore, engineering students are also required to have a good balance between practical skills and theoretical knowledge (Crawley et.al, 2007). Adopting, training and teaching these specific skills require teachers themselves to be well versed with their teaching. Gaining a well-rounded education is therefore very expensive in the world today.

Moreover, engineering students have to learn complicated theories and have access to rare knowledge, including centuries of research behind them. This reduces the number of individuals who possess such knowledge and are able to share it by teaching. Thus, the cost of hiring competent professors has increased over the years. The engineering
discipline requires a good balance of technical knowledge and practical work experience (Crawley et al., 2007). Due to this reason, engineering students need to be trained separately with practical experience. This requires having access to equipment and simulation programs, and participating in practical work. This further adds to the costs of gaining an engineering degree.

More research is poured into the content and system of an engineering degree. Educational reform determines which teaching techniques and approaches are needed to provide an excellent education. Such research too adds to making such a degree increasingly expensive. The cost of an engineering degree ranges from $35,000 - $45,000 annually, and therefore is gradually becoming unaffordable to students. As a result, certain students who have the potential and skills are unfairly stripped of the chance to attend college and have access to the invaluable knowledge they could gain. Most students solve the financial issue by depending on loans and financial aid to complete their graduate and undergraduate studies. With the belief of immediately getting a stable job to pay off the loans, inexperienced students opt for this option. However, an increasing number of engineering graduates have been unable to find jobs and thus are unable to cover their debts or even their daily expenses. According to an article by Pillai, many students are unable to pay their rent and it is known to affect the housing market and, in turn, the economy of a county (Pillai, 2013). This approach to financing education is not very reliable and becomes stressful over time.

This cost-effectiveness problem is seen through all majors of study. According to Pillai, one famous theory people have used to solve the problem is to produce degrees that are cheaper but will eventually yield low paying jobs (Pillai, 2013). This solution however is not beneficial for engineering undergraduates as the cost of an engineering degree is not cheap. This is because engineering is a field that requires more practical experience in comparison with certain other degrees like humanities or writing courses. Furthermore, it gives the impression that rich students are able to “buy” high earning degrees, while the poorer students are forced to adjust with degrees that only qualify them for low paying jobs.

Many institutions, however, have solved this by issuing sponsorships and grants to probable students. These establishments provide students with financial assistance based on merit. The Qatar Foundation in Qatar is one such institute that follows this practice. It is a great approach, for students who have the capacity but cannot afford it, to complete their higher education. These scholarships, however, are exceptional and relatively difficult to obtain. Only a handful of students are granted scholarships every year. Another approach, therefore, is to seek assistance from an established company. Leading corporations have started to invest money in a student’s education based on his/her current academic standing, abilities, and potential to continue in the engineering field (Pillai, 2013). With the guarantee of a job position in a company after graduation, students are more motivated to study and are also less stressed about their future. The companies in turn are guaranteed qualified engineers from esteemed colleges to
work for their company. Furthermore, this is a better solution as the absent debt through loans will no longer affect the economy in a negative way.

Getting an undergraduate degree is a very expensive business in the present world. However, people have found various ways to support their financial requirements. Taking a loan is the least beneficial approach because it is risky and many people are not guaranteed jobs after graduating. Scholarships are difficult to obtain, but if provided they help immensely. The best approach is to sign up with a company which provide finances for education and in turn the student works for this company for a certain period. Here in Texas A&M at Qatar, students have access to all the previously mentioned solutions. The Qatar Foundation provides scholarships and financial aids to students from all nationalities, allowing students to afford quality education without being financially stressed. Furthermore, numerous companies are willing to fund students who will work for them upon completion of the degree. With the industry willing to help by providing financial assistance, more people are able to have access to education and consequently introduce new products and services to the world.

Citations


Biography

Iresha Hemachandra is an electrical engineering sophomore. She originally hails from the beautiful island of Sri Lanka but has lived in the peaceful sultanate of Oman for most of her life. She moved to Doha in 2013 when she joined Texas A&M at Qatar. An engineering degree is quite expensive and difficult to afford for most students. Funding for education was a major conundrum for her as well. However, the Qatar Foundation has greatly supported her financially in affording her tertiary education and she is grateful for that. Making use of these availabilities has opened doors to many new and exciting opportunities.
Haya Rasheed Al-Borshaid

This paper was written originally in Spring 2015 for my Engineering Ethics class. I believe that ethics is a great guide in everyone’s life in terms of differentiating what is right and wrong, and the Aggie Honor code is a big part of every Aggie’s experience at Texas A&M. Therefore, as an Aggie engineer I wanted to prove that through this paper.

How Ethical Codes Influence When Making Decisions: COE and Aggie Code of Honor

There is a great transition when starting to work at a firm. That transition from a studying environment (university) to a working environment (company or an organization) brings with it a big responsibility of knowing the rules and regulations of that place and following them. I realized that greater consequences would depend on what I do or do not do when deciding on big projects. At the same time, I realized that there would be less severe consequences when dealing with day-to-day decision making, but it does not mean that these decisions are less important. I believe that when dealing with making either daily decisions or major decisions, personal as well as professional codes play a greater role than the regulations and laws of the organization. This paper argues that the Codes of Ethics and what I learned in university in terms of the Aggie Code of Honor will be influential in making decisions in the work place. In this paper, I will first present my experience with the Aggie Code of Honor in university and explain how it helped prepare me for work. Then, I will show how having an Aggie Code of Honor and the Codes of Ethics will affect my ethical decision making in the work place. Finally, I will explain how having a principled position and an Aggie spirit will help create trust in the organization.

According to the Aggie Code of Honor, “An Aggie doesn’t lie, cheat, or steal, or tolerate those who do” [1]. Therefore, following the Aggie Code of Honor in university is not only the right thing to do, but it is beneficial to gain the knowledge and reputation needed in work. According to Harris Jr., by following virtues such as honesty and courage and by incorporating them into my life, it would help me find my importance [2]. These internal elements, as he explains, are objectives that many people follow because they have “an idealistic dimension” [2] which inspires people to do the right thing ethically without the need for rules to state it. Therefore, I think when the Aggie Code of Honor was first established at Texas A&M, they were not asking students anything beyond reason; they were asking them to commit to following simple moral values that would lead them to develop their personality in terms of integrity and ethics.

Applying the Aggie Code of Honor in my university experience has helped me depend on myself, rely on my abilities, and not use unethical ways to get what I want. For example, these unethical ways include cheating to get the grades I want, lying so that
I get an excuse for missing a class or a homework, or stealing to benefit from someone else’s goods. Following the Aggie Code of Honor has helped me gain respect from my professors and fellow students, which in turn has helped in getting recommendations when applying for work. It gave me confidence when I worked in internships because I know that I passed all of my courses by my hard work and commitment. On the other hand, I saw many students who were not following the Aggie Code of Honor or any other ethical code. I saw them have a hard time finding an internship or a sponsorship even with their high GPA because they lacked that reputation of being ethical. Yet, some of them managed to get a job or an internship position, but they struggled to complete the tasks assigned to them because they did not pass their courses by studying and working hard but by cheating or lying. Therefore, I believe I am stronger as an engineer because I learned and gained knowledge the ethical way, even if it meant failing a course or two and repeating them. Also, I am stronger as a person because I trained myself to get over obstacles and resist the temptations of others who were not following the Aggie Code of Honor yet managed to succeed. Thus, following the Aggie Code of Honor helped me get the reputation I needed to get the job I want and gain the knowledge that will help me succeed in the work place.

Laws and regulations are not enough when dealing with decisions and ethical dilemmas at the work place, but I would need codes such as the Aggie Code of Honor and Codes of Ethics to help me make decisions as an engineer. When I start working in a company, I will have to deal with all kinds of decision making: what information to share with the company, what projects to accept or not, what papers to sign and when, how to deal with co-workers and managers, what to say or not say in terms of work-related subjects and issues to others. Some of these decisions will definitely fall under the laws and regulations of the company, but many would require using the Codes of Ethics. Davis argues that having a code of ethics is crucial to help engineers know how to act in certain situations professionally, as well as ethically, and to judge their actions and behaviors before taking them in order to predict the consequences [3]. He thinks that public opinions and laws are not always rational or moral and that they should not be taken as a guide for rational and moral actions since there were and still are irrational and immoral laws [3]. Similarly, Harris thinks that not everything that is necessary to act upon is listed and summarized in laws and rules [2]. He believes that there must be a higher degree of judgment, since there is more to professional ethics than preventing problems and deviated behaviors. I agree with both of them and that is why I believe in using the Codes of Ethics, which include the principles that the Aggie Code of Honor is advocating. These codes would help me make decisions in the future and I trust that my decisions will be rational which gives me the motivational element to support human good.

An example would be accepting projects because they are profitable without looking at consequences on human life or the environment. This would violate both the Codes of
Ethics and the Aggie Code of Honor but it will not violate any official rules if there were no laws constraining the project or its location. However, Davis states: “A code of ethics is necessary in part because, without it, the self-interest of individual engineers, or even their selfless devotion to their employer, could lead them to harm everyone overall” [3]. I agree with him since many unethical engineers will be so tempted by the profits that they will neglect the project’s consequences. Nevertheless by applying the Codes of Ethics I would not approve a project to ensure people’s safety and to protect the environment if I learn that this project would negatively affect them, even if it means losing profits.

The Aggie Code of Honor can also be applied in this case because, as simple as its one sentence statement, it provides the basic principles of common morality that would, no matter what consequences it would cause, lead to choosing the ethical option eventually. So in this case I would not lie to the management and would tell them about what I found regarding the consequences of the project and so help prevent these consequences from happening. Some might say that the Aggie Code of Honor is so simple and short that it would not help me as a professional engineer. However, I think that this short sentence would provide me with the basic principles that can be the start of any decision or action I would take. This statement, versus the pages-long listed rules and regulations, would inspire me to work honestly and feel good about what I do because I am doing the right thing. It would take me to a higher moral position than simply following the rules like everyone else.

In addition, Davis [3] believes that having a code would “protect each professional from certain pressures (for example the pressure to cut corners to save money) by making it reasonably likely…that most other members of the profession will not take advantage of her good conduct” [3]. According to him, engineers are under great pressure to be objective. They are expected not to speak up when it comes to expressing personal opinions in order not to waste time and to complete the tasks on time [3]. I agree with Davis. Following the Codes of Ethics will remove pressure on the decisions that would be taken. This is because I would know that other engineers would make the same choice or take the same decision and will not be taking advantage of my choice for competition purposes. Going back to the same example discussed, if I find out about the project’s consequences, then I shouldn’t feel the pressure of deciding whether to report it to management or not because it would affect the company’s profit; instead, I would tell them without hesitation and trust that they will make the right decision regarding it because we are following the Codes of Ethics. Thus, having a code of ethics is crucial to help engineers know how to act professionally as well as ethically since laws are not always rational or moral and engineers should have a higher degree of judgment by following codes which, for me as an Aggie, would include the Aggie Code of Honor.

Following Codes of Ethics and the Aggie Code of Honor creates an individual that has a principled position and as an Aggie it means I am dedicated to the Aggie Code of Honor among other things. These codes would provide the company with a trustworthy and
ethical engineer. I believe that with my knowledge of professional ethics and by following Codes of Ethics and the Aggie Code of Honor, I would have a principled position, a stance on ethical dilemmas which means that I should be trusted and that I would be able to make the right and moral decision. Also, being an Aggie engineer will improve that trust that I can make the ethical decision versus other universities’ engineering graduates. Downey et al. believe that figuring out the identity and what makes up an engineer (asking the “who” question) would help to identify the sort of beliefs, ethics and actions that an engineer is most likely to follow [4]. Furthermore, Harding et al. presented studies that show connections between academic dishonesty and other unethical behaviors such as theft, cheating, and recklessness [5]. Similarly from their study, they found that there is “a strong relationship between self-reported involvement in prior academic dishonesty (high school) and self-reported involvement in present dishonest behavior (college and workplace) of engineering students” [5]. They believe that even if the circumstances and the environment change, many students would make the same deviant actions they made in high school or university if tempted to, for example, cheat or violate rules at the work place [5]. Therefore, being an Aggie and graduating from TAMU-Q, I would be known to promote honor and honesty since Aggies commit to the Aggie Honor Code, which would give the company great confidence in trusting me as they would know that I most likely would follow codes of ethics as I have practiced in my university experience.

Once I establish myself, I can promote those ethical standards in my company so that I make it less likely that I would struggle when making ethical decisions. This corresponds to the seventh step of the Seven Step Guide for Ethical Decision Making adapted from Michael Davis. After following the six steps to resolve an ethical dilemma, the seventh steps asks what should be done to make it less likely that I would have to make that ethical decision again. I would say commit to being an Aggie, having a principled position, and promoting those standards in the organization. Ethical decisions are not fixed; they depend on the person tackling them. According to Michael Davis, “sometimes the best way for individual engineers to resolve an ethical problem is to get their professional society to change the standards under which they are supposed work” [6]. So, I believe that having a principled position and following the Aggie Code of Honor and the Codes of Ethics would help professional engineers in the company, including myself, to resolve ethical issues and avoid them in the future because we would be sharing that stance of ethical matters despite different employers’ backgrounds. Some might say that the Codes of Ethics could be limiting or that they do not apply to every situation and so they are weak, and that the simple Aggie Code of Honor could not be of any help in my complicated professional life. However, my response is that they could be the basic start needed to make most decisions.

In conclusion, adopting the Codes of Ethics and the Aggie Code of Honor for me will be influential in making decisions at the work place. Being an Aggie and following the Aggie Honor Code in university is not only the right thing to do, but it is beneficial.
to gain the knowledge and reputation needed in work. At the work place, laws and regulations are not enough when dealing with decisions and ethical dilemmas so codes such as the Aggie Code of Honor and Codes of Ethics are used to help make decisions as a professional engineer. Following them will also create an Aggie engineer who has a principled position and that means that the company has a trustful and an ethical engineer working for them. This way the company will be conducting its business in the right ethical way, serving society as well as profiting.

References


Biography

Haya Rasheed Al-Borshaid is originally from Qatar. She is a petroleum engineer studying at Texas A&M University at Qatar who is graduating in 2015. Despite her engineering education, she enjoys literature, history and writing. Writing is her way of expressing her feelings and voicing her opinion. She is known to have strong opinions and standards which reflect her personality. Even though Haya prefers writing in English, her twin sister is a great writer in Arabic who has had many pieces published, and so Haya hopes that this piece will show her twin sister that she can write just as well, if not better.
Salma Al-Sulaiti

Academic dishonesty has been a problem as long as we can all remember, but over the past decade researchers and teachers have reported a tremendous climb in the rate of academic dishonesty especially among students in higher education. When I first started researching about academic dishonesty, I did not see it as a serious issue. But when I began to look into the factors of academic dishonesty with a closer eye, I found that culture is one of the most important variables influencing students’ ethical decisions concerning academic integrity. The transition from a culture with specific educational standards to one with another set of educational standards can place a huge pressure on the students and draw them toward plagiarism and cheating. I wrote this article to understand the influence of cultural shock on international students studying in the West in order to help academic institutions promote academic integrity.

Can Cultural and Educational Differences Have an Influence on Academic Dishonesty?

The issues of academic integrity within higher education have increased tremendously over the last few decades. Culture is one of the most important variables influencing students’ ethical decisions concerning academic integrity. Each culture has its own attitudes, behaviors and beliefs prevalent at home and in the surrounding community. As a result, many international students feel overwhelmed in college because of the transformation from what they were used to back in their home country to a whole new cultural and educational environment. Understanding the influence of the cultural shock on international students studying in the West may allow academic institutions study the occurrences of academic dishonesty. Through a review of the source material I will be using in my essay, only two main themes became apparent. The rate of “academic dishonesty” is higher among international students due to the differences of educational standards between their home culture and their school culture and the transition between a collectivist and to an individualistic culture.

Many international students face difficulties when they first enter into Western universities due to the huge transformation of moving to a new society. Educational standards and academic expectations can be one of these changes that some of the international students experience in their first year of college. This is because “International students are placed in stressful environments that challenge their educational norms” [1]. These challenges can sometimes lead students to commit academic dishonesty like plagiarism or cheating during the exams. Studies show that many Chinese students are committing plagiarism in British and North American universities due to their poor English-language skills and their lack of knowledge and training about proper citation in academic work [2]. They also consider copying a teacher’s idea as a gesture of respect [2]. In other words, Chinese students are not
only unfamiliar with citation practices, but they also have a different perspective of plagiarism compared to Western students. In fact, citation is not required in Asian countries because all of the information comes from a single book [1]. Introna and Hayes build on this point by mentioning how Chinese are only expected to memorize and regurgitate information from one book in the exam [3]. Indian and Greek students also explained that they used to have memorization tests back in their countries, where they had to repeat the information that was in the book during the exam [3]. This contrast not only caused many students to cheat during exams but also to plagiarize unintentionally due to their low levels of practicing citation in their course work. Therefore, the transition from an academic organization that evaluates the students based on their performance in a recall exam to one that evaluates their students based on their understanding and analysis of the topic can be a bit overwhelming.

Other difficulties that international students may face during their life in Western colleges can be cultural. One of the biggest changes many international students experience is the change from a collectivist change to an individualistic culture. These cultural differences can have a huge influence on academic integrity at college because each type of cultures has its own behaviors, attitudes and beliefs [4]. For collectivist cultures, members are expected to help one another in a group. As studies show “Collectivist cultures are expected to tolerate more cheating…” [1]. That is because some “Arab societies have a strong tradition of helping one another” [2]. By this I mean, Arab students count helping others as a decent act. However, Western universities count this act as serious cheating. Other results show that Lebanese university students cheat more than students in American universities because Lebanon is a collective society compared to American culture [4]. Due to the differences of cultures, academic dishonesty is less prevalent among American students because their behavior is based on their personal interest and is not based on a group choice [4]. Surprisingly, Daniel Martin disagrees with this point as his study results show that individualists plagiarize more than collectivists among business students in the USA [3]. This was because business education has increased the students’ individualistic tendencies and consequently self-serving behavior like plagiarism [3]. As a student from a collectivist culture, helping others all the time is a cultural norm. In fact, disagreeing to help others if they ask for help is frowned upon in our culture. Sometimes during my life in college I am placed in sensitive situations where I see myself torn between my cultural norms and my obligation towards the university’s honor code. Therefore, evaluating a student who is from a collectivist culture using Western standards and expectations can be a bit difficult and challenging to the student.

In conclusion, international students bring their own cultural behaviors, values, and attitudes to Western universities causing an inconstant effect on the percentage of academic dishonesty cases. Collectivist students tend to be more often involved in
academic integrity cases in Western universities due to their clashing cultural norms. In contrast to this, individualistic business students are involved in high number of academic integrity cases. The transition from a culture with collectivist educational standards to one with individualistic educational standards can place a huge pressure on the students and draw them toward plagiarism and cheating. To understand more about environmental changes and cultural influences on academic integrity, I believe I should research about other differences the international students experience in their first year of college. These differences can demonstrate the difficulties the students are going through due to the changes they are facing. I also need to look more closely at the effect of business education on students to get a better idea of the influences of individualism on academic integrity. Considering this aspect in detail will help me provide a better comparison of the impact of collectivistic and individualistic cultures’ on academic integrity.

References


Biography:

Salma Al-Sulaiti is a Senior Electrical Engineering student at Texas A&M University at Qatar who will graduate Fall 2016. She completed her minor degree in mathematics Spring 2015. Coming from a Qatari family of 4 engineers, her childhood dream was to become an engineer herself where she could pursue her love of physics and mathematics. Her experience as the Vice president and co-founder of the Qatari Female Student Association at TAMUQ has not only helped Salma develop leadership skills but has also provided her with a strong sense of devotion for the nonprofit sector of holding charity and fundraising events. She now holds a deep appreciation for how nonprofits seek to improve the quality of life for the Gulf region.
Zeyad Khayyat

This study was created to determine and evaluate the reasons for which the classes at Texas A&M at Qatar are scheduled the way they are; some students’ classes start at eight in the morning and end at eight in the evening. In order to evaluate the reasons for that, a number of students were surveyed and members of the office of records and office of admissions were interviewed. The study opens with an introduction and a need statement, followed by methods employed for this study, display of study results, discussion of results, and finally conclusions and recommendations. The study concluded that there is a miscommunication between the management and students at Texas A&M at Qatar, as the university does not have many options when it comes to class scheduling. However, students are unsatisfied and assume that the university is not doing its job. In addition, the study concluded that there is no direct relationship between the student body size and late class scheduling at Texas A&M at Qatar.

Class Timing and Student Body: A Comprehensive Study

Introduction and Need Statement

It has come to the attention of the author that classes at Texas A&M University at Qatar (TAMUQ) are being scheduled later and farther apart, as some classes run until 8 PM, and some students have classes in the early morning and late evening. It was noted throughout personal social interactions that many students are expressing extreme frustration over late evening classes. For that reason, this study was conducted to determine if the student body size is related to scheduling classes late at TAMUQ.

Methods Employed for Study

In order to study the situation, input from both students and administration had to be considered. For that reason, the author created a student satisfaction survey which recorded 24 responses and can be found in Appendix A. The survey asks the students about their current class standing, their preferred time for classes in the day, and whether they like the class schedule that the Office of Records makes. In addition, the survey asks the students if their class timings were ever changed a few days prior to the start of the semester, and whether their consent was considered, or if they were notified of such a change.

The author has interviewed the Assistant Director of the Office of Records at TAMUQ and an Admissions Counseling Advisor from the Office of Admissions at TAMUQ. The interview questions can be found in Appendix B. The interview with the assistant director focused on the current system of class scheduling, what might cause changes to it, and if the students’ input is considered while making the class schedule. As for the interview with the admissions advisor, the author was trying to determine if there was a relationship between the student body size at TAMUQ and the current class scheduling time.
Results

Survey Results

The survey was distributed electronically to TAMUQ students. The survey recorded 24 responses and the survey instrument can be found in Appendix A. Figure 1 shows the class standing of the students who completed the survey.

![Figure 1: What is your class standing?](image)

As can be seen from Figure 1, most of the students who have participated in the survey are seniors, juniors or sophomores. This indicates that most of those who participated in the survey have at least a year of experience with the problem, and they were exposed to the inconvenient class scheduling at TAMUQ. Figure 2 shows student preference in class scheduling.

![Figure 2: Preferred class timing for students](image)

As Figure 2 shows, most surveyed students prefer late morning, noon and early afternoon classes. A small number of students prefer early morning classes, a fewer students prefer late afternoon classes and no one prefers evening classes. This really poses the question why the Office of Records sometimes schedules classes and labs that run as late at 8 PM. Figure 3 shows a satisfaction rating of the current schedules that the students are offered.
Figure 3: Student satisfaction with current schedules

It is noticeable that most of the answers in Figure 3 tend to shift left to the disagree side. In fact, more than half of the students who took the survey answered “Disagree” or “Strongly Disagree.” This indicates a general dissatisfaction with class timings.

Seventy percent of those who participated in the survey indicate that their class timings have been changed prior to the start of the semester. This really poses the question why class timing changes occur so frequently.

Many of the surveyed students were notified of changes to their schedules. While it is true that the results among the surveyed students is almost a 50-50 split, if this survey is a representation of the TAMUQ student body, it would be a disaster if half the students knew about time changes and the other half did not. Figure 4 shows if students’ consent was considered prior to class timing change.

Figure 4: Students’ consent and class timing
As Figure 4 shows, an overwhelming majority of the surveyed students did not have their consent considered before the office of records changed their class timings. This constitutes a problem for many students, as it fosters frustration that their opinion is not even considered.

In the comments section of the survey, many students have expressed anger over classes that are spread out throughout the day. A particular student complained that his/her first class in the day is at 8 AM, and their next class is at 3 PM, which leaves them with long break times. Other students have expressed anger about the Office of Records and their process of scheduling classes. Hence, it seems that students at TAMUQ are expressing general dissatisfaction about their scheduled classes.

**Interview Results**

The author has interviewed the Assistant Director in the Office of Records at TAMUQ who was more than happy to share the class scheduling procedure at TAMUQ: the Manager of Academic Advising at TAMUQ gets in touch with all the program chairs to inquire about each department’s needs for classes and the approximate number of students who will join. Then this manager composes a report known as the needs report, which names the classes that need to be offered and their capacity. Finally, the manager gives the needs report to the Director of the Office of Records who inputs the needs report into a software called “InfoSilem.” This software automatically generates the class timings for every class.

The Assistant Director indicated that she is unaware if professors are given priority for class timings, wondering if perhaps professors meet with their program chairs before the manager meets with them. However, students are not considered a part of the scheduling process; their feedback is not considered.

The Assistant Director explained that changes to the class schedule after it had been set can occur due to many reasons. Sometimes, some professors leave for an emergency, so finding replacement professors can cause changes to the schedule. In addition, the current construction projects at TAMUQ might affect class scheduling, if a particular classroom or a lab was being renovated. Finally, if a large number of students fail the same class in the previous semester, the university will try its best to offer that class again as soon as possible in order to avoid delaying their graduation. Thus, the addition of new classes to the class list can affect class timing.

As for changing class timings, the Assistant Director informed the author that there is no official way that the students can appeal to change a class timing. It is a policy of Texas A&M University’s main campus in College Station, Texas, that classes are not changed unless it is an absolute emergency. However, the Assistant Director stated that students are usually informed of any class timing changes, either by email from the Academic Advising Manager or by their professors.
In addition to the interview with the Assistant Director in the Office of Records, the author also interviewed an Admissions Counseling Advisor in the Office of Admissions at TAMUQ. This advisor emphasized that the Office of Admissions is usually informed of renovations in any classroom or lab. However, the Office of Admissions has no say in how many labs or classrooms should be available. It is also worth mentioning that the advisor conveyed that the student body size did not expand, and so he approximates the total number of students as 420 to 430 students. In addition, the advisor commented that he is unaware if the TAMUQ Engineering Building was built with a specific capacity, and he assures that if any obligations are made for accepting a large number of freshmen, it is from higher management (namely, the Dean’s Office or Qatar Foundation).

Finally, the admissions advisor indicated that he assumes that there is continuous collaboration between the Office of Admissions and Office of Records regarding the student body size and class scheduling. He also assumes that the Admissions Office’s administration is pushing for classroom expansion. However, he is not sure, which is why the advisor recommended the author to interview someone of a higher management position in the Office of Admissions who will be able to answer such questions.

Discussion

This study has revealed that the class scheduling system at TAMUQ is automatically randomized by a computer system. However, all classes need to be available for all students without any clashing of classes. As a result, some classes end up being scheduled late in the evening or early in the morning.

It was interesting to hear from the advisor that the student body size did not grow over the past few years at TAMUQ. It is intuitive to assume that more students are being admitted to TAMUQ, which can cause late class scheduling to accommodate for everyone. However, the advisor emphasized the exact opposite; he has confirmed that the student body did not grow at TAMUQ. This indicates that there is no direct relationship between the student body size and late class scheduling at TAMUQ.

As the Assistant Director of the Office of Records has indicated, there is no official way for students to appeal to change the timing of a scheduled class. Moreover, students’ input is not considered when making the class schedule.

Recommendations

Given the findings of this study, it is recommended that TAMUQ introduces a student feedback system into the process of class scheduling. It should be noted that even if the Office of Records could not meet students’ preferences while making the class schedule, it is at least worth trying.

As stated before, the author has noticed throughout his social interactions that generally, the student body at TAMUQ is frustrated because of classes that are scheduled so late,
or so early. For that reason, it is recommended that the Office of Records needs to be more transparent in the process of class scheduling. It was previously assumed that there is much that the Office of Records can do to enhance timings for classes, but as it turns out, there is not much they can do as the classes are scheduled automatically and they need to be available for everyone.

**Conclusion**

This study was needed as many TAMUQ students (including the author) have expressed frustration over late class scheduling. The author has suspected that the reason for such class scheduling for students is that the student body size is growing at TAMUQ, which forced the university to conduct late classes or labs for some students. However, it was pointed out that the student body size did not grow over the past few years. However, it can be easily noticed around campus that many labs are being renovated, which is why the author recommends conducting a study that would evaluate late class scheduling and its relationship to the number of labs being renovated on campus.
APPENDICES

Appendix A: Student Survey

Classroom timing satisfaction survey

1. What is your class standing?
   Freshman
   Sophomore
   Junior
   Senior
   Super Senior

2. At what time of day do you prefer to take classes? (choose all that apply)
   Early morning
   Late morning
   Noon
   Early afternoon
   Late afternoon
   Evening

3. A few days prior to the start of a semester, were your class timings ever changed?
   Yes
   No

4. If yes, were you notified of such a change?
   Yes
   No

5. Did the Office of Records get your consent before changing your class timings?
   Yes
   No

6. Do you have any other comments, questions, or concerns?
Appendix B: Interview Questions

Office of Records Interview

1. What is the procedure for class scheduling in TAMUQ?
2. Are class timings random? Is student input considered? Is professor preference considered?
3. What causes class-timing changes?
4. Is the students’ consent considered before changing class timing?
5. Are the students notified if any changes are made to their schedules?
6. Is there an official process which students can appeal to the university to change class timings?

Office of Admissions Interview

1. What is the current size of the student body at TAMUQ?
2. Do you happen to know if the TAMUQ building was built with a specific student capacity?
3. Is the admissions office informed if there will be a change in the number of classrooms/labs in TAMUQ?
4. What made TAMUQ accept this number of students? Is it obligation from the Dean’s office? Is it obligation from Qatar Foundation?
5. Is there a coordination between the office of records and the office of admissions regarding admission numbers and class scheduling?
6. Is the admissions office pushing TAMUQ administration for classroom expansion?

Biography

Zeyad Khayyat is a Mechanical Engineering senior at Texas A&M University at Qatar. While he was born and has lived his whole life in Doha, Qatar, he is originally from Palestine. However, like many Palestinians, he holds a Jordanian passport. Zeyad’s childhood dream was to become a pilot. However, later on, he was convinced to pursue a degree in mechanical engineering. Zeyad enjoys reading fiction books, listening to music, and spending time with his friends and family. As Zeyad is approaching graduation, he aims to find employment at an engineering firm that will appreciate his abilities and assist him on making the best out of his knowledge.
Bishoy Metry and Brian J. Tompkins

This paper was written for a scientific and technical writing course in spring 2014. We received a research poster written by our classmates, and our task was to develop and conduct a usability test on the poster. The objective of the usability test was to measure how effectively the poster communicates its idea to the anticipated audience. In this paper, we report our findings and make recommendations for the authors of the poster to improve their poster’s effectiveness.

Usability Testing Report on Smartphone ECG Monitoring Research Poster

Introduction

We performed our usability tests on the poster provided by Mustapha and Mohamed. Their poster presents a technology that can help reduce the number of deaths caused by cardiovascular diseases. The authors had three main concerns: the attractiveness of the overall design of the poster, the suitability of the colors chosen for the poster, and the effectiveness of figures used in the poster in explaining the main concept of the system. Our testing goal was to address these concerns and to gain more information from our participants on any other aspects in the poster that stood out to them. Thus, we used this information to give recommendations to the authors of the poster.

The poster’s primary audience, as stated by the authors, included investors potentially interested in financing the technology featured in the poster. Such potential investors would value a technology which is practically effective, and would, in time, return profits. These investors would need to get a general idea of what they are being asked to invest in, as investors would not just spend their money on something they know nothing about. The investors’ attitudes to a research poster would likely be impatient and/or skeptical, meaning they just want to know if the technology is worth investing, and how this can help them in the future. So if the poster doesn’t quickly grab their attention regarding to these two key points, they are not likely to read it.

The purpose of this report is to provide feedback with analysis to the authors of the poster so that they can see where their poster succeeds and where it needs improvement. In this report, we will show our testing plan that we followed to gather data, to interpret results obtained using the data, to determine conclusions based on the interpretations that we deduced, and to make recommendations to the authors of the poster to help make their poster more effective. The audience of this report includes our professor and the co-authors of the poster.
Methods

We tested four participants in our study. Two were in their first year as engineering students, one was in his senior year in engineering school, and one was in her third year of medical school. Although none of the participants were native English speakers, all had been using the language for between 12 to 20 years (specifically 12, 15, 17, and 20 years). All four were chosen from the student body of Education City, three from Texas A&M and one a medical student at Weill Cornell Medical College. The decision to use students as participants was based on the convenience of the testers but also served the purpose of simulating investors who would be college educated, know English well, and be willing to consider new ideas. In order to ensure the privacy of our participants, we had them sign a consent form (Appendix B) stating that their data will not be published publicly with their names, and that they may discontinue the test any time they wish. We also conducted the test in quiet areas such as the library or the open-access lab 241-G. This helped ensure that their responses were unaffected by any of the above factors and kept away any undesired inaccurate data. Our usability test (Appendix A) consisted of three sections. The first section consisted of entrance questions. This is where we obtained demographic data of our participants. Such data can be valuable to understand trends in the results. The second section contained 12 usability testing questions. These questions were all user tests, rather than a heuristic. The reason for this choice was that we wanted to know how the poster’s intended audience would respond to the author’s stated concerns. The final section asked two exit questions. The purpose of this last section was to get a final impression from our participants regarding the poster after they answered all the usability questions and were familiar with the poster itself.

Before starting the usability test, we conducted a short drill with our participants. The purpose of the drill was to stimulate the participant’s “thinking aloud.” We simply asked them to open the “Documents” folder on our laptop. So when they opened it without saying anything, we illustrated to them how to think aloud as this would give more valuable results than the answers to the tests alone. We then started the test, which took about 10 minutes with each participant.

Table 1 shows a timeline of when each task was completed from preparing the testing documents, to submitting this report:

<table>
<thead>
<tr>
<th>Task</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prepared the waiver form</td>
<td>March 13</td>
</tr>
<tr>
<td>Constructed the test’s questions</td>
<td>March 14-16</td>
</tr>
<tr>
<td>Tested the test with a friend</td>
<td>March 17-18</td>
</tr>
<tr>
<td>Revised test based on preliminary findings</td>
<td>March 18</td>
</tr>
<tr>
<td>Conducted the revised test with the participants</td>
<td>March 19-27</td>
</tr>
</tbody>
</table>
Interpreted results & prepared recommendations | March 27-30
---|---
Presented our outcomes | March 30
Submitted the report | April 5
Submitted this rewrite of the report | April 16

Looking back at the design of our testing plan, we believe it was very effective as it provided us with much useful data. We also think the thinking aloud drill was very beneficial as it helped us gather more data than what our questions actually asked, which is exactly the point of user tests. As for areas that could have been done better, there was a misinterpretation by two of our participants in answering question 9 in our user test questions: “On a scale from 1 to 10, with 10 being the easiest and 1 being the most difficult, how easy would it be to find how the information was going to be gathered?” The question is supposed to be asking the participant how the phone app is going to gather the information to process. However, due to the vagueness of the question, two participants thought that it was asking how the researchers will gather information to further research this technology. Therefore we believe that this could have been fixed before we did the actual test if we had tested the test with more than just one friend.

Results and Discussion

Reading Habits

The first thing we asked of our participants is how they would normally read a poster in a hallway. Two of our participants said they would read the title and the pictures on the poster. One participant said he would first read the headings, followed by the abstract, then the introduction. Then he would decide whether to read the rest. Our final participant was very detailed in her description: “I look generally at the layout, figures, tables, headings, titles, authors, institution, funding, date, and place conducted. I read the abstract first, then the figures, and if those are interesting enough, then I read the text if necessary. Then I move to discussion and conclusion. I place a lot of value on how professional and neat it looks. This has to do mostly with design, fonts and layout.”

We used this data to help us understand what the participants will be talking about in the following question as a lot of our test questions afterwards will depend on how they read the poster, specifically questions, 2, 3, 4, 7, 11, and 12 (Appendix A). We then shaped our recommendations based on all the data and results shown below along with the knowledge of what the participants actually read and did not read.

First Impression on Design

We asked the participants “What was the first thing you noticed about the poster?” Participant B noticed the headings, the heart clip art at the top, and the topic of ECG tests. Participants A and C noticed the layout, especially the heart clip art, and then the
photos. Immediately after answering the question, Participant B described how the colorful design distracted from the seriousness of the topic and made her feel that it was “not serious.” Participant D also made comments about the layout that are mentioned in other sections, including the need for an abstract.

For each participant, the visual elements of the poster were mentioned first, whether positively or negatively. This indicates that design features, especially visual features, are important as they control first impressions.

**First Impression on Content**

After removing the poster, we asked our participants: “What do you expect the poster is about?” All four participants gave a correct response where they knew exactly what the poster is about. They all understood how the poster advocated the use of ECG signals to get them online with the webmaster in order to monitor the patient’s heart rate. They knew this in just the few seconds they spent reading the poster. Participant C added that she expects that “the poster is about using something called telemetry and phones to measure EKG results to be able to take quicker action on cardiac events, because that’s an important health issue and a lot of people die from it.” Likewise, Participant A also added that he “expects the poster has something to do with smartphones detecting heart abnormalities.”

This shows that the poster gives an informative first impression. After conducting the full test, we believe that this informative impression is caused by the introduction and the flowchart given in the poster. This is illustrated in detail in the following point.

**Finding the Problem**

After we asked our participants “Where would you look first to find out what the problem is?” Three out of the four participants pointed out the introduction as the first place to look. The fourth participant also stated that she already found out what the problem is from the introduction, and that the title also helped her in finding the problem. One said he would normally look for the abstract, but since there is no abstract, he would look in the introduction.

Since our participants understood what the poster is about from their first look, we can infer that the introduction gave the readers just the right information that they needed to understand the poster’s topic; hence, they had the right idea as stated in the previous finding. However there was a reference to the absence of an abstract by one of the participants. This is addressed in the following point.

**Abstract**

As shown in the previous point, one of the sections that users were expecting in a poster was an abstract. When we asked them how they would normally read a research poster, all participants tended to say that they would look first at the title, headings, and figures as
shown in our first point in this section. Two participants stated that the first piece of text they would read would be the abstract, if there were one. Since there was no abstract in this case, they knew to start in the introduction, but it struck us as a missed opportunity. One tester, when asked about design elements he found distracting, said that he was “annoyed that there is no abstract.”

It would have been more convenient for the readers if an abstract was present as two participants stated that the first thing they would read would be an abstract in order to get the idea of the poster.

Design

Since design was a major concern for the authors, several questions were included to focus on the effectiveness of the design either directly or indirectly, such as questions 2, 6, 7, 8, 9, and 10 (Appendix A). Findings ranged from strongly positive for some elements to strongly negative for others, with everything in between.

Two of our participants emphasized the significance of the numbers of the deceased patients due to cardiovascular diseases (as shown in Figure 1 with the numbers written in red). It appears that the red text attracts the reader’s attention which could be a good thing. Perhaps an investor would be motivated to read more about the poster and the technology after seeing those numbers. That would help the poster achieve its purpose.

![Figure 1: Red text](image1)

All four of our participants indicated that the flowchart, shown in Figure 2, helped them understand how the ECG signal will be obtained and how it will reach the webserver.

![Figure 2: Flowchart](image2)
We have already mentioned that there were elements of the design that were quite effective. At the same time, other elements did not seem to be as effective, and some even distracted from conveying the message in the tone it had been designed for.

Six specific elements are mentioned here (see Figure 3 below for a visual breakdown): One tester said that the light color sub-headings were difficult to read, so he missed them when scanning the poster. Another said that the crooked title and the bright colors made the poster appear “not serious,” especially since it is dealing with a serious topic like people dying of heart diseases. Another said that the placement of researchers’ names was awkward because it was off to the side, not directly under the title as they would have expected; also, although the names were always found relatively quickly, there is no note that says what the names are for (i.e. these are the names of the researchers) or who they are in relation to the research institution. The medical student participant also mentioned that screenshots of ECG traces on the phone app/web server didn’t add to the presentation. Finally, all of our readers had to get up very close to read the conclusion because it was such a dense block of small text.

Overall, the main positive design aspects were the presence of the phone flowchart, and the use of the red text. There are six main design features which need to be addressed, as shown in Figure 3. We have included some recommendations in a later section to facilitate effective revision in this area.

Ease of Finding Information

We asked our participants to state how easy it was to find two key points in the poster: the medical purpose of the technology, and the role of the cell phone in the technology
(Appendix A, questions 8 and 10). We gave them a scale of 1 to 10, with 1 being the hardest and 10 being the easiest. For each key point, three of the participants gave a number in the easy range of the scale while the one participant faced difficulty in completing a task as shown in Figure 4.

![Bar Graph Showing the Difficulty Level of Finding the Medical Purpose of the Technology, and the Role of the Cell Phone](image)

**Figure 4: Bar Graph of Quantitative data**

From the majority’s point of view, it could be said that both tasks were easy to find as the mean value of the scale for finding the medical purpose was 8, and that of the role of the cell phone was 7.5. Both values are in the easy range of the scale. However it is interesting that for each task, there was one participant who experienced difficulty, and it was not the same participant. Participant D faced difficulty when finding the role of the cell phone because, as he stated, “I don’t know whether they’re making a phone or a phone app.” Participant A faced difficulty in finding the medical purpose of the technology. After he gave his score, we asked him why it was hard, but he did not elaborate.

We can see that the poster’s overall design allowed the reader to find the information relatively easily. There were some exceptions, but those were due to reasons other than the design. For example, one participant found it hard as he still did not understand the concept of the technology itself.

**Terminology**

One of the aspects of the poster that we found to be somewhat problematic was the choice of the terminology used. Use of engineering technology was not always understood by testers without engineering backgrounds. For example, one of our participants specifically mentioned the difficulty of the terms Arduino and telemetry. Only one participant (the senior MEEN student) knew what an Arduino was. Neither of us knew either.

Since the stated audience is potential investors who may be interested in financing commercialization of the system, the system should be communicated in a way they
can understand. People in that category may have all kinds of backgrounds, ranging from healthcare to business to any number of things, so engineering knowledge can’t be assumed. It would be wise to use terminology that is widely understood.

Determining How the Data Will Be Gathered

In question 9, participants were asked “On a scale from 1 to 10, with 10 being the easiest and 1 being the most difficult, how easy would it be to find how the information was going to be gathered?” As stated in our methods section, there was some confusion about the question because some weren’t sure whether we were asking how the researchers gathered their data or how the system will gather heart rates. The ones we believe interpreted the question about how researchers gathered data responded with scores of 1 and 5. One said he “didn’t see it initially” and the other didn’t find it at all. The ones who interpreted the question to mean how the system gathered heart rates scored it 9 and 2. The one who rated 9 knew right away that it came through the Arduino (he knew what that was), but the one who rated 2 didn’t find it.

The responses to this question were an overall mix of results. The first two participants gave low scores indicating the task was hard because it was not even mentioned in the poster how the researchers will gather the information. The fact that one of them said he “didn’t see it initially” is surprising as it indirectly means that he saw it later, which could perhaps be a mistake on his behalf.

Participants’ Expectations of the Objective Section

When we asked “What would you expect to find in the ‘Objectives’ section?”, Participant A said he would expect that there would be some sort of overall experimental procedure, “what exactly the idea is about,” and background information answering the questions “Why am I researching this?” and “Why do we need this technology.” Participant B didn’t read the objectives section, but he expected that it should explain what purposes the mobile phone and the app hold. Participant C didn’t read the Objectives section as well, but said she would expect to find out “if this is reliable and accurate enough to replace current systems.” She went on to comment, “I think that none of this programming web servers and all of that has any point unless you can prove it’s reliable.” Participant D said that, from the objectives section, one needs to know the aim of the poster, and why this aim is important.

It would appear that there is little consistency of readers’ expectations of this section, so it is difficult to say whether readers expected what was written or not. As testers, we were surprised to find that the objectives section dealt more with the tasks of the research project (i.e. “design an android application,” “create a webservice,” “integrate the MATLAB code”) rather than the goals of the research and the technology itself and what it is designed to do. We concluded that the objectives section actually gave the methodology of the “experimental procedure” rather than stating the actual goals of the research project.
The Methodology Section

Three of our participants did not understand the methodology section due to the excess presence of data, especially below the two graphs. One participant read the methodology section fully and said that this does not provide sufficient data to understand exactly how it works.

It occurred to us that it may be impossible to meet everyone’s needs in the Methods section anyway; most people don’t care, so they don’t read it, and those who do care want more details than you can give on a poster. No one was satisfied by this section.

Memorability

There were three main “memorability” questions asked (7, 11, and 12 in Appendix A). Halfway through test, participants were asked “What is the most memorable part of the poster?” and then toward the end of the test, they were asked what they remembered to be important parts of the research. Concerning the poster, Participant A said the most memorable thing was “definitely the pictures.” Participant C said it was the center flowchart diagram and also the conclusion. Participant B said that the most memorable thing to him was the number of people deceased from cardiovascular diseases as discussed in a previous point. When asked about the important parts of the research that they remember, Participant D remembered that an “important piece of the research is developing something to do with the phone, maybe an application or something like that,” and “another important point was using codes from Python, MATLAB, Arduino, and iPhone.” Participant C remembered that an “important point was detecting cardiac abnormalities earlier in time and more accessible for people; we’re addressing an important issue with a resource readily available to many people – smartphones.”

The “memorability” questions reinforce the findings that the poster gives an effective portrait of the technology in general, although the details were not always clear.

Final Impression

In the final question of the test, after the participants had spent several minutes with the poster and the technology, we asked a question we felt aimed toward finding out what the poster communicated about the technology. We asked, “If you could use one word to describe your impressions of the technology based on what you have read today, what would your word be?” Some responses were positive, but not informative: “really good” and “interesting,” but others pointed toward something more specific: “revolutionary” (he elaborated to say that it seemed to represent an important shift in healthcare technology) and “accessible” (meaning that it made top class healthcare accessible to average people).

From the perspective of using the poster to understand something about the technology, the poster gives a favorable impression, sometimes a strongly favorable impression of
the technology being developed. The potential usefulness is clear to some, although not all. Since in the search for investors one does not need everyone to invest, but only a few committed supporters, this result can be viewed as a success.

Conclusion

Based on the usability testing outcomes, we can conclude that the poster is effective in giving an informative first impression to the reader, mainly due to the presence of the graphics and the successful introduction. It is also successful in attracting the reader’s attention due to the phone flowchart and the use of the red text. The poster’s overall design makes it easier for the readers to find the information that they may want to look for. Adding to that, the poster gives a favorable final impression with useful memorable aspects for the reader such as the actual technology and how it can address the numbers of deceased people.

We can also conclude that some areas in the poster require the author’s attention for improvement. The absence of an abstract is a missed opportunity to make the poster more convenient to the reader. There are some design elements which need to be altered (those are shown in Figure 3). The use of uncommon terminology makes it harder for the reader to understand the poster, and the audience of the poster is not necessarily familiar with the terminology stated in the poster so it would be wise to edit that. The methodology section in the poster provides either too much information that does not get understood or read, or too little information for a reader to fully understand the methodology. Finally the objectives section seemed to pose some trouble to the readers. It is more of a methodology section than an objective.

Recommendations

Based on our outcomes and conclusions, practical changes are recommended based on what has been found to be helpful for the author’s stated purpose and audience, which is finding investors for potential commercialization of the healthcare technology. Recommendations are being prioritized with a different purpose: what makes sense for the direct purpose of an English 210 project. The main result of that distinction is that time is considered a more important factor in these prioritizations than it would be otherwise. The most important recommendations were summarized as a handout for our presentation (Appendix C). There are three priority levels starting with the most important (1st level) and working toward least important (3rd level).

First Priority Recommendations:

1. **Revise for Clarity of Language.** It must be remembered that although the research is done using engineering principles, the audience of the poster is mostly non-engineers. Thus use of engineering terms and technical language should be minimized. Examples that non-engineer (or young engineer) testers found difficult
are “Arduino” and “Telemetry.” Consider changing these terms to be more broadly understood, even if that means less specific.

2. *Simplify Graphics.* Retain graphics that were effective, such as the center flowchart and the text coloring that highlights the fatalities statistics, but cut out and simplify unnecessary “fluff.” Several possibilities were highlighted in Figure 3, but if there was just one most important thing, consider cutting out the ECG screenshots and spreading out your flowchart. The flowchart was a highly effective visual, so you may do well by emphasizing it more. Also, use darker colors for the headings as two of our participants had difficulty reading the headings as they are light colored. This will help your poster look more like a serious research, while remaining attractive and communicative.

**Second Priority Recommendations:**

3. *Cut Out the Methods Section.* Three out of four testers paid little to no attention to the Methods section besides the flowchart diagram. The one that did pay attention to it wanted more information than could possibly be on a poster, plus including that much information would not fit the stated audience. It appears that no one’s needs can be satisfactorily met in the methods section, so we recommend removing it to make room for emphasizing other things.

4. *Include an Abstract.* Since testers were expecting an abstract, it would be wise to include one. This also serves the purpose of providing a start-to-finish overview of the technology. You can make space on your poster by cutting out less read sections such as Objectives or the aforementioned Methods (although possibly including some of the most relevant information from those sections). Much of the data from the Discussion and Conclusion section is vitally important to understand why the research is important, although it was rarely read. Consider highlighting these elements more effectively in an abstract.

**Third Priority Recommendations:**

5. *Highly-Readable Overview/Abstract vs. Hard-to-Read Article.* This would be a somewhat dramatic rewrite that in the real world would require another round of testing, but we want to mention it regardless. The structure of the report was done to parallel the structure of a scholarly article. Since the stated audience is primarily commercial rather than academic, consider using information from your existing sections, especially the introduction and conclusion, to make a document to be an overview of the technology, especially how it will improve patient care and the medical system. This may be more effective for attracting investors. It also might be beyond the scope of this course.
APPENDIX A: THE USER TEST

Entrance Questions:
Age: Year in School:
Major: Gender: M / F

Years using the English language:

Task-Based Questions:
1. How would you normally read a research poster you see in the hall? Skim? Scan? Read this poster the same way you would read one you found in the hall.

Take away the poster.
2. What is the first thing you notice about the poster?
3. What do you expect the poster is about?
4. What would you expect to find in the “Objectives” section?

Give the poster back.
5. The researcher is trying to solve a problem. Where would you look first to find out what the problem is?
6. You want to know the researchers’ names. Where can you find them?
7. What is the most memorable thing about the poster?
8. On a scale from 1 to 10, with 10 being the easiest and 1 being the most difficult, how easy would it be to find the medical purpose for the technology being developed?
9. On a scale from 1 to 10, with 10 being the easiest and 1 being the most difficult, how easy would it be to find how the information was going to be gathered?
10. On a scale from 1 to 10, with 10 being the easiest and 1 being the most difficult, how easy would it be to find the role of the cell phone?

Takeaway the poster.
11. From what you remember, what is one of the important points of the research?
12. Can you remember any more important points of the research?

Exit questions:
Was there any element of the poster design you found distracting? (Can show poster if helpful, but not necessary)
If you could use one word to describe your impressions of the technology based on what you have read today, what would your word be?
APPENDIX B: WAIVER

Usability Testing Consent Form

Research Purpose and Benefits

The purpose of this research is to test the usability of the presented product. This means that you will be asked to “use” a product and/or be asked to give your personal opinion on various aspects of the product.

Length of Time Required

The overall estimated time for a testing session is 15-20 minutes.

Participation as Voluntary + Right to Quit at Any Time

Participation is voluntary. You can stop at any time and do not have to give a reason for stopping.

Privacy/Confidentiality Procedure

You can choose the location where we speak, so you will be comfortable. The information you will provide will be confidential and will not be shared with anyone except the ENGL 210 instructor.

Risks

This usability research does not present any extra risks beyond those in normal life.

Compensation

No payment or extra credit is offered for your help.

Contact Information

This project is being completed as part of an ENGL 210 class for spring 2014. If you have particular questions or concerns, please email her. This project does not require official Institutional Review Board approval because it is part of a class project and will not be published.

Participant Name: ___________ Signature: __________________

Student Researcher Name: ___________ Signature: ________________

Date: __________________________
APPENDIX C: RECOMMENDATIONS HANDOUT

Recommendations Summary

1. Revise for Clarity

Looking mostly at technical language here but also there is quite a lot of content on the page.

Since the audience is potential health-care investors, we may want to avoid using too much engineering terminology (ex. “Arduino”, “telemetry”).

The content might be too much to put on this size poster. It appeared very text dense to us as well as to some testers.

2. Simplify Graphics

Design was somewhat “fluffy” in that it was highly attractive, but the attractiveness appeared to distract from the seriousness of the topic.

Some graphics were helpful, especially the flowchart. But other elements, such as the ECG screenshots and the angled title seemed to take away from effective communication.

The formatting suggestions we went over in the presentation is on the back of this page if you would like to use it.

3. Include an Abstract

Users were looking for an abstract on your poster. Multiple users mentioned that an abstract was one of the first things they read when they look at a poster. One user was “annoyed [he] can’t find an abstract.”

Adding one may be a simple fix that adds something users were expecting while at the same time it gives you an opportunity to present an overview of your project that will likely be read.

Consider shortening or eliminating sections such as Objectives and Methods, which tended to be skipped in reading, to highlight your abstract.

Idea: Highly-readable abstract vs. hard-to-read article
Biography

Bishoy Metry is a Texas A&M University at Qatar student studying electrical and computer engineering. Although Egyptian, he is a life-long resident of Qatar and that was where he obtained his primary and secondary education. His goal is to take computer track courses to prepare him for graduate studies in computer engineering.

Brian J. Tompkins is a mechanical engineering student at Texas A&M University at Qatar, Class of 2016. Having grown up on the east coast of the United States, he now makes his home in Qatar and hopes it stays that way because Arabic is the most beautiful language in the world.
Hamda Al-Naimi

This essay is about how I learned to do calligraphy while I was a high school student. I went to Girls Creativity Center in 2012. It was a requirement to take the creative hours to graduate from school, but then it became something I love to do in my life. I wrote this in response to a literacy narrative assignment in a Composition and Rhetoric class in spring 2015. I hope when you read this essay you understand that nothing is impossible in this life and that we can do anything we want.

Calligraphy Came to Me

Every person in this life has a something to do that inspires him or her. They go and try their best to become good at that thing. For me it is different: Calligraphy came to me, if you could imagine that.

My story began when I was 17 years old and in grade 12 at Al-Bayan Secondary School. One of the grade 11 girls in our school came to our class and asked, “Do any one of you need creative hours to complete the volunteering hours for this year?” I raised my hand, and said “Yes, I do,” as I knew that I only had 100 hours and needed 50 hours more to graduate from high school. Then I could enroll in college to make my engineering dream come true. I registered for the afternoon time, 5 to 7 PM each Sunday and Tuesday since I could not go to the morning classes due to the classes I have at school. I went to the Girls Creativity Center, a well-known center for female creative activity. They offered many different courses, but I registered for the Arabic Calligraphy Course. I had always wanted to become an expert at it in order to express my words in a very professional way.

On the first day I went to the center, I opened the door not knowing where my class would be. I asked the girl at the admission desk, and she guided me to the class room. I still remember the color of the wall: light gray with small blue dots. The instructor was an Iraqi named Mohammed. I cannot forget his words when he said to me, “Your hand writing is not good, and you cannot become good at calligraphy.” He added, “If it is only for creative hours, just do it.” He also said, “Trust me, it is very difficult, and you cannot do it.” I said to myself that is true I cannot do it. I will just take the creative hours and forget about this Arabic art drawing. I am not a creative person, and I hate drawing and sketching. How can I progress into calligraphy work and do it in a very deep way? I have to focus on every single detail. If I remove my hand and do not write the letter on the same line, then I have to repeat all the words from the beginning as I cannot erase the ink from the paper.

After a day, we took the placement test and they put me in the beginning level. But I could not attend at this time as I have school in the morning. So, I changed and jumped to the intermediate level. The instructor was angry and said, “You cannot just jump to any level you want; this is calligraphy, not something easy.” I replied to him, “I will practice and do every single work you ask me to do, but please leave me at this level.” We started writing the alphabet letters. I remember my hand was shaking when for the first time I held the wooden
pen and dipped it in the ink to start writing on the art paper. He gave me homework, and I did it at home in my room every day for four hours so I could practice more. Sometimes, my mother got angry at me, as she was afraid that this calligraphy course may harm my studying. But I was good at managing my time and prioritizing.

For almost two months in the class we practiced calligraphy and writing long words, like our names, poems, song lyrics, and Quran sentences. We changed rooms, to a bigger one where I was sat with three girls at an oval table. Their handwriting was so beautiful, and I was wishing that mine would become like theirs. But I did not give up, practicing every day for five hours. In February we had spring vacation at the middle of the month for three weeks. My family traveled, and I refused to travel with them as I wanted to complete my calligraphy work. I sat and practiced six hours every day for two weeks until I could do the work without the pencil and the ruler so that I can go to the next level which is to write and draw what is on my mind on the art writing paper without Mr. Mohammed saying to me which word to write down. This was my goal to reach after I finished this course, even if I would never take the higher course at the center.

On the last day of the course where we have to get our creative hours certificate, I was shocked that I had 100 hours when I only asked for 50. Mr. Mohammed told me, “You will become amazing at this field one day.” He was shocked that I learned it in less than two weeks, especially since I had skipped to the intermediate level which was really hard for me. The others could do the calligraphy very easy, but it took me a lot of time because I had to apply the ruler and the pencil before using the art pen for every word he asked us to write down.

After two years, I still have my works and my art notebook with all the calligraphy writing in it. When I open the first page and then go to the last page, I notice how we can improve if we really want that mechanism from our heart. I am not the same person before entering the course and after it. Even my feelings have changed, as this experience changed me a lot. I can express my feelings not only by showing the words to others and saying them out loud; now, I can express them by writing down on a paper a word that comes from my heart. I really have many words I want to say in in front of all the people, but I am shy to spread them out. That is why I write them down on art paper.

Now I am a person who admires something called calligraphy. I have a small room near my bedroom where I keep all my calligraphy papers. I put them into frames so that I do not lose them. I shared my calligraphy on my college campus last semester in the International Writing Week. I was surprised when my instructor asked me to share it so all the Qatar Foundation students could see it. When I went home that day, I opened my Twitter, Instagram, and noticed a lot of people had taken pictures of my writing. This made me really happy and proud of what I have achieved.
Calligraphy is something I cannot separate from; it is like the air I breathe. I write many things like names, Quran sentences, poems and any other words that just come to my head. My wish is to make my calligraphy work known among people by displaying it at Katara Cultural Village and other exhibitions. My calligraphy work is valuable to me, and I hope that I can become better and better until I become a teacher in that field. I can manage my time and teach other students calligraphy as it is comes from the heart. Everyone has his or her own style in the field of calligraphy, and I can teach my students how to write the words but then they may change it, the way they like, as I did when Mr. Mohammed taught me.

Biography

Hamda Al-Naimi is a sophomore student at Texas A&M University at Qatar, majoring in Electrical and Computer Engineering. She graduated from Al-Bayan Secondary School. She still writes calligraphy in her free time as she deeply enjoys this art. She memorizes Quran and went to Quran high school competition. She hopes to graduate from Texas A&M University and work at Ras Gas Company.
Ghada Al-Haroon

This piece was written for a STLC Beta course, Fall 2014. The purpose of this assignment was to describe the person I interviewed, and so I chose my sister. At first, I wasn’t planning to interview her because I wanted someone who is old with lots of experience. However, I didn’t find that someone so I had to interview her anyway. Working on this piece made me realize that there were many things I didn’t know about my sister. I didn’t know what she went through in her life or how she managed to defeat the obstacles that she has faced. I found it a little bit hard to write this piece because one page essay does not describe how fascinating my sister is. A very determined, generous, and a caring person, she’s the person I wanted to be, but never managed to.

My Sister

She gets new school supplies, and I get the hand-me-downs. She has the right to choose first, and I have the right to be silent and complain internally. It was always like this; my childhood was mainly based on jealousy and hatred.

God granted me four siblings: three sisters and one brother. You could say that we are all pretty close. With my eldest sister we were not close in age but in our relationship only.

I was born when she was four years old. We grew up in a small house in the middle of the city of Doha. We shared a room, and so most of the time we spent our free times together. Since then, she has always been there for me. As I grew older, my relatives and the teacher that taught her started to call me by her name because we looked alike a lot. I inherited the same pale skin that she possesses, the same wavy black hair, and the same sparkling brown eyes.

I must admit that my sister and I had our differences; we usually argue about stupid stuff that no one knows about except if you have an older sister. Of course, we don’t have the ideal sister-to-sister relationship. We do fight sometimes, but not with physical contact. We understand each other with looks only, just a small brutal glare from her gives me the idea that I’ve done something wrong. What I mean is that we do understand each other very well.

Growing up, I came to a realization that she wasn’t only my sister, she was the person whom I wanted to be in the future. When I was in grade 10, I decided to join the debate club just like her. So I did, and throughout the practice days, I found myself not good enough to join the club. Public speaking wasn’t my thing. I wasn’t like my sister, bold and gutsy. I was an introvert and tended to avoid social interactions with unfamiliar people. But I didn’t want to drop out of the debate club, not when my sister did not. She was my role model after all, so why should I?

So, I kept on attending the practice classes. Weeks went by. At the end of April, I was fed up. It’s really hard to do something you’re not interested in, especially when you’re not
good at it. My mom noticed how I was pressuring myself toward the club, and because I am a competitive person and I hate not being able to do something, she gave me a word of advice. She told me that I don’t have to do things I don’t like, even if I wanted it so bad, there are many things I could do that my sister couldn’t. After thinking about it, I lasted in the club for one semester only and then I dropped out. I couldn’t take it anymore. Nevertheless, I was proud of myself for trying to make the first move in taking her steps.

I told my sister about my experience, about me failing to join the debate club. Actually, I usually tell her everything, especially about college and my future. She’s the only one of my sisters whom I feel comfortable to talk with because she never judges me; instead, she offers help. I remember before graduating from high school, I used to spend my time in her room discussing about the college life, and how I can easily get admitted to my desired university. I opened up to her so easily because I found her really good at giving me helpful advice when I go through hard times.

I can honestly say that I’m so glad to have such a sister, and I don’t think anyone can understand just how great she is. After all, my sister isn’t the perfect sister in the world, but she is to me.

**Biography**

Ghada Al-Haroon is a freshmen student at Texas A&M University at Qatar. She graduated from an independent school in 2014. Being the only girl who wants to be an engineer in the family, she’s planning to get her mechanical engineering degree as soon as she graduates in 2018. She spends most of her time practicing fencing at Qatar Fencing Federation. If not there, you would mostly find her burying her head inside a book.
Tabarak Al-Lami

I wrote this analytical piece for the Literature and Arts English course. Our assignment included a visit to Mathaf where we were asked to choose an artistic piece that interested us and to write an essay of commentary about it. In the assignment, we were asked to think about themes, symbols, motifs, imagery, message of the artist and the purpose behind the artistic piece. However, we were also asked to link the piece to one of the poems that we studied and also to reflect on how we personally related to the piece itself.

Suspension

The chosen artistic piece from Mathaf is “Suspended Together” by the female Saudi artist Manal Al Dowayan, which was produced in 2011. The main purpose of the essay is to analyze the contrast drawn between the theme of freedom versus the theme of imprisonment and control reflected by the piece.

Suspended Together, 2011, fiberglass, dimensions variable
Collection: Mathaf: Arab Museum of Modern Art, Doha

The piece contains a set of birds, more specifically white doves made out of fiberglass. Some of the doves are hung in the air using transparent strings. However, others are standing in various positions on the ground. Interestingly, there are many details included on the bodies of each dove. The back of each dove, including its wings, contains a Saudi Arabian traveling permission slip. As a result, it can clearly be seen that the white doves represent Saudi Arabian females since they are not allowed to travel outside of Saudi Arabia without the permission of their guardian, usually the father or the husband.

The details of the permission slip, which are in Arabic, show the full name of the female who wants to travel, the name of the guardian who is usually the father, husband or brother, and other logistic details such as dates of the flight, number of flights, passport number, official stamp of the ministry of interior, etc. On the other hand, it can also be seen that the official stamp of the ministry of interior that signifies the grant of traveling is stamped on the chest of each dove. In general, it can be seen that there are many stamps. However, they are usually placed on the tail and the wings of each dove.
A first sight interpretation would argue that white doves symbolize the freedom that female Saudis have. However, the contradiction relies on the fact that the piece reflects the exact opposite. The permission slips plus the various stamps covering the bodies of each dove mirror a sense of imprisonment and restriction. The mechanics of flying are dependent on the tails and the wings of the doves. However, by placing some of the stamps on the tails and wings, it can be seen that their movement will always be controlled and restricted by authority, where authority under this context is the male guardianship of Saudi females. The theme of imprisonment and control is further reinforced in the fact that the main permission slip is placed on the chest of each dove. This almost reflects a sense of burden and further reinforces the fact that they can’t travel or move without it, which sets out a very morbid mood to the piece. As a result, it can be said that the theme of control and imprisonment dominates the theme of freedom under this angle.

The different dove positioning that Manal Al Dowayan has used can reflect the psychology of Saudi females with regards to traveling. As stated earlier, some of the doves are flying while others are on the ground. The fact that they are flying shows that Saudi females have taken the opportunity of traveling, which reflects a sense of bravery, which ejects a hopeful mood. Nevertheless, others have chosen not to fly even though they have the permission slips. This might reflect the idea that they are not ready or are not brave enough to experience what was once probably not allowed. The theme of bravery is further implied in the fact that some doves have their heads bent down. Such position might reflect their sense of inferiority or insecurity and might also suggest that they are more constricted and controlled by authority, under this context their guardians, than the other doves.

It can be stated that Manal Al Dowayan has used transparent strings as a way of hanging the doves in the air. However, the theme of restriction is implied again as it can be argued that their movement is still controlled outside of the country even though it might seem invisible. Even if Saudi females travel alone, they are monitored electronically in a way that their guardians receive notifications on where they are, a system that was established in 2010. This can be linked back to the title of the piece “Suspended Together,” which further implies that even though they had their permission slips and choice to travel, their movement is controlled and therefore they are suspended. As a result, it can be said that they are not free; they are instead frozen and stuck which reflects a helpless tone.

On the other hand, it can be argued that the piece foreshadows a revolutionary movement. The doves that are flying are essentially fighting for their freedom. The composition of the doves looks as if they are all clustered together, which ultimately reflects the theme of unity, a sense of femalehood and support towards each other. As a result, choosing to travel even with the permission slips is the first step towards independence and freedom, which in contrast sets out a positive mood.
One of the poems studied during this semester that can be linked back to this piece is the poem “Girl” by Jamica Kincaid. Overall, the two works share the theme of control and restriction and the notion of what it feels like to be a female. “Girl” contains a set of endless orders directed from the mother towards her daughter. These set of orders convey a sense of restriction and control over the protagonist’s attitude. Similarly, there are a set of actions that Saudi women can’t do without the permission of their guardian including traveling, securing employment, opening a bank account, etc. Therefore, it can be said that the two works share the notion of authority and lack of independence.

Protection justifies the attitude of authority in both pieces. The mother in “Girl” gives endless advices and orders to protect her daughter from promiscuity. On the other hand, in Saudi Arabia, they argue that they don’t allow women to travel for the sake of their protection.

I have chosen “Suspended Together” because it reflects the notion that a women’s place is at home which is similar in my Iraqi culture. Also, an Iraqi female in an Arabic country can’t travel without the permission of her guardian if she is under eighteen. Having experienced the feeling of having to have a permission to travel alone, I have partially felt a sense of control and restriction.

However, “Suspended Together” pushes the audience to think more about the psychology of Saudi females in regards to this issue. As a result, I now have a better understanding of how Saudi females feel, demonstrated by the different positions of doves in the piece in regards to this issue.

Biography

My name is Tabarak Al-Lami. I was born in Baghdad, Iraq, and raised there for the first five years of my life. I then moved to live in Libya for three years and then finally to Doha to complete my tenth year. One of my goals is to visit every country to learn about its culture, values and attitudes. I enjoy various sports and activities including horseback riding, yoga and archery.
Yazeed Al-Dughaither

This is a piece I wrote as an assignment for my Language of Film class in the Fall 2014 semester. This was initially written as a blog, the prompt for which was to choose a favorite movie, find a review of it, and then to analyze the review in order to reach a conclusion regarding the validity of the reviewer’s critique. This blog topic was of particular interest to me, as I’ve often noticed a distinct chasm between my own perception and enjoyment of movies in comparison to that of the most renowned and outspoken movie critics. Despite this being an inherently subjective matter, the attitude I found adopted by most of these critics riled me. I found that they were often too needlessly critical of many cinematic works. I often attributed this phenomenon to the sheer amount of hype that often surrounded these movies, but this blog prompted me to investigate further into the nature of this process, and more importantly, about the responsibility brought on by the role of critics.

Integrity in Criticism as an Artistic Responsibility

“What’s your all-time favorite movie?” is a question I’ve always struggled to answer. With that being said, one of the first movies that spring to mind whenever I am asked is *V for Vendetta*. This 2006 movie takes place in a dystopian London set in the year 2020, where the enigmatic and masked protagonist of the movie, V, attempts to disrupt the supremacy of London’s tyrannical dictator. V holds several philosophical notions that are key to the movie’s plot, such as the idea that ideas are “bulletproof,” as well as that governments should be afraid of their people and not the other way around. Along his path of bringing down the government and starting a revolution of sorts, V meets Evey, a seemingly mild-mannered and attractive young woman who works for the local broadcasting company. Evey endures a painful process of self-discovery under V’s watchful eyes and emerges a changed woman.

The review that I’ve decided to discuss is the one written on Rotten Tomatoes by Joe Morgenstern. Before the reader can even gather his bearings, he is assaulted by Morgenstern’s unceremonious bashing of the movie in the most typical of pretentious manners adopted by many “high-brow” critics. In an attempt to appear witty in deriding V’s use of alliteration through the movie, Morgenstern says that the movie eventually “devolves into vexatious volleys of cultural ventriloquism… a vichyssoise of vapid verbiage.” Well, I veraciously contend that Morgenstern is an excellent example of the vile variety of vulgar journalistic vermin spewing out intellectually void vomit. See? I can play too. The point is that he comes off, quite frankly, as a pompous bigot. He spends more time censuring the movie and making baseless accusations about its various themes and ideas than actually corroborating his argument with much substance. For instance, Morgenstern refers to the movie as “vapid,” yet he fails to outline a single occurrence of an idea in the movie that wasn’t meaningful or fully developed. It’s not that the movie is perfect; I could easily name some flaws – the point is that if you’re going to
go so far in your criticism of a movie, you should be expected to provide some concrete examples of your denigrations.

At several instances, Morgenstern accuses the movie of “recycling” material from other works, but I think that this conclusion was reached out of a preexisting rancor he has against the movie as opposed to genuine journalistic scrutiny and concern. I think that Morgenstern would be hard pressed to find a single work of cinema or literature that doesn’t extensively “borrow” themes and motifs from other famous works. We are simply too far along the line of human evolution to expect to find pure novelty in every movie we watch. I’m usually quite sensitive towards movies ripping off other creative sources, and I didn’t feel like V for Vendetta did so in a manner worth berating. This is also bearing in mind that I’ve either read or familiarized myself with each of the works he referenced (1984, The Mark of Zorro, A Clockwork Orange). If anything, I found V for Vendetta to have a very refreshing and distinctive style to its sets and direction.

There are many other criticisms of Morgenstern’s that I found largely unjustified. In describing the relationship between V and Evey, he says that “things go blooey instead of gooey whenever heroine and hero come close enough to touch; far from being sensual, let alone erotic, the movie proves to be not much fun at all.” I find this statement to be ironic considering he was accusing the movie of being contrived only a few lines above that statement. Why is there an expectation for every hero and heroine to have romantic interests in each other? That’s contrived. I was glad that despite the subtle romantic undertones in Evey and V’s relationship, the screenwriters resisted the urge to succumb to some viewers’ (and critics’, apparently) childish expectations of sexual intimacy between the male and female protagonists in any given movie. The fact that Morgenstern requires sensuality and erotica in order to be enticed by a movie, I find lamentable and pathetic.

Finally, Morgenstern calls out the movie for romanticizing terrorism as a “necessary evil” and claims that the movie “peddles anarchy in a user-friendly package.” I think that this is proof that Morgenstern failed to grasp the primary message behind this movie. I think that V for Vendetta aimed to explicate how governments can sometimes be the real “terrorists,” and that we as people should be more wary with regards to what we see labeled as “terrorism” in the media. Basically, the issue of the placement of the line between “terrorism” and a coordinated government-led strike is a matter of perception that is subject to individual bias, rather than one of undisputable fact.

While Morgenstern did have a few valid criticisms with which I agree, or at the very least acknowledge as valid, I think that the vast majority of his complaints were superficial, unfounded, and emotionally charged. With that being said, Morgenstern did bring up some of the strong points of the movie, most of which I agree with. These include the epic set pieces scattered throughout the movie, such as the final obliteration of the buildings of Parliament. There are several examples of powerful symbolic imagery in
the movie, such as the domino scene, which Morgenstern did not specifically reference, but I suspect he enjoyed. All in all, I found the review to be lacking in objectivity and unbefitting of a reviewer of his supposed stature. It really does both sadden and irritate me to see such criticism for its own sake. For this reason, I do not place much faith in the hands of movie critics. Oftentimes, they will be prejudiced towards a certain movie just because they feel that to be worthy of their titles as critics, they must criticize to no end – even when it’s unwarranted. All too often, it just feels like many of the reviews I read are nothing but strings of conceited drivel that are aimed at justifying the author’s existence rather than that of the work being considered.

In closure, I would like for this writing to serve as a reminder for all of us about what it means to criticize, and more specifically, to criticize constructively. When someone, be it a well-established Hollywood director or just a friend asking for advice, dedicates so much of their time and effort towards a creative work, it is important to treat it responsibly. In order to truly lend a helping hand in improving the quality of this work, honesty and objectivity play crucial roles. Bearing that in mind, I can only hope that future works of art, cinematic or otherwise, will be examined under a more impartial light.

Works Cited


Biography

Yazeed Al-Dughaither was born in Houston, Texas, and lived there for a few years prior to an eventual move to his native Saudi Arabia. Soon afterwards, he found himself living in neighboring Bahrain for eight years prior to his enrollment at Texas A&M at Qatar. He is currently a junior pursuing a Bachelor’s degree in Petroleum Engineering from TAMUQ. Journalism and writing have always been subjects that have piqued his interest, but the time to indulge in them eludes him. In attempting to maintain some semblance of comfortable routine throughout the many transitional phases of his life, Yazeed has developed a fervent habit of running and has managed to pick up a guitar along the way. When not running or singing his worries away, Yazeed can usually be found in one of the many dark corners of our fine university’s PETE labs.
Andrew Abbott

The paper is specifically concerned with ethics but focuses on why leadership needs to be incorporated into the ethics course for engineering students. This paper argues that the university level engineering ethics course should include a heavy emphasis on leadership because engineers must motivate others to take action; they must be able to communicate to make the most beneficial decisions for the public welfare. It was originally written for my Ethics and Engineering during Fall 2014.

Leadership Ethics

The Challenger space shuttle was prepared for takeoff, and no one had the leadership to sacrifice the schedule and stop it. Seven people died. Ethical decisions permeate our world whether it is in a political, military, relational, or engineering sense. In almost all dilemmas, the ethical answer is cloudy and is considered to be a gray area. Leadership must emerge to make a choice when these decisions present themselves. Otherwise, decisions will be made too late or they will be never be made at all. This concept applies specifically to the engineering sector. At universities around the world, engineering students are required to take an engineering ethics course. This paper argues that the university level engineering ethics course should include a heavy emphasis on leadership because engineers must motivate others to take action; they must be able to communicate to make the most beneficial decisions for the public welfare.

To illustrate this point, the Challenger disaster will be used as the main case study. The disaster provides a real-time view of the mesh between ethics, engineering, and leadership in a clear and tangible way. On January 28, 1986, seven American astronauts lost their lives in the tragic explosion of the space shuttle Challenger. The catalyst of this disaster was a simple o-ring failure. When the rings failed, pressurized hot gas was allowed to escape, making its way to the external fuel tank which caused a fatal structural failure. A third party working in conjunction with NASA designed the o-rings, and the engineers in charge of designing these o-rings knew they would not withstand the pressures and temperatures they would soon be subjected to. These same engineers suggested to George Hardy, the manager of the rocket booster project, to postpone the takeoff because the design was unacceptable and required improvements. These proposals never made it to higher management until the day of takeoff. Due to pressure from the management and the schedule, the engineers were persuaded by management to consider the o-ring issue an “acceptable flight risk.” To put this mindset into perspective, the o-ring issue seen on the Challenger has often been related to a normal airline jet taking off when one of its wings is about to fall off [1]. This tragedy could have been avoided if anyone either on the management or engineering side of the launch had made an ethical stand. Leadership was necessary, but leadership was absent.

The engineering ethics course should include an emphasis on leadership because
engineers must be able to motivate people to action in order to best approach ethical dilemmas. Leadership is the art of inspiring others to take action towards a common goal. Most engineers are conditioned to take action in their own lives; this is bred through a rigorous education with countless projects, homework assignments, and presentations due at specific deadlines. If an engineer did not know how to find motivation to take action, he or she would most likely have never graduated with his or her degree. Leadership not only involves taking action in your own life but convincing others to do the same. This is where most engineers fall short because they are normally highly technical personalities focused more on the task at hand and less on the people around them. Unfortunately technical proficiency does not help solve many ethical dilemmas. Leadership proficiency does. Engineers are trained to be problem solvers regardless of the vein the problem runs in, and are thus expected to tackle ethical dilemmas. By convincing others to take action, an engineer will be better prepared to implement the most ethical decision. In the Challenger disaster, the engineers fully knew the o-ring was not up to standard and had a high probability of failure. When life is in the pendulum, a technical detail has no room to swing. We know the engineers knew the ethical answer because they brought it up on the day of the launch to management, but we also know their leadership was not enough to postpone the launch. The management was the more convincing party as evidenced by the abdication of the engineer’s viewpoint [1]. Had the engineers stood their ground, lives might not have been lost. This fully supports the notion that a leadership aspect should be added to the engineering ethics course.

Some would argue that leadership is a broad topic and cannot be taught, that leadership is inherent and not learned. To counter this viewpoint, a case study by Hashemian and Loui should be referenced. In this study 18 students were interviewed to determine the effectiveness of an engineering ethics course. Six were engineers who had completed the course, six had not completed the course but had registered, and six were simply students who had not completed or registered for the course. The results clearly showed the students who had taken the course were better prepared for facing ethical dilemmas. It was found “[ethics] students made a clear plan of action,” “In general, [ethics] students were more comfortable with the cases than the non-[ethics] students,” “When [ethics] students wanted to take action, they knew exactly what they wanted to do,” and “[Ethics] students recognized moral problems”[2]. This clearly shows an abstract topic such as ethics could be learned. Leadership operates in the same way. The more an individual is exposed and counseled in the topic, the more proficient they become. From this, it can be concluded the engineering ethics course should have an emphasis on leadership so future engineers learn how to best motivate others towards the most ethical decision.

Engineering ethics courses should have an emphasis on leadership because in order to make ethical decisions, communication is a necessity. Leadership relies on communication because communication is the foundation that the structure of
leadership sits upon. Leaders have existed throughout history and often our history revolves around the leaders. Every single one of these leaders was a great communicator. It is inherent to leadership. Think about the greatest leader you know. You remember them because they communicated a message to you in some way, a message you hold paramount. If the leader were a poor communicator, you would have never remembered his thoughts or ideas in the first place. Every decision within engineering ethics requires communication. In the Challenger disaster, communication was present but was not ideal. The heavy issue of continuing the launch was only truly discussed the day of takeoff [1]. Communication should have occurred weeks before the launch date. As demonstrated by the engineers in this case, it can be difficult to speak up or bring something to the table when your employment, reputation, and pride are on the line. Through proper communication skills, the issue could have been discussed in a tactful and respectable way. An engineer must be trained in this art because communication is used differently in every personal encounter and situation.

Riley discusses this in her discourse on Feminist ethics. Two main camps of engineering ethics currently exist. One is known as masculine engineering ethics and involves a very logical worldview; decisions are made purely on the rational and relationally cold playing field. Feminist engineering ethics opposes this and focuses more on the emotional decision and trusting your feelings about the line separating right from wrong. When discussing the communication methods of these two engineering ethics camps, Riley states, “…men tended to use rights language, and women the language of relationships and care for others”[3]. To best approach ethics within their field, engineers need to be competent in both communication styles.

It should be noted some hold the viewpoint that communication is not a necessary skill when the ethical decision is up to management to make rather than the engineers. This viewpoint is flawed because within every engineering discipline, the engineers are the individuals who fill the management roles later on in their careers. With this in mind, it is necessary for engineers to exercise their communication skills when the consequences are smaller, for example, as a student and new employee. This will only further prepare them for management in the future. This will allow them to level with the other personalities in the decision process, and it will allow them to better lead those around them to the appropriate ethical answer. The importance of communication further supports the addition of a leadership emphasis to the engineering ethics course.

The final reason supporting the addition of a leadership emphasis to the engineering ethics course is because the public welfare will benefit. Although this idea is broad in scope, it has the largest implications to the future of our engineering industries and our world. It has been argued by Little et al. that engineers are capable of not only living up to their Code of Ethics but also in keeping the welfare of the public in mind through all projects. Little et al. state, “We are aware of no [case studies] which teach students how to listen to the voices of those
who are excluded from design decisions, even though they may be significantly impacted by them”[4]. The voices referred to belong to the “public” and this quote emphasizes the fact that topics such as health and safety are covered in ethics studies much more than the public welfare. From this idea it can be concluded that the public welfare is being neglected in engineering ethics education. As engineers, we are required by ethical code to complete our work with the public welfare in mind even though a complacent mindset could arise because of the lack of emphasis on this facet of engineering ethics [4]. For example, the Challenger disaster was drastically detrimental to the public good. Aside from scientists, pilots, and teachers losing their lives, the general population was in turmoil about the tragedy. NASA lost some of the trust of the public and advanced researching had to be postponed to deal with the aftermath [1]. If any one person had applied the proper leadership, the disaster could have been avoided because a stand could have been taken.

Interestingly, Stieb counters the previous argument regarding engineering ethics being concerned with the welfare of the public and says it is a violation of an engineer’s rights. Engineers should not be subject to such political pressure. He states, “the charge that engineers must serve others is political – a method of exerting and enforcing power – and not merely neutral and obvious”[5]. In other words, Stieb argues engineers are required to benefit the public to appease the political system. Although, Stieb argues the “public welfare” is different than the “benefit to humanity”[5], he cannot make this assumption. The two ideas are directly tied and cannot be differentiated. Therefore, Little et al. are more correct in their assumption than Stieb. As engineers it is our responsibility to fully consider the public welfare, and we are more than capable of this task. We dominate the lists of the most paid professions for a reason; we have enormous responsibility to those around us and to technical soundness. Thousands of engineers exist who have a clear understanding of ethics and many are known for doing great things for the welfare of the public. Leonardo Da Vinci, Francis Bacon, Henry Ford, Blaise Pascal, and Archimedes are known in history books as those who benefited the public good through their leadership. From this we know that leadership is one of the many dimensions that allow engineers to benefit the public good and to prevent situations that could harm the public. Because leadership greatly benefits the public welfare, leadership knowledge should be incorporated into the engineering ethics course.

In conclusion, engineering ethics should include a heavy emphasis on leadership because engineers must motivate others to take action, they must be able to communicate to make the most beneficial decisions, and they must be dedicated to the welfare of the public. Engineering, ethics, and leadership will always be intertwined. Engineers who double as leaders will be better prepared to face the ethical challenges of their profession. By creating ethical engineering leaders in the university system, hopefully the world will benefit more from our profession and engineers can avoid future tragedies such as the Challenger explosion.
References


Biography

Andrew Abbott is a senior Petroleum Engineering student from Midland, Texas. He studied at the Qatar campus during the fall of 2014 and completed his undergraduate degree in College Station. He will be working as a Petroleum Engineer for EOG Resources in the United States after graduation. He is very interested in the topics of energy, leadership, investing, and global well-being and hopes to pursue excellence in these areas over the course of his life.
Saeed Binoora

Wars have been burning every living soul on the earth. Few were understandable, but most of them were of no logic and nearly always follow personal benefits. Consequently, the ash scatters as it declares the starting shot of another war. Here is a sarcastic piece of writing that talks about wars and their formation. You may laugh, hold your stomach, and have a good time, but remember that with one laugh many are crying somewhere on this planet. This piece was submitted for Alpha English course in Fall 2014 in response to a procedure essay assignment.

How to Make War

Welcome to the dark side of the human soul. Here, you will be informed of the process of making war. Please, make sure that you have the required profound evilness to experience this process. If you do not have it, then congratulations: you just killed yourself, putting yourself in a position you are not qualified for. Note that a war can be religious, ethnic, technological, political, civil, international, aggressive or defensive. These types are very sophisticated. Understanding them might be tough according to the comparative and contrastive concepts and tools they are based on. However, you will be initially instructed in the basic process of war. Very curious? Showing success will guarantee you a position in the advanced processes. Concentrate on all the details to establish your own information foundation. I wish you a very brutal experience. Please, do not fasten your seatbelt so that you can run away.

First, as an initial number, prepare ten thousand men. Make sure that they drink liquid adrenaline for at least one month, half a cup daily. Hire two leading warmongers with mighty imperial mustaches. Dress them with differently colored, elegant military suits that are full of honorary orders. Kill every sense of morality in their souls so that they can complete their tasks with no more supervision. Then, destroy every man's family; families can be a strong reason for some fighters to withdraw. Second, partition them into two groups of multiple, unevenly ordered rows, facing each other. At this time, try to observe the effect of adrenaline in the increase of their strength and performance. Do not worry about the side effects such as dizziness or vision issues; they will disappear in an hour. Then, arm them with any kind of weapons you prefer; however, weapons of mass destruction are more efficient at this point. Work hard on arming them with bright weapons; otherwise, rusty ones will spoil the process and diminish enjoyment and damage. Third, wave two different banners in obverse directions. The banners should have opposite colors like black and white as they should represent the opposite thoughts each side has. In case a color has no corresponding opposite side, then colors should be light and dark. Not interested in banners? Logos will do the job, but they must represent conflicting concepts.

Now that you have unleashed this process, please make certain that you offer all the
fatal circumstances, so that the process will not stop, but will repeat itself instead. Keep fueling it using concepts like freedom, justice, equality, race, victory, religion, liberation, sacrifice, brotherhood, and fatherland. You can use motherland depending on the nation you include in the process, but never use sisterhood since it eliminates the brunt of the war. The temperature is another effective factor that helps in having satisfying results; the higher the temperature, the more satisfying the results. Thus, it is recommended to be minimum 250 °C. Then, a perfect location can dominate the direction of the war. Therefore, a location with no topographical features will provide more brutality in a shorter period of time, which will end the process earlier.

We are nearly finished with these instructions, but still there are a couple of important points you have to take very seriously in order to be promoted to advanced practices. First, this process is not something you can share with anyone, as it will certainly outrage the community. Besides, the most successful wars were clandestine. Second, if you have access to the black market, you can replace one thousand men with one nuclear warhead. Please, note that using a nuclear warhead will reduce the want for additional tools and further procedures. Now, imagine what would happen if you apply these instructions; you can rapidly and immediately send people to heaven. It is wonderful, isn’t it? Do not leave them in the injustice of life, for think how stuck in panic they will be.

Biography

Saeed Binnoora is an electrical engineering student who believes that bedtime was not made for reading as much as for composing. He is a portrait built with no colors and images, but with words where colors and images exist. In this portrait, words are the most elegant appearance, and only one fundamental is valid: “Speak, so I can see you.”
This essay attempts to analyse the meaning of a piece of art found at Mathaf (the Arab Museum of Modern Art) in Qatar. I chose to analyse this piece of art by looking at it from a psychological approach. I related the triptych to the three phases that occur in a bipolar personality disorder.

A Bipolar Piece

The painting “Victim’s Rose” by the male Iraqi artist Dia Azzawi was produced in 2010. Azzawi’s piece is a triptych whose distinctive pieces differ mildly in shape but significantly in color. Actual holes are found on each piece yet they seem to be in different locations when comparing the three pieces. Not only that, but also these holes seem to be more dispersed in certain places and more concentrated and intense in others. All of the three figures seem to resemble an actual human due to the appearance of a head and a body. Red, black, and gray are the most dominant colors in this piece. I believe the tone of this piece can be described as mysterious. The artist showed three paintings, each with a different color, yet they do not seem explicit. What could the artist be inferring? I believe this mystery could not be tackled unless the artist was asked. Although the actual meaning is not possible to deduce, I personally find a certain
meaning in this painting. I can see the three stages of bipolar personality disorder. Each distinct painting represents a certain stage. The first stage being the manic stage of the disorder and thus the bright colors and the prevalence of the red color specifically. The second stage is depression and thus the gloomy colors, black and dark gray. The final stage is a stage of feeling lost and numb and thus the light colors. The light colors could represent the feeling of being invisible. The mood of the artwork wobbles between seriousness to intriguing mystery and gloominess. The piece does not have any colors outside the range of the human figure. Instead, the human figure has distinct colors within it, suggesting the mood.

The painting is a suggestion of three distinct human states; these states are not normal. They depict the stages of a person suffering and this gives the piece a serious mood. The intriguing mystery and gloominess lies in the symbol found in the holes. The literal holes in each of the pieces suggest pain. Having a hole in you or around you suggests that you are missing something; you are incomplete. It is like a puzzle with a missing piece. That piece cannot be found or is impossible to fit. A bipolar person in any of his/her stages still suffers from pain. Even when in the manic stage, the person might feel on top of the world, but he/she is not satisfied with his/her life. The holes could also represent the ability of a human to make connections between events, actions, or general acts that happened throughout his or her life. The farther the holes are from each other, the fewer the connections made. Hence, the lower sanity level. In other words, the distance between the holes could imply that you are not in a normal human state. This lack of connection could be due to the use of drugs such as alcohol, or a natural brain disorder such as schizophrenia or bipolar personality disorder. Colors, which seem to be the most significant variable in the triptych, symbolize the level as well as type of prevalent emotion. Red is a color that represents the highest level of positive yet dangerous emotions. Black, on the other hand, reveals a high level of emotion yet is negative and debilitating. The light gray to white color, moreover, represents frailty, confusion, loss, or perhaps a state of numbness. The message I see behind this eccentric piece of art is yearning for noticeability. It is trying to raise awareness to an issue widely misinterpreted, and disregarded. It’s trying to spell out a sentence saying: Bipolar disorder exists and is usually mistreated, misdiagnosed, or even misunderstood. In other words, I feel that it is trying to tell us that some people were born with psychological problems. Not everyone you see or meet is a normal person. If someone acts strangely, that does not mean they are disrespectful or mean or that they must be attacked or imprisoned. Therapy is their solution. It seems like people do not comprehend that bipolar patients, or patients of any other psychological disorder, could be ‘blinded’ to their own insanity or to the harm they might cause others. A similar theme was seen in the story “The Telltale Heart” by Edgar Allan Poe. The narrator did not sound normal. The narrator stated that he was extremely nervous yet not insane. He seemed to be obsessed and skittish, causing the audience
to question his integrity. He decides to kill an old man because he apparently fears his blue eye. When the narrator decides to kill the old man, the man wakes up terrified. The narrator claims that he heard loud thumping, and to prevent the neighbors from hearing that, he kills the man. When the police arrive on site, the narrator has everything hidden and acts just fine until he hears the pounding again. He believes that the pounding is that of the man. He felt that the policemen heard that too and therefore shrieks, confessing that he placed the old man in the floorboards. On top of all those abnormal actions, the narrator seems blind to his own insanity, blind to the fact that it is his own heart beating, and perhaps blind to his own motivations for killing the old man. There was a similar theme that I’ve inferred from the painting. The holes seem quite dispersed in the first painting, which led me to conclude that bipolar patients can sometimes fail to make connections between real world actions. They might ignore you for a day, be mean on another day, or even mistreat you. But these behaviors do not always reveal who these people really are. They may have become “blinded” from their own improper actions.

The first person who popped into my mind when I saw the painting was a friend of mine who suffers from bipolar personality disorder. I’ve known this friend for a long time, and I am finally aware of the changes she passes through. Putting myself in her shoes allows me to understand the battles she experiences. Instead of rebelling against the strange actions she commits, I feel that I should try to understand what type of mind processes people like her pass through. After reading extensively about this disorder, I came up with this assumption: not everyone is as healthy as most of the rest of us are. She thinks differently and that is because of the neurons that make up her mind. She is ‘blinded’ regarding how her behavior looks to others. But that is not anyone’s fault to blame. The universe is not perfect, people are distinct, and that is what keeps us going.

Finally, I’d like to end this with a quote by Marya Hornbacher, an award-winning writer and a woman who suffered from anorexia, bulimia, and bipolar disorder, that describes her experience with bipolar disorder, “When you are mad, mad like this, you don’t know it. Reality is what you see. When what you see shifts, departing from anyone else’s reality, it’s still reality to you.”

Biography

*Tala Basem Anabtawi is a chemical engineering student who is originally Palestinian. She was born in Houston, Texas; however, she has lived most of her life in Qatar. She is interested in all sorts of sciences, especially those dealing with the human body.*
Amira Abouhadid and Sherine Khadr

We developed this report based on an idea we had to solve two problems we noticed students face at the Texas A&M University at Qatar library. First, the students find it very difficult to locate a specific person in a study cubicle because the cubicles are not numbered and they all look the same from outside. Second, the only way a student can tell that a cubicle is unoccupied is by peeking over the cubicle’s walls and checking if someone is sitting inside. These two problems cause students looking for an unoccupied cubicle or a specific person to walk around the library several times, to intrude on the students sitting inside the cubicles and to break their privacy and concentration on the material they are studying.

The Numbered Light Box: A Big Idea

Abstract

Searching for an unoccupied cubicle or a specific person studying in the university’s library can be a very exhausting and time-consuming task for most TAMU-Q students. Our idea is to install numbered light boxes on each study cubicle in the library in order to solve these two problems. This new idea is a response to the Big Idea contest organized by the Marketing and Communications Department at TAMU-Q. To determine the most convenient final design of our product, we employed the following methods: an online survey, interviews, secondary research and two full usability tests. The survey’s results confirmed that many students face the same problems while using the library’s study cubicles. From our interviews and secondary researches, we have concluded that our idea has never been applied before in any library, which confirms the creativity of our idea. The two usability tests helped us develop our product so that it meets users’ expectations. With the aid of the recommendations we provide, MarComm will be able to cost-effectively solve the two previously mentioned problems.

Introduction

Report’s Purpose and Map

The purpose of this report is to present our new idea, the numbered light boxes, and to describe the phases it went through before reaching its final form. The report will cover the problem, the proposed solution, the goals of the product, plus both the client’s and the primary audience’s needs, values and attitudes. We will also go over the methods that we used to develop our product. Then we will discuss the outcomes of the interviews and the usability tests we conducted on the product’s prototype in the results and discussions section. Finally, we will provide a summary of the important factors of the final product and suggest recommendations for implementing our idea.
The Two Problems and Our Proposed Solution

As students at TAMU-Q, we find it very difficult to locate an unoccupied cubicle or a specific person in the library because the arrangement of the cubicles prevents anyone from seeing the person sitting inside the cubicle. Therefore, we have to repeatedly glance over the walls of the cubicles and to walk around the library several times just to find whomever we are looking for or an empty spot. As a result, we unintentionally break the privacy of the person sitting inside the cubicle and the same happens to us when we are the ones using the cubicles.

In order to determine if these two problems are indeed worth addressing, we sent an online survey to all students at TAMU-Q via email and received a hundred responses. In the survey, we asked the students if they have ever been interrupted while sitting in a cubicle by a student searching for an empty cubicle. Almost three quarters of the 100 respondents, 73%, said yes while only 27% of the respondents said no, as shown in Figure 1. This shows that many students do get interrupted while sitting in a study cubicle.

To find out if the students get interrupted as frequently as we do, we asked the respondents for an approximation of the number of times they have been interrupted while sitting in the cubicle as a follow-up question. The students’ answer included the following responses: “EVERY SINGLE TIME,” “there are always students looking for an empty space,” “enough to make me angry,” “all the time,” and “99999.”

Furthermore, we included this statement: “I can easily locate a specific person at the TAMU-Q library” as question 6 in the survey, and we asked participants to rate the statement using a scale of 1 (Strongly Disagree) to 6 (Strongly Agree).
While only 16 respondents strongly agreed with the statement, 24 respondents strongly disagreed with the statement, as shown in Figure 2. The accumulated number of respondents who disagreed with the statement is 60, while the accumulated number of respondents who agreed with the statement is 40. (Notice how we conveniently did not place a neutral response option). Therefore, there is no doubt that most survey respondents find it difficult to locate a specific person at the library and that they are frustrated from being interrupted.

To solve these two problems, we came with the idea of placing numbered light boxes on each study cubicle in the TAMU-Q library. The light box will have a design similar to the numbered boxes placed in each cashier aisle at the supermarket.

We believe that placing a numbered light box on the top right corner of each cubicle is a creative method for improving the procedures of finding an unoccupied cubicle in the library and of finding a specific person. Our method can assist students in the following ways:

- If the light box of a cubicle is switched on, then students passing by will immediately know that the cubicle is occupied.
- Students can use the unique number located on all four sides of the cubicle’s light box to refer to their position in the library when trying to meet up with their peers or when trying to locate a malfunctioned computer.

**Product’s Goals**

The primary goal of our product is to improve the functional organization of the library, to increase the productivity of the students by reducing the time spent on looking for an empty cubicle or a specific person, and to preserve the privacy of the students currently using cubicles.

**Client’s Needs, Values and Attitudes**

The Marketing and Communications Department (MarComm) at TAMU-Q is our client because our product is a response to their “Big Idea” Contest. MarComm has called for creative and easily applicable ideas to improve procedures within TAMU-Q and to improve the university’s overall organization. MarComm values cost-effectiveness, applicability and creativity. We understand that MarComm’s attitude might be skeptical about the overall functionality of our product; however, we know that they are hopeful of finding a product that solves a problem faced by the students.

**Audience’s Needs, Values and Attitudes**

The students at TAMU-Q who utilize the library are our product’s audience, and they need to locate their cubicle or person as quickly as possible in order to save time and to increase efficiency. TAMU-Q students value their time and their privacy. However,
some students’ attitudes might possibly be careless, so we are concerned that they might not bother turning on the light box or want to take full advantage of the final product.

Methods

Student Survey

We conducted a student survey before forming our final design of the product in order to identify the real problems that need to be solved and to make sure that students face the same problems. The survey consisted of six questions and was sent via e-mail to all students at TAMU-Q. Please refer to Section 1.2 for the important results of the survey.

Interviews

We interviewed the following people to find out if our idea is creative, cost-effective and applicable and also to listen to any suggestions or comments they may have about the idea:

- Library Director of the TAMU-Q library.
- Facilities Designer at the Office of Building Operations.

Please refer to Section 3.1 for a brief discussion of these results.

Primary and Secondary Research

We searched the web for libraries that may have done this before. We also searched online for some possible designs of the light box and for their corresponding prices and power consumption. We also contacted the Head of Engineering and R&D Department at Electro Industries in Qatar, to find out an approximation of the cost and the power consumption of our product and to check its applicability. We sent him the email in Appendix A along with a picture of a design similar to ours and received his reply via e-mail.

Product Phase One & Usability Test Feedback

Our initial product design consisted of four parts:

- A 3076x1804 PNG image of two white, black framed light boxes numbered 24 and 23 placed on a black steel pole that is inserted into the opposite ends of the walls of the paired study cubicle along with black wires connected to red buttoned switches that are placed on the walls of the paired cubicles located in the library.

Figure 3
• A 4128x2322 PNG image of a white, black framed light box numbered 25 placed on a black steel pole that is inserted into the upper left corner of the four-attached cubicle, along with black wires that are connected to a red buttoned switch that is placed on the walls of the cubicle.

• A 1624x900 PNG image, developed using Paint, showing the labeled interior and exterior design of the light box number 25 along with the placement of the electrical cord connected to the light bulb within the black steel pole and the connection of the second black wire to the red-buttoned switch.

• A one-page long transmittal email in letter format describing the product’s goals, users, functionality, and our primary concerns.

A usability test was conducted by a student from our ENGL 210 class. He conducted a presentation on his usability test and gave us an A4 paper with a paragraph discussing his own recommendations based on his results of the test. There are several changes recommended by him that will make the draft better:

1. Minimize the draft’s texts to one page and use fewer words to make your point.

2. Change the draft’s design from letter style to other formats.

3. Include more details about the author like phone number, email address and other details.

The most effective function of the product is that it will allow students to locate each other inside the library. Since the cubicles inside the library currently look so similar from various points of views, this causes confusion for students. On the other hand, as suggested in the original draft, the least effective aspect of the proposed product is that each cubicle will need to have one extra socket for light boxes. Therefore, the Building Operations will have to provide more sockets to fulfill the product’s requirements.

**Product Phase Two**

Our initial product design lacked descriptions of the images with it. Therefore, we created another product in A4 poster format that includes the three images of the initial product design along with a descriptive title written in bold and three short paragraphs describing the images beside them. Please refer to Appendix B for phase two of the product design.

**Product Phase Three**

As busy students ourselves, we know that few user test participants will be willing to read the A4 poster we developed in Phase Two. Therefore we created a prototype of the numbered light box to test our product on the students who are the primary users of our
product. The prototype is a 26x15x12 cm³ hollow cartoon box covered with pale yellow A4 paper on all six sides with the number 5 in font size 74 written on all of its four vertical sides in black, as shown in Figure 3. The top and bottom sides of the box do not have any writing on them.

Prototype User Testing

We have conducted additional user testing on the third phase of our product. Please refer to Appendix C for detailed information about this user testing. We tested the following aspects of the light box:

- its ability to grab students’ attention
- the visibility of its number from far away
- the functionality of the light bulb within it
- the placement of its light switch
- its position on the cubicle’s wall

Timeline

<table>
<thead>
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<th>Task</th>
<th>Done by</th>
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</thead>
<tbody>
<tr>
<td>Drafting of proposal</td>
<td>Feb 11</td>
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<tr>
<td>Submission of project proposal</td>
<td>Feb 15</td>
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<tr>
<td>Conducting interviews</td>
<td>Feb 17</td>
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<tr>
<td>Conducting secondary research</td>
<td>Feb 18</td>
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<tr>
<td>Designing product phase one</td>
<td>Feb 19</td>
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<tr>
<td>Submission of product phase one</td>
<td>Feb 22</td>
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<tr>
<td>Revision of product phase one after usability test results</td>
<td>April 6</td>
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<tr>
<td>Development of product phase two</td>
<td>April 8</td>
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<tr>
<td>Development of prototype</td>
<td>April 9</td>
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<tr>
<td>Usability testing of prototype</td>
<td>April 10</td>
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<tr>
<td>Conducting student survey</td>
<td>April 9</td>
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<tr>
<td>Development of final product</td>
<td>April 13</td>
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<tr>
<td>Preparation of presentation slides</td>
<td>April 14</td>
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<tr>
<td>Presentation of final product</td>
<td>April 15</td>
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<tr>
<td>Drafting of final design report</td>
<td>April 22</td>
</tr>
<tr>
<td>Submission of final product and final design report</td>
<td>April 24</td>
</tr>
</tbody>
</table>
Editing the final design report | May 1  
Submission of the rewrite of the final design report and final product | May 4

Results

Interview Results

Library Director’s Interview

Adam Cath has never heard of a library that has implemented numbered light boxes before. He has only seen libraries that “have green lights and their cubicle don’t have walls, so the students studying are visible to everyone.”

Therefore, our idea is indeed creative and original. He also pointed out that we need to “communicate it [the idea] to the students, that this thing [the light box] exists” by sending them frequent reminder emails and putting up usage instruction stickers on the walls of the cubicles. This method might solve our concerns as the students will realize that the idea is implemented to preserve their privacy, time, and effort, and to make the process of looking for an unoccupied cubicle or a specific person easier. Therefore, they will be less likely to have a careless attitude towards the light boxes.

Facilities Designer’s Interview

Maha Al-Thani could not give us an approximation of the light box’s cost and power consumption. However, she gave us the contact information of Head of Engineering whom we later contacted to get more information about the product and its cost and power consumption. He gave us brief answers to our questions and informed us of what his company is working on. The Facilities Designer also could not give us an optimum size for the light box, so we relied on the prototype’s usability test results for this piece of information.

Usability Test Task-Based Questions

Prototype’s Ability to Grab the Students’ Attention

The prototype was able to grab the attention of only two user test participants. The other three participants noticed the library’s infrastructure such as the decorative marble cubes and the red painted walls of the central library. However, the Library Director pointed out a few useful methods to notify the students of the light boxes during his interview, as mentioned in section 3.1.1.

Number’s Visibility from Far Away

All five user test participants were able to identify the number on the prototype light box, shown in Figure 3, while standing in the first test location: beside the library’s door. They all answered the second task-based question correctly without hesitation.
Therefore, the number’s font size (74) and color (black) and its placement on all four sides of the light box are effective.

One participant suggested placing the number on the top side of the light box as well so that it is visible to the students on the top floor of the library. However, students on the library’s top floor can easily see the students sitting in the cubicles. Therefore, it is useless to place a number on the top of the light box. Additionally, another student suggested using the numbers on the cubicle in terms of how many hours the student plans to use the cubicle. It is tempting to pursue this idea; however, we think that it will be very difficult to implement it because many students come to the library without a set number of hours in their minds.

Another suggestion we received was to use the number of the light box as a way to book the study cubicle as the students would book a study room in the library. This suggestion surprised us as we had never considered using the light box in this way. However, it is a very good idea that should be studied and tested. No steel pole is needed to support the light box because the prototype was visible to all participants without the steel pole.

**Light’s Functionality**

Only one participant had “no clue” of the purpose of the light bulb within the light box when we explained our idea to him by using the prototype. The other four participants noted that if the light bulb within the light box is on, then the study cubicle is occupied. One participant explained his train of thought by saying, “It’s like a taxi.” Another participant’s rationale behind her answer was that “If it’s switched on [the light bulb], then someone must be there to switch it on in the first place. So that means that it is occupied.” Therefore, the students expect to find someone sitting in the study cubicle if the light box is switched on.

**Placement of the Light Switch**

Four participants expected the light switch to be placed on the inner walls of the cubicles. Two of the four participants expected the light switch to be right beneath the light box as shown by the purple box in Figure 5. The other two participants expected it to be on the opposite side of the light box and beside the computer as also shown in Figure 5. The fifth participant expected the switch to be on
the light box itself because she views the light box “as a separate thing from the cubicle.” Therefore, we believe that users expect the switch to be placed somewhere they can easily reach, so, by walking inside and before sitting, they can use the switch, or after sitting and while using the computer, the switch will be next to their hands.

**Light Box’s Position**

All five participants were able to deduce the right cubicle to which the light box belongs when we placed the prototype in the positions indicated by the green arrows shown in Figure 5. However, one participant suggested placing the light box in the middle of the paired cubicle’s walls, as indicated by the blue arrow in Figure 5. If we placed the light box on the next cubicle in the same position as indicated by the green arrow, then the students will be confused as to which cubicle the light box belongs to. Because the participant’s suggestion is very logical, we changed the position of the light box to the middle of the paired cubicle’s wall in our final product, but we kept its position on the four-attached cubicles the same.

**Usability Test Exit Questions**

All five participants said that they would use the light box if it were implemented; however, their answers varied when we asked them if they thought the other students would use them too. Two participants responded that most students would not use them at all because they don’t care. One participant said they might use them but they “might forget to turn off the light” when they leave. Another participant said “Maybe. They should. If it [the light boxes] were implemented, then all the lights will be on.” The fifth participant replied with a brief “yes.”

**Discussions**

Based on the results of the user test we conducted and the user test conducted by our fellow student, we concluded the following points about our final product that will demonstrate its benefits, as it will solve the two problems mentioned in section 1.2. As well, we have included all of the below information and details in the final product, please refer to Appendix D to see the final product.

**Product’s Performance, Benefits and User’s Perspective**

Students can use the unique number that is printed on all four sides of the cubicle’s light box to refer to their position in the library when trying to meet up with their peers or to locate a specific cubicle. As the light box will contain a light bulb inside connected to it a light switch to be used by students, another performance of the product is to indicate that someone is using the cubicle. If the light bulb is switched on, then students passing by will immediately know that the cubicle is occupied. And when the student is no longer in need of the cubicle, he/she, while gathering their stuff to leave the cubicle, can switch off the light by using the switch to let other students be aware of the availability of that precise place.
Product’s Features and Appearances

The light box does not need a steel pole to support it and to be visible to the students. Therefore, instead of using that black steel pole, the light boxes, of dimensions 26x15x12 cm³ can be strongly secured to the midpoint of the metallic frame of the cubicle’s wall. Implementing this alternative method will decrease the cost for each box without affecting the visibility of the light box from far away. The weight of the box will not exceed 1 kilogram, as it will be made of inflammable light fabric of white color and thin steel frames. In addition, for the numbers to be visible to the students from far away, they should be written in black font size 74 on all four sides of the light box.

Placement of the Product and its Switch

The light box should be placed in the middle of the paired cubicles’ walls and on the upper left corner of the four-attached cubicles’ walls, as shown in Figure 5 by using the blue arrow for the paired cubicles and the green arrow for the four-attached cubicles in the lower half of the figure.

As the product requires a switch, this light switch should be placed on the inner walls of the cubicles, preferably right underneath the light box or beside the computer as shown by the purple box in Figure 5. This is a response to users’ expectations of having the light switch either installed inside the cubicle, lying on the surface of the inner wall under the light box, or next to the keyboard of the computer to be right next to their hand while studying or using the computer.

Conclusions

This report presents the final design of our numbered light boxes’ idea to the Big Idea contest. We now believe that our product has met all the needs and values of MarComm’s contest as we took it through different usability methods, analyzed the results of our methods, and further developed many phases of the product. All this accomplished work has one crucial goal: to present a successful and persuasive final design of our product to MarComm. We believe that our idea has met the requirement of being an innovative idea, as confirmed by the Library Director. Additionally, it is a productive idea, as it will improve the use of the library’s service and its study cubicles in a positive and easy implementable way. Students need no longer experience difficulties in searching for an unoccupied cubicle or a specific person, as the light boxes will guide them to the unoccupied cubicle right away from the use of light. Also, the use of numbers will guide them to the specific cubicle or person sitting inside. Thus, we have solved and preserved the privacy of students and conserved the efforts spent by them to use the study cubicles. This conclusion was confirmed by most of our user testers who declared their willingness to use the product and to notify other students about the implementation of this new idea. As the benefits of our product become known, this will increase the chances of getting more students to use the product.
Recommendations

We believe that MarComm is aware that more and more students are admitted each year into the university, and many of them choose to stay and complete their graduate studies within the university. Hence, for MarComm, it is crucial to implement this system of labeling cubicles now in order to adapt to the expanding student body of the university and to improve the organization of the library. The best timing for implementing our idea will be during the next summer vacation, after completing the 2014 summer semester at TAMU-Q. The reason is that most students will not be around, and so the Building Operations Department will be able to install the boxes without disturbing many students. For implementation, we believe that it is better to contact the companies responsible for manufacturing the numbered light boxes currently used in supermarkets in Doha, such as Carrefour and Lulu Market. These companies, such as the Electro Industry at Qatar, can provide the exact information needed for purchasing boxes, such as the total cost and installation requirements. Moreover, we expect that the information provided by the light box company will enable the IT department to place the switch in either places, mentioned before, to make the switch clear to users and easy to use. We recommend that the university sends an email to all TAMU-Q students and place stickers beside the light boxes to inform users of the light boxes’ usage instructions and benefits.
APPENDIX A:

Light Box Inquiry E-mail & the Attached Photo

Hi,
This is Amira Abouhadid from Texas A&M University at Qatar (TAMUQ). I talked to you a few days ago about the design and the cost of a light box on the phone. I am conducting a research for a course that I am taking at TAMUQ and I would really appreciate your help and response to the following questions:

1. What is the cost and the power consumption of a design that is similar to this picture: [http://www.mgordeev.ru/images/example.jpg](http://www.mgordeev.ru/images/example.jpg)?
2. How is it switched on and off? Is there a switch or do you just unplug it from the electricity source?
3. Is there a way to attach it to a certain surface? Can we drill it into a wall of a study cubicle?

I would really appreciate any information you can offer.
Thank you,
Amira Abouhadid
APPENDIX B: PRODUCT PHASE TWO

Cubicle’s Availability & Position Indicator: The Numbered Light Box

The numbered light boxes will be placed on the two types of study cubicles available in the TAMU-Q library: the four attached cubicles (Figure 1) and the paired cubicles (Figure 2). On each of the four attached cubicles, the light boxes will be placed on steel poles that go into the circular openings located in the upper left corners of the metallic frames of each of the cubicles’ walls. The switches will be placed beside their corresponding light boxes on the metallic frames of the cubicles. Passers-by can easily see the numbered light box from faraway when it is placed in this position because it is placed on the outermost corner of the study cubicle and is not hidden by any of the marble columns situated all around the TAMU-Q library.

On each of the paired study cubicles, the numbered light boxes will also be placed on steel poles and into the circular openings in the metallic frames of the cubicles and the switches will also be placed on the metallic frames. However, the light boxes will be placed on the right upper corner of the study cubicle as this is the most visible position possible given the arrangement of the paired study cubicles in the TAMU-Q library.

Figure 3 shows a simplistic version of the interior and exterior design of the numbered light box. Figure 3 shows how the bulb’s electric cord will be hidden within the steel pole on which the fabric light box will be placed. Passing the electric cord through the steel pole and then within the study cubicle’s wooden structure reduces the possibility of students unintentionally unplugging the light box.
APPENDIX C: PROTOTYPE USER TESTING

Participants

We conducted the user test on five undergraduate students at TAMU-Q: three female user test participants and two male participants. Two of the five participants are sophomore, two are freshman and one is a senior. The participants were randomly selected before entering the TAMU-Q library and we kindly asked them to spare a few minutes of their time to participate in our usability test.

Test Location

We conducted the test in two locations inside the TAMU-Q library. The first location was beside the library door that leads to the Link Atrium and the second location was beside one of the nearby unoccupied four attached cubicles or one of the paired cubicles as shown in Figure 4.

Test Session

All five participants were asked to sign a consent form before the start of the usability test. While the participants waited outside the library, we randomly selected a nearby unoccupied cubicle and placed the prototype light box on it, as shown in Figure 4. We then asked the participants to enter the library through the Link Atrium door and to answer a list of task-based questions followed by a list of exit questions while employing the think aloud concept. We ended the test sessions by asking the participants for any suggestions regarding the prototype and for their opinion of the idea behind the prototype.

Test Time Duration

The duration of the test sessions varied from 5 to 10 minutes, including the time we asked them to exit the library and enter again from the same door. During that limited time, we were able to document everything the participants said during the testing and their own reactions while responding to each task.
APPENDIX D: PRODUCT FINAL PHASE

Cubicle’s Availability & Position Indicator: The Numbered Light Box

The light boxes are made of inflammable fabric and steel frames. Their dimensions are 26x15x12 cm\(^3\) and they have consecutive numbers printed on them in black font size 72. The bulb within the light box and shown in the interior design in Fig. 1 will be switched on in order to indicate that the cubicle is occupied. The bulb’s electric cord shown in Fig. 1 will be hidden in the metallic frame of the cubicle’s wall and within the study cubicle’s walls in order to reduce the possibility of students unintentionally unplugging the light box.

The numbered light box will be placed on the two types of study cubicles available in the TAMU-Q library: the four-attached cubicles shown in Fig. 2 and the paired cubicles shown in Fig. 1. On each of the four-attached cubicles, the light boxes will be secured to the upper left corners of the metallic frames of each of the cubicles’ walls as shown in Fig. 1, with the switches beneath the light boxes on the inner walls of the cubicle or beside the computers. Usage instructions stickers will be placed beside each light switch on the inner walls of cubicles.

On each of the paired study cubicles, similar light boxes will be placed on the metallic frames of the cubicles with the switches underneath the light boxes. However, the light boxes will be placed on the midpoint of the cubicle’s front wall so that users can identify the correct cubicle. The midpoint of the front wall is the most visible position of the paired study cubicles in TAMU-Q’s library.
Biography

Amira Abouhadid is an eighteen year old Chemical Engineering junior at Texas A&M at Qatar. She was born in Egypt and raised in Qatar and the United Arab Emirates. She enjoys painting and running while listening to classic and alternative rock.

Sherine Khadr is a twenty-two year old Egyptian girl who is set to be a petroleum engineer after her graduation in Spring 2016. Currently, she is a senior student who decided to transfer to Texas A&M at Qatar in Spring 2014, after moving to Doha with her family. After graduation, she hopes to start her career life in Qatar to enjoy the diversity that Qatar offers and to gain the significant experience in the largest non-associated gas field in the world.
Texas A&M at Qatar started offering archery classes for beginners in the 2014 Fall semester. 
I have always been interested in archery and therefore enjoyed being a member of this Kinesiology class. This paper talks about the struggles and the joys faced in this class throughout the year and was specifically written as a submission for the Best Writing anthology.

The Struggle to Aim

Ever since I was a little girl, I have always wanted to hold a bow and an arrow and shoot a perfect bull’s eye. I’m not really sure where the inspiration originated from, but I have a strong feeling it was from the many Olympic Games that I thoroughly followed. My oldest memory goes back to the 2004 Olympic Games held in Greece. I remember coming home after a long day at school, sitting down in front of the TV, and watching the games whilst my mom fed me lunch. This dream grew stronger with the release of the Hunger Games movie series as Katniss Everdeen made it look a lot cooler than the Olympians.

When I heard Texas A&M at Qatar was offering archery, it was no big surprise that I signed up for it as soon as I could although it meant changing my schedule around and having the unpleasant task of waking up for 8 AM classes. The first surprising thing about archery was that it wasn’t even half as easy as it looks! The bow in itself weighs 20 pounds which means that if you don’t have strong arms you can’t pull the arrow back as much as you should. In order to have strong arms and to not feel shaky after shooting more than 30 times, constant exercise was compulsory. This meant that I had to do something that I’m not a big fan of: lifting weights in addition to the 30 daily push-ups.

Physical fitness was just fifty percent of the requirement. The rest was all a mind game. Focus was crucial. Once you place your feet in the “right” position and have the “right” posture, you set your mind on “archery mode.” At this point you have to think about nothing else but the target which is placed 12 feet in front of you. You then “knock” your arrow onto the bow, position the bow, pull back the string and place your hand with the string underneath your chin. Then you aim towards the gold center of the target, focus on clenching your shoulder blades and finally release slowly. You also need to ensure that your elbow doesn’t get in the way because if it does, then you are going to get string slapped, which is basically a big ugly bruise that hurts for weeks and can actually tear your skin. Even after all these steps, you still need to consider external elements such as the pin point of aim. Your aim – a bob pin – must be manually adjusted based on trial and error methods. All this requires total concentration. This means that you cannot afford to think about your quiz or even your exam that you might have in the next half hour whilst shooting, let alone what you will be having for lunch. Despite all these challenges and risks, I still love archery and signed up for it once again this semester.
However this semester is a new challenge for me, in order to pass this course I need to get a certain score. This score is higher than what it was last semester. This puts a lot of pressure on me which I don’t enjoy. I also wish we were shooting inside, because then we wouldn’t have to worry about the scorching sun, the powerful winds, or the inconsistent rain.

To me archery is like a metaphor describing the steps in achieving your goals. First you need to set your goal, in this case choose your target. For a typical university student it would be to get your degree on time. You then need to prepare yourself to achieve this goal – setting your body and facing the target with the bow and arrow in the proper position. To earn the degree you need to pass all the required classes and this can be done only by attending all the classes and studying for the exams. Next you aim and slowly release. You enter the exam on time and answer all the questions calmly. The ability to have good concentration is a vital disciplinary act that enables us to achieve our goals on time, to get the degree on time and pass my archery class.

At this point I need to get a good shooting score, and I hope I can achieve this by doing the extra exercises and staying focused, but with all the stress and pressure, the struggle to aim is real.

Biography

Fathima Faizeen is a current student at Texas A&M at Qatar and a member of the Fightin’ Texas Aggie Class of 2017. She found out about Petroleum Engineering after she moved to Qatar from Sri Lanka seven years ago. This field held her primary interest and she is a current sophomore in this major. Her other interests vary from the fields of arts to literature and the many different types of sports. She is the eldest in a family of four and was previously educated at Doha College.
Ashley Bender

This is a personal piece that I wrote while an exchange student in Doha, Qatar. During our lifetime, only a few individuals truly inspire us. My younger sister Veronica has influenced me in ways I will never be able to explain. This poem was written in honor of my sister on her eighteenth birthday.

Alike

I was three and a half and thrilled
Because I was going to have a new sister
We were going to be the best playmates, ever

I remember one day
Trying to play with my sister
But she didn’t want to play
I understood that day that she is special

Veronica, my special sister, is amazingly talented
Roni competes in gymnastics and cycling
She plays the piano and sings in choir
She creates pottery and paints watercolors
Veronica, my special sister, also has Down syndrome

Down syndrome has never held Veronica back
She is capable of everything you can imagine
As a teenager transitioning into adulthood
She is maturing into a beautiful, young lady
And gives her best at everything she does, loving life as everyone should
Anything you can do, she can do better

Individuals with disabilities are passionate people, just like my sister
Like you and me, they have hopes and dreams
A little more support and acceptance is all they need
Diversity, of every ability, is best when we stand together
Everything is possible, when we are united as one

We are best friends, Veronica and I
I am prouder of no one more
And I choose to stand beside her in everything
Supporting and accepting those around us who are different and special

In the end, everyone is special in his or her own way, noticeable or not
But none of us are as strong as all of us
Will you join me?
Biography

When Ashley Bender’s sister was born, she was extremely excited to have a playmate. But she soon realized that her sister would always be different. They have grown up to be best friends, and Ashley’s sister is the reason that she is heavily involved in and has a passion for expanding the acceptance of individuals with disabilities. As a chemical engineering exchange student from Texas A&M University in College Station with hopes of becoming a physician, Ashley hopes to continue living abroad in the future and to spread disability awareness and acceptance wherever she lives.
Muaz Selam

This is a series of blog posts I wrote for Texas A&M at Qatar’s Ethics Blog (Afkar). It is inspired by the following couplet of Allama Iqbal:

To a multitude of men, reason is the guide,
They know not that frenzy has a wisdom of its own.

The word “frenzy” as translated from the Urdu word junoon (which is more commonly translated as “madness”) has a specific connotation in mystic poetry. It refers to the state of being overcome with an awareness of the Divine. Since all creations originate from the Creator, a gnostic is also able to see the world in its true light.

This is thematically similar to notion of phronesis or ‘practical wisdom’ as explained by Aristotle in his Nicomachean Ethics, which differs from the faculties of episteme (principled knowledge) and techne (craftsmanship).

I argue in these posts that phronetic faculties of human intuition and self-awareness are important guides to engineers, who cannot rely solely on their technical/scientific knowledge when developing engineering solutions to real-world problems.

Practical Wisdom in Engineering Design

PART 1

There is always something to be learnt from the novel To Kill a Mockingbird by Harper Lee.

Miss Maudie’s old sunhat glistened with snow crystals. She was bending over some small bushes, wrapping them in burlap bags. Jem asked her what she was doing that for.

“Keep ’em warm,” she said.

“How can flowers keep warm? They don’t circulate.”

“I cannot answer that question, Jem Finch. All I know is if it freezes tonight these plants’l freeze, so you cover ’em up. Is that clear?”

The faculty that Miss Maudie exhibited was that of “practical wisdom” or, as introduced by Aristotle, phronesis. This contrasted with Jem’s approach, which attempted to apply general scientific principles to specific situations – episteme. A third faculty, which relies on episteme, is that of techne. Techne can be defined as specialized knowledge and skills applicable to “making things”, or as characterized by Varsava.
“a specialized technical knowledge that is severed from the lived-world” (Varsava 293).

Though each faculty has its own place in engineering design, *episteme* and *techne* are emphasized in engineering education and practice, while *phronesis* is generally neglected. This is most likely because *phronesis*, which leans upon gut-instinct and a grandmotherly sort of wisdom, represents a departure from our firmly established notions about the process of scientific inquiry.

Scientific inquiry is typically reductionist. Reductionism is defined by the *Oxford English Dictionary* as follows:

> the principle of analysing complex things into simple constituents [...] the doctrine that a system can be fully understood in terms of its isolated parts, or an idea in terms of simple concepts.

For example, anyone who has studied chemistry at a high school level knows that increasing the temperature of a reaction mixture increases the rate at which the reaction product is produced. The reductive explanation (which is, in fact, the standard explanation) for this is that, as temperature increases, reactant molecules gain kinetic energy and move at greater velocities. These molecules then collide more frequently and with greater energy – leading to the formation of reaction products at a faster rate. Specific relationships, such as that between temperature and rate of reaction, are understood using general principles of collision theory. Thus, “reductionism involves a transition from inductive to deductive reasoning” (Selam).

This reductive approach, upon which *episteme* and *techne* are based, is subsequently carried forward to engineering design. This is where a fundamental difference between science and engineering comes into play. Whereas pure science involves seeking explanations for natural phenomena, engineering (or applied science) is predominantly about deriving applications from established scientific principles. The products of engineering design must inevitably leave the workshop, and their utility is only realized in a much more complex social (and environmental) framework.

No longer can pure reductionism carry the day. The mechanisms by which society and the natural environment interact with technology are usually so intricate that it would be epistemologically impossible to sum them up in a handful of syllogisms or principles. The acceptance of *phronesis* as a valid intellectual route to be applied in engineering design is, in fact, an acceptance of the limits of objective human knowledge.

By this point, many readers with a background in ethics and moral philosophy will have realized that we have forwarded a somewhat novel take on *phronesis*. Part 2 of this series will elaborate upon the essential characteristics of *phronesis* as introduced by Aristotle, and substantiate the interpretation put forth in this article.
PART 2

Turning to Chapter VI of Aristotle’s *Nicomachean Ethics*, we will substantiate our interpretation of *phronesis* (practical wisdom) presented in the previous article:

*Now it is thought to be the mark of a man of practical wisdom [phronesis] to be able to deliberate well about what is good and expedient for himself, not in some particular respect, e.g. about what sorts of thing conduce to health or to strength, but about what sorts of thing conduce to the good life in general… It follows that in the general sense also the man who is capable of deliberating has practical wisdom [phronesis]… since scientific knowledge [episteme] involves demonstration, but there is no demonstration of things whose first principles are variable (for all such things might actually be otherwise), and since it is impossible to deliberate about things that are of necessity, practical wisdom cannot be scientific knowledge nor art [techne]… not art [techne] because action and making are different kinds of thing…*

Aristotle emphasizes an individual’s ability to “deliberate well about what is good and expedient for himself” despite the fact that the “first principles” upon which his decision is based “are variable.” This is the essence of *phronesis*.

It is generally assumed that *phronesis* is employed directly in making ethical decisions. This makes sense because the moral values (“first principles”) which support ethical decision making are considered “variable” and subject to change. This follows from the importance given by the Platonic-Socratic philosophical tradition to argumentation, dialogue, and critical thinking when discussing moral values and virtue.

However, it is my belief that the faculty of *phronesis* can be applied much more generally and is relevant to any context where decisions which have a direct bearing on social welfare must be made despite the possession of less than complete knowledge – when such decisions must be based on a noetic sort of wisdom – an acute sense of “what works” – removed from our modern notions of scientific rationale.

This generalization, of which ethical decision-making is a specific case, is compatible with Aristotle’s description in *Nicomachean Ethics* because it retains the essence of *phronesis* – the ability to deliberate about what sorts of thing conduce to the good life in general despite variable (indeterminate) first principles. In the specific case of decision-making in engineering design, as discussed in the previous article, variable first principles arise due to the innate impracticality of objectively tracing out the interaction between engineering design features and the social/environmental context in which they function.

In the next article in this series, we will get a chance to see *phronesis* in action. The abstract ideas conveyed so far will be tied in with engineering ethics through the analysis of historical examples which show how neglecting *phronesis* in engineering design can reduce overall social welfare.
PART 3

Up until now, we have both defined and, using abstract arguments, established the case for *phronesis* (practical wisdom). It would now be pertinent to flesh out these arguments with the help of historical examples which, in concrete terms, exhibit the importance of *phronesis* to engineering design.

As a warm-up example, let us first take the case of the Loriana stove. The Loriana stove was designed for use in the mountainous regions of Guatemala. Its consumption of fuel wood was twice as efficient as that of the typical peasant stoves used by Guatemalan Indians. However, the Loriana stove “gives off less heat than the traditional Indian method of cooking. Even though this is connected with its greater efficiency, it has a disadvantage. The main heating source of Indian housing is the stove. Use of the Loriana stove by Indians in the mountains regions of Guatemala means their homes are cold” (National Academy of Engineering).

This very aptly demonstrates the loss in social welfare brought about by neglecting *phronesis* in engineering design. The engineers who designed the Loriana stove concentrated their efforts on applying scientific principles (*episteme*) to design the most efficient stove possible (*techne*). In doing so, they overlooked the human context in which the stove would function. *Phronesis* would have dictated that a greater understanding of the ways in which Indians use their household stoves be acquired before suggesting significant changes to stove design, given that the current design had already been in use for a number of generations.

Our second example is based on the novel *Wolf Totem* by Jiang Rong, which thematically narrates the human factors leading to the desertification and degradation of the Mongolian Grassland. Its plot – based on the author’s actual experiences – is set in the Inner Mongolian Autonomous Region (IMAR) of China during the country’s Cultural Revolution (1966-76). A group of Han Chinese university students, including the novel’s protagonist Chen Zhen, travel to the Inner Mongolian grassland “to be educated in the ways of the simple, not to mention notionally exemplary, country life” (Varsava 285).

Chen and his peers learn that the grassland, in its most pristine state, is sustained by a balanced, multidimensional interdependence between the organisms inhabiting it. Human beings can sustainably derive benefit from the grassland provided their activities do not disrupt this balance. Perceptiveness of the complex equilibrium which dominates the grassland and the limits it imposes upon human activity can be said to constitute practical wisdom.

The novel exhibits a profound clash between *techne* and *phronesis*. On one hand are the age-old phronetic values of the Mongolian nomads, as conveyed through the character Bilgee, a tribal elder whose teachings shape much of Chen’s experience. He explains:
“Out here, the grass and the grassland are the life, the big life. All else is little life that depends on the big life for survival. Even wolves and humans are little life. Creatures that eat grass are worse than creatures who eat meat… Grass is the big life, yet it is the most fragile, the most miserable life. Its roots are shallow, the soil is thin, and though it lives on the ground, it cannot run away. Anyone can step on it, eat it, chew it, crush it… For us Mongols, there’s nothing more deserving of pity than grass” (qtd. in Varsava 290).

Based on these principles, the Mongols refrained from over-hunting the Mongolian wolf because of its role in controlling the gazelle and marmot populations, which in turn preempted over-grazing. This conflicted with the techne inspired drive towards agricultural collectivism imposed by the Chinese Government – a mindless campaign for the expansion of food production, disregarding the ecology of the grassland as a whole. Wolves, which were a threat to agricultural livestock, were wiped out by the new generation of farmers. The resulting rise in the population of grass-eating animals eventually led to the desertification of large portions of the grassland.

Conclusion

It can be concluded that, for most engineering design problems, successful execution of the design is inseparable from its consequences in a sociological and environmental context. As engineers, we must constantly remind ourselves that the concepts involved in our design are far less significant in scope and complexity than the human (and environmental) contexts into which we are introducing them. Therefore, we must take heed of the multidimensionality of these contexts, resisting the tendency to reduce them until they fit the parameters of our design.

Works Cited


Biography

Muaz Selam is a Chemical Engineering graduate, a native of Texas, and sort of a native of Pakistan. His research interests in Chemical Engineering include topics related to catalysis and reaction engineering. As of this writing, he can’t wait for Go Set a Watchman to come out.
Muhammad Ghufran Rafique

Sit back, relax, and allow me to provide you with a glimpse inside the kaleidoscope of emotions that I was able to construct as part of a Composition and Rhetoric course assignment.

Resurgence

‘Ladies and gentlemen, on behalf of the Organizing Committee, I would like to thank you all for being present here today for the national round of the English Speaking Union’s Public Speaking Competition.’

The contest: over. The results: forthcoming.

The hall was packed. Rows upon rows of scrutinizing eyes, unfamiliar faces, anticipant ears. Everything was new. Everybody was a stranger. And I was in the spotlight.

I took a deep breath. I exhaled. I tried – tried – to relax. It proved difficult. I coaxed my lips into what must have been a strange excuse for a smile. I grasped the microphone as firmly as I could.

I started to recite the poem…

“I would like to extend my deepest gratitude to our esteemed judges, who…”

The chairperson drones on. I can hear her voice, but I cannot listen. Formalities hardly ever bother me. But on this occasion, they are simply serving to make the palpable tension more intense. Why delay the inevitable announcement? Strangely enough, a part of me does want it to be delayed, hoping, wishing, yearning for the river of time to cease flowing, confronted by the dam of my will.

Let me wait a little longer. There is a perverse comfort in waiting, wrapped in the shroud of uncertainty.

I was on my way, and with every word that eased into a refrain that eased into a verse, I gained confidence. I found the courage to smile a more natural smile. And I started to believe that I could win. In my mind’s eye, I could already picture the medal around my neck as I stood on the podium, the proud winner of the elocution.

My reverie was shattered by an unexpected ripple of laughter…

“The competition was indeed tough this year. The adjudicators’ task to determine the winners was not made easy by any of our six young finalists, each of whom must be congratulated for a fine display of oratorical skill and superb confidence.”

The chairperson pauses. The audience applauds. I remain still.

A few more minutes to go.

But what if the outcome is one I do not wish for? I shudder to even contemplate the
possibility of failure.

The applause dies down. The chairperson continues. I shuffle in my seat.

The ripple of laughter spread through the audience, finding more ripples and superposing to create a wave of ridicule which pursued my vessel of confidence — no more than a dinghy now — and towered high above it. My confidence started to sink.


But my confidence could withstand these.

And then I felt my legs giving way beneath me, refusing to hold me in the face of the surge. They had never failed me before, and yet they wobbled uncontrollably as if resigned from the task of helping me stand my ground. Fear. I could taste it.

Could my confidence withstand this? Or would I go down with it, the skipper of an ill-fated craft?

“After much deliberation, the judges have come up with a list comprising two runners-up and one National Champion.”

The moment of truth. Finally.

“The third place has been awarded to …”

I inhale.

“…Mr. Misbah-ud-din.”

I exhale.

I continued — shakily — with my poem, but my confidence was sinking fast. I searched the audience for a friendly face, a lifebuoy, a plank of wood, a straw, anything, to keep me afloat. But the faces were devoid of smiles of warmth, and I felt imprisoned in the glow of the spotlight, unable to escape.

But I could escape, couldn’t I? I could stop my recitation right there, turn around, and descend from the stage. I could end it. I could submit to the wave that wanted to drown me.

The words of the poem still flowed from my trembling lips.

“The recipient of the second place prize is…”

I bite my lower lip. I press down hard.

“…Mr. Ahmed Nawaz.”

I let go of my lip. I can feel the metallic taste of blood. It is not so dissimilar to the fear I tasted on stage three years ago while reciting my poem.
But drowning is painful. And the drowning man struggles until his final breath, gasping for air, striving for the shore.

I chose to swim. I chose to complete my poem. I kept reciting. The vigour was gone. The cadence had vanished. The only emotion was stubborn defiance. And I used it to keep swimming.

I reached the final refrain, and blurted it out in a final thrust to the shore of succor. It was over. I had survived, but my confidence had been damaged beyond repair. Or had it?

“And the winner, of the 2011 English Speaking Union of Pakistan’s National Public Speaking Competition, is…”

I close my eyes. The river of time stops flowing, restricted in my mind by the barrier of past memories and emotions. Losing the elocution three years ago. Dejection. Being laughed at by the audience for my accent. Stage fright. Watching my confidence abandon me. Fear.

And yet, I had made it this far. I had made it to the national round. Speaking in public. On stage. In front of scrutinizing eyes, unfamiliar faces, anticipant ears.

But I wanted to go a step further. I had to. I NEEDED to.

I needed to.

“The winner is… Mr. Muhammad Ghufran Rafique.”

I took a deep breath. I exhaled. I tried – tried – to relax. It proved easy. I coaxed my lips into what must have been my best smile of the day.

I had resurged.

**Biography**

*Muhammad Ghufran Rafique is a reluctant writer, avid debater, and coffee connoisseur extraordinaire. But more importantly, he is a chemical engineering sophomore.*
Constructing Our Futures
A Field Trip to Qatar National Cement Company

MEMORANDUM

November 13, 2014

To: Dr. XXXXXXX
   Lecturer, Chemical Engineering

From: Amira Abouhadid
   Undergraduate Student, Chemical Engineering

Subject: A Field Trip to Qatar National Cement Company

The purpose of this memo is to inform you of the field trip to Qatar National Cement Company (QNCC) that took place on November 6, 2014. It is not easy to be able to visit a cement factory, and I am grateful to be given such an opportunity. Below, you will find a brief summary of the tour around the factory and of the information I have learnt throughout the tour along with my personal reflection on the trip.

Summary of the Tour

We were given mouth masks and safety helmets at the beginning of the tour in order to protect ourselves from any gas emissions and to comply with the safety regulations of the factory. The dangers of the hydration of cement were explained to us. The hazards of cement hydration include skin burns, because it is an exothermic reaction, irritation of mucus membranes, such as eye irritation, and possibly some allergic reactions.

Afterwards, we began to pass through the six stages of the process that transforms raw limestone and clay into cement.

First, we saw the piles of mined limestone, also known as limestone quarries. Limestone quarries have to be located near the cement factory, because limestone is heavy. However, limestone becomes lighter when carbon dioxide is removed from it by the combustion and decomposition reaction that occurs in the rotatory kiln.

Second, we stopped by a crusher that was crushing limestone and clay quarries and correcting the composition of the raw materials by adding iron ore, bauxite or sand. Along the way, we passed by intermediate storages of the crushed material, also known as clinker.

As explained to us, the clinker undergoes complete powderization in the steel balls.
mill, shown in Appendix 1, which is a cylindrical vessel that contains many steel balls, as shown in Appendix 2. The steel balls collide with the clinker; thereby grinding it into powder and completing the third stage of the cement production process. Continuous homogenization of the output stream is achieved by longitudinally and laterally blending the clinker before and after grinding.

The clinker then enters the rotary kiln along with gypsum in order to delay the hardening of the produced cement. The rotary kiln is a slightly inclined furnace, as shown in Appendix 3, which operates at approximately 1400° F, as shown in Appendix 4. The rotary kiln is the most important piece of equipment of the cement production process because it is the only part of the process where chemical transformation occurs. The input clinker undergoes calcination in the rotary kiln to produce cement and limes. The kiln feed is analyzed every two hours. Both endothermic and exothermic reactions occur in the rotary kiln and the output stream has to be cooled down quickly using atmospheric air, as shown by the green air blowers in Appendix 5, in order to prevent reversible reaction and to protect the upcoming equipment.

The produced cement is then ground some more by the same steel balls mills mentioned before and shown in Appendix 1. The cement powder is then lead to packaging or storage.

In Qatar, cement is sold at 12 QR/ 50 kg and is packed in 1 ton bags, 50 kg bags, that are shown in Appendix 6, or in bulk, as shown in Appendix 7. In order to make sure that the amount of cement packed in each bag is 50 kg, the bags are passed over a conveyor belt, shown in Appendix 8, that weighs the bag. If the bag is significantly more or less than 50 kg, the bag is broken and the cement is discarded back into the feed stream because possible legal actions might arise if the amount of cement in the bag is not exact. The cement bags are then sucked from the conveyor belt and placed on a truck that heads out to the consumers, as shown in Appendix 9.

**Personal Reflection**

It was refreshing to learn in an environment other than a classroom and to learn about the process from the people who carry it out themselves on a daily basis. Contrary to the simplistic boxes we use in the classroom to symbolize the equipment that theoretical chemicals pass through, we had the chance to observe the huge, complex structures used in the cement manufacturing process, such as the rotary kiln in Appendix 3 and the steel ball mill in Appendix 1, while their functions and designs were being explained to us.

Moreover, seeing the process flow diagram (PFD) on the screens of the engineers sitting in the control room put everything into perspective as to why we have to learn how to interpret and to construct PFDs. PFDs are the guidelines of any process; they provide quick access to important information. When the feed flow rate of clinkers decreased during our visit, the engineer sitting at the PFD screen was able to spot it immediately and to inform his colleagues.
Even though the engineers who accompanied us throughout the tour gave a brief explanation before showing us around the factory, I found the presentation at the end of the tour more enlightening. The explanation at the end of the tour explained the entire process in a simplistic way and cleared out any questions I had regarding the overall process. In my opinion, it would have been more beneficial to us if they had conducted the presentation with the slides before showing us the equipment and the hills of raw materials. This way, we would have known exactly where each piece of equipment we were viewing fits into the whole process. Also, we would have been able to ask better questions on site other than just inquiring about the equipment’s basic function.

Attachments: Appendices 1-9
APPENDIX 1
Steel Balls Mill

APPENDIX 2
Steel Balls
APPENDIX 3

Outside and Inside View of Rotary Kiln
APPENDIX 4
Rotary Kiln Operating Temperature and Inside View

APPENDIX 5
Rotary Kiln’s Air Blowers on PFD.
APPENDIX 6
Cement Bags 50kg

APPENDIX 7
Bulk Cement
APPENDIX 8

Weighting Conveyer Belt
APPENDIX 9
Cement Bags Transportation Truck

Biography
Amira Abouhadid is an 18-year-old Chemical Engineering junior at Texas A&M University at Qatar. She was born in Egypt and raised in Qatar and the United Arab Emirates. She enjoys painting and running while listening to classic and alternative rock.
Ahmed Alyazidi

We live in a highly capitalistic world, and as years pass by, it gets harder and harder to deal with the increasing complexity of everything around us. Fortunately over the past century, the human rights situation has improved across the globe. However, over all of these years there have been times where human rights values were ignored, disrespected or even fought against. My writing here deals with specifically the status of women in today’s advertising industry. The reason why this is important is because such a topic is usually not taken seriously, when in fact it is a serious matter.

Do Advertisers Need to Rethink Their Methods?

Advertising has become a very important constituent of the modern day media industry. Not because of an artistic value it bears nor because of an important message it seeks to deliver, but rather because it makes a lot of profit. Advertisements are everywhere! On the covers of magazines, on highway billboards and squeezed in between shows on TV channels. Though the advertising industry has developed both in terms of the technology it uses and the amount of social research dedicated to its benefit, it still utilizes the same emotional appeals it has been using for decades. Advertisers care so much about how people feel when they watch their commercials, because that is the key to their wallets, and unfortunately also to their behavior as a social group. In today’s world, almost everyone is affected by commercials. Sometimes positively but for the most part very negatively. People today have become such heavy consumers of everything and anything that is put out in the market. While they happily buy into all of the tempting ads, they rarely pay attention to the negative effects this advertising culture has on their mental and physical well-being. What is even more frightening is the way this advertising culture is changing the face of society. This happens when the advertisers attempt to appeal to people’s emotions in such a short period of time; the best thing they can do is stuff stereotypes into a 30-second ad through which they attempt to make a long-term accumulative impression onto the emotional memory of their audience.

While I respect people’s freedom of expression, I still think that the advertising industry’s ways need to be reformed. I realize that some might consider my call for reform to be overly optimistic and far-fetched, but I strongly believe that the urgency of the issue demands such measures to be taken. In fact, there seems to be a silver lining these days with the spread of a new trend in ads that endorse a positive message or simply spread positive vibes. This new trend undermines the argument put forth by Noonan, a creative director who has worked in the UK, the Netherlands, Australia and the U.S. Noonan says in his article: “The reality is it’s difficult to communicate an idea in seconds - let alone one we’d like you to remember. Visual economy is paramount. The faster the read the better. For better or worse some stereotypes offer an instant understanding of a given moment.” The problem with this argument is that it exonerates companies and
businesses from their moral and ethical obligation towards their customers. It also makes the situation seem as if it's not a big deal. The fact of the matter is that the advertising industry does not just poke fun at certain minorities using stereotypes to simply grab the attention of the audience, but it has actually reached the extent of constantly abusing certain groups of people. Therefore any such argument used by advertisers to exonerate themselves from the social responsibility they have towards their audience is invalid.

Sexism, Society and the Advertising Industry

Anyone living today can agree that today’s world is better than any other period of time in history. Living conditions are much more improved for more people than ever, and human rights are getting less violated with each passing year. One very important field in which humankind has made progress is gender equality. While gender equality isn’t perfectly and completely upheld everywhere around the world, it is still fair to say that things for women are much brighter today than in any other period of history. Sexism, however, still persists in many different forms. One form of sexism is conspicuously present in modern day advertising. It is explicitly conveyed by certain depictions of women in which they appear weaker and less intelligent than men. Sexism can also be implied in other ads where women are constantly portrayed to carry certain stereotypical roles in society. One of the famous manifestations of sexism in today’s advertising industry is in fast food advertisements where women are always portrayed to be an attractive accessory that sits in the background while men enjoy their food. While this kind of advertising may be conspicuously misogynistic, other sexist commercials that seem to be less outrageous are very widespread and unfortunately accepted by society. Some famous examples include the household goods commercials that portray women only as caretakers of their homes and families. According to an analysis of a number of American fast-food commercials conducted by Debra Merskin and Carrie Peckwood Freeman: “All of the voice-overs and the lead actors with speaking roles are men. In fact, in all but a few ads women are presented as silent and willing objects of the male gaze”(465). Despite the fact that women are also consumers of fast foods, fast-food companies risk losing some of their female consumers in their attempt to appeal to more male consumers. While to some people such commercials might seem funny, it is important to judge these ads on the basis of their impact on women along with their image in society. A society in which such degrading commercials are being aired to every single person on a daily basis is prone to be infected with even more sexism and discrimination.

A Case Study: T-Mobile Super Bowl Commercial

In my analysis of a TV ad by T-Mobile, I will highlight the stereotypes and clichés that it contains. In the commercial, which was aired during the Super Bowl this year, Sarah Silverman and Chelsea Handler are two wealthy middle-aged women who are having a phone conversation while going around in their very spacious mansions. They both keep
telling each other how the reception is great in each part of their homes. As if they were in a show-off contest, Handler talks about her mansion, subterranean petting-zoo and figure-skating basement while Silverman brags about her hydroponic kale garden, trophy room and underground delivery room. In this pretentious tug of war, each of the two women is showing off what she has in her house. This stereotype that well-to-do women are very ostentatious and superficial is very widespread. In addition to that, the two women in the commercial seem to be absolutely purposeless and seem to have so much free time which also reflects another stereotype of upper-class women. Silverman is even shown delivering a baby and apologizing to the mom for giving birth to a boy which says a lot about Silverman’s impolite attitude. Handler, near the end of the commercial, is trying the T-Mobile service under her house and when she sees a possum, she mistakes it for a rabbit. Both the fact that she went under her house to try the mobile service and the fact that she couldn’t tell whether the animal was a possum or a rabbit imply strongly that she is, again, not very intelligent.

Advertisements and the Average Person

It is important to note the fact that the commercial was conducted in a satirical manner and was actually intended to mock those stereotypes. However, if we think about it, from a psychological perspective, this thirty-second video that was intended to be aired for the period of the new T-Mobile service is most definitely going to send the wrong message to a lot of people. The effects of commercials on societal values are usually underestimated and regarded as minute or non-existent. However, the constant daily exposure to these ads brainwashes people, slowly. According to California State University at Northridge, an average American child watches 20,000 TV commercials a year and by the age of 65 an average American will have watched 2 million commercials (Herr). Now when you look at these astounding numbers you realize that those 30 seconds of seemingly harmless advertising may potentially be very effective in implanting certain ideals in our societies. When we realize that most of the commercials out there circulate stereotypes, we can conclude that advertising has in fact already caused or helped nurture a lot of the current social stigmas.

Necessity vs Creativity

When Noonan says in his article: “Sorry about the stereotypes, but I’ve got 30 seconds to tell a story about an absent-minded scientist. What does an absent-minded scientist look like? Black? Female? 19-years-old? 80? Glasses? Tuxedo?” He overlooks the fact that there are other businesses that carry out their advertising campaigns without stigmatizing or stereotyping any group of people; they do that quite successfully too. Therefore for him to make it seem inevitable to use harmful stereotypes sounds to me as if he apparently doesn’t believe in alternatives or in the power of human creativity. One commercial that I think is both creative and successful was created by Always
and it is called “Do it like a girl.” In this commercial, people of different ages from early adolescence to late 20s are asked to run like a girl, fight like a girl, then throw like a girl. When they do these things, they do them in a way that suggests that girls are not capable of running, fighting and throwing, which is very stereotypical and the phrase “throw like a girl” is even used as an insult. After that, they introduce little girls and ask them to do the same thing. The girls then did these three activities with so much effort and strength which suggests that they take them seriously and they believe that they can do such things with no problem whatsoever. What we can take from the commercial is that advertisers have the ability and resources to create great commercials that can both grab the attention of the audience and sell the product without harming or stigmatizing anyone. For the many reasons mentioned, it is only logical to demand and call for a reform in the advertising industry. That's because even though a 30-second commercial might not seem like a big deal, the long-lasting exposure to a host of stereotypes and stigmas in ads can eventually undermine the social progress we have achieved as humans and result in an increasingly bigoted and sexist world.

**Works Cited**


**Biography**

Ahmed Alyazidi is now a chemical engineering sophomore. Ahmed was born and raised in Yemen, his home country. He is interested in human rights, science, and history. He likes to meet new people and learn about new cultures. His dream is to one day tour the world. One place he would love to visit the most is New Zealand.
I wrote this paper for my College Composition and Rhetoric coursework. The paper focuses on the issue of gender segregation at the college level in GCC states, looking at both the adverse and positive impacts of segregation for students studying in college. It also sheds light on the effectiveness of these segregated colleges for modern-day GCC states.

Gender-Segregated Colleges, A Thing of the Past for GCC

Since the 9/11 attacks, the Arab world, especially the Gulf Cooperation Countries have been at the receiving end of strict scrutiny and demands for societal reforms from all parts of the world. The religious and cultural conservatism upheld in Gulf States was suspected to breed hardliner extremism which grew into violent movements later on. The reformation of society was expected to be a holistic one, inclusive of changes like greater female autonomy and freedom of media. As part of the demands, the governments were expected to revisit their policies adhering to strict enforcement of gender-segregation in academic institutions. Furthermore, the off-shore campuses of Western universities, set up to provide the best possible education to local students, brought along a co-ed system. As states like Saudi Arabia and Qatar, major allies of Western liberal countries, struggle towards greater integration and collaboration with these allies, they are faced with the challenge of introducing modernizing social and political reforms which are hard to digest for the orthodox populace. This paper aims to explain the greater effectiveness of single-sex colleges in a society with a conventional mindset, but it will also highlight why it is necessary to implement gradual desegregation, at least at the college level, to achieve the desired modernization.

Most of the religious conservatism practiced in Gulf States is derived from the Islamic Shariah Law. As described by AlMunajjed in his book Women in Saudi Arabia Today, Saudi Arabia, being the host to holiest places in Islamic history, has immense significance in Islamic World, especially the Gulf States, today. All of the Gulf States follow Saudi Arabia in enforcing the Wahhabi school of thought’s version of Islamic Shariah as the State’s constitution. “Wahhabism, in its strict orthodoxy, interpreted the Qur’an’s warning about the mixing of sexes by tightly restricting any type of interaction among unmarried and unrelated men and women” (qtd. in Roula 2). In light of this injunction, not only segregated institutions were developed, but generations were brought up with a mindset that stigmatized cross-gender interactions. This mentality helped in legitimizing state’s segregationist policies because either the society asked for them or agreed with them on religious and cultural grounds. One is then compelled to question if the students in such societies are worse off in a mixed-gender environment.
One of the key ideas behind classroom teaching is to accommodate students’ urge to question and engage in productive discussions. Many proponents of single-sex schooling believe that a mixed environment restricts the willingness to question and participate. “Girls in a single-sex classroom reported that they were not afraid of asking and answering questions because they were no longer concerned about reactions from boys as in usual coeducational classrooms” (Park, Behrman, and Choi 462). It is important to note that this comes from a research in South Korea which has relatively liberal policies in terms of gender interaction. In a society where ‘marriage papers are drawn before the girl and boy even glimpse each other’ (Tofol 46), it is understandable why students feel alien in a co-ed environment. This also explains the concern of professors at Texas A&M at Qatar University, a co-ed U.S. university offshore-campus, about students preferring to discuss and clarify problems privately in faculty offices rather than classrooms. This situation worsens with the sensitivity of subjects as students feel highly uncomfortable when teachers touch upon discussions pertaining to sex and its related topics. There is no doubt that students hesitate in actively participating in such discussions all over the world, but in this part of the world even professors refrain from bringing up such topics, being aware of the unease felt by the students. Such environment compromises the effectiveness of classroom learning and justifies the usage of single-sex colleges from an academic perspective.

The advocates of co-ed colleges base their case on the negative impacts of single-sex colleges in one’s professional life. Allie Bohm in her article “The Lasting Impacts of Single-Sex Education” quite accurately delineates this argument in the following words, “At the end of the day, we are not preparing our students for the real world. After all, there are very few things one can do as a grown-up, short of joining a cloistered religious order, to be exclusively in a single-sex environment.” The arguments posed by the supporters strike as pretty valid for a society that has equal job opportunities, both quantitatively and qualitatively, for each gender. Saudi society has the most conservative and widespread view on this issue, but other Gulf Societies are host to similar ideologies too. The significantly lower female employment percentages, despite females being the more educated sex is not baffling in light of such ideologies. It doesn’t stop here. The gender-stereotypical roles define the professional roles of males and females in the society. To categorize broadly, managerial, decision-making, and fieldwork jobs like petroleum engineering are occupied mostly by males, while secretarial, nursing, and teaching jobs are reserved for women. Also, a model minimizing cross-gender interaction at professional level is put into effect in states like Qatar and Saudi Arabia. A society that primarily discourages female employment, secondarily attaches differential societal expectations, and finally curtails interaction of opposite genders, ought to be hardly affected by the potential harms of segregated colleges on professional lives of individuals.
There is substantive reasoning to favor the case of single-sex colleges in societies discussed above. However, since Gulf States have decided to step into the era of globalization and modernization while also pursue nationalistic policies like Qatarization in their respective states, the societies then require notable reformation to achieve these goals. It is important to note that not only a change in system is required, but a change in mindset and thinking is also required. However, this paper focuses mainly on the necessity to change the system (i.e. a shift from single-sex colleges to co-ed colleges).

Ever since the Gulf States experienced the economic boom due to discovery of oil reserves, there has been a massive influx of migrant workers. The numbers have soared further as a result of modernization policies (e.g. tourism development in UAE and Qatar’s plan to host FIFA 2022 World Cup). According to Al-Jazeera's statistical study, all Gulf Countries have more than 80 percent of the population comprised of foreign nationals. Although the monarchical governments exercise absolute control over policies and dictate the state narrative, there has been an immense pressure exerted by both locals and foreigners to change the policies. As Gulf States are opening up to greater equality in participation and professional roles of gender, there is a need to equip the graduates with inter-personal skills so they are able to interact and work with co-workers of opposite gender. There is plenty of research that shows positive impacts of coed higher education on confidence and comfortability of individuals while working in mixed environment.

As mentioned above, states like Qatar and Saudi Arabia are shifting towards Qatarization and Saudization respectively. In their attempts to increase locals’ participation in country’s workforce and replace foreign employees at important positions, several policies have been introduced to encourage nationals. “The education system must focus on the needs of the private sector, since this is where new jobs will be created. Presently, the education system is producing too many graduates that are only qualified to work in the public sector” (Looney). Although, the research focuses more on the technical skills mismatch, there is also a personal skills mismatch. Multi-national companies search for dynamic and diverse personalities that are effective communicators and team-players. Graduates of co-ed institutions who have practical experience at collaborative work with members of opposite sex are better suited for higher positions. There is also evidence suggesting that single-sex schooling inculcates sexist beliefs in students. "Research has demonstrated that, when environments label individuals and segregate along some characteristic (e.g. gender, eye color, or randomly assigned t-shirt groups), children infer that the groups differ in important ways and develop increased intergroup biases” (Halpern 1707). Males who are educated in a single-sex environment find it very difficult to accept a female boss. Such attitudes are usually frowned upon in private sector and sometimes result in unfavorable outcomes for the employees. Co-ed environments are more likely to produce graduates who can aid in enhancing policies like Saudization.
Furthermore, the role of women will be pivotal in the expansion of economy and localization policies. “As Saudi Arabia expands its economy and its private sector, more opportunities are likely to arise for women due to the Kingdom loosening its employment policies. This liberalization will occur once Saudization takes its toll on guest workers and frees up more jobs for Saudis, and when private sector opportunities increase” (Roula 6). The participation of females will become essential not only because of greater job vacancies, but also because females are more interested in attaining higher education in these countries. According to Filipovic in her article ‘Why do we still segregate kids?’, segregation denies, especially for women, the full range of opportunities to build connections from an early age with your future professional peers. The opportunity of networking can have significant impact on students’ chances of getting a better job later on. Also, a lot of big entrepreneurs found their partners in college and started working on their ideas at the college level. To translate the greater proportionality of female literacy into greater employment percentages, both qualitatively and quantitatively, females need to be exposed to mixed gender environments as they seriously lack opportunities in the employment sector and this can help boost their chances.

Each society’s progress is also expected to bring along a change in the values and functioning of these societies. There have been mainly patriarchal societies both in professional and social spheres of life. “Divorce rates in the GCC and Arab world as a whole are alarmingly high and reportedly on the rise” (qtd. in Al-Nasr, 45) and according to the author of same article, “educational disparity” is the major reason for higher divorce rates. The “intellectual incompatibility” due to higher education levels of female causes frustrations among couples and results in disunions. The patriarchal set up of these societies led to beliefs amongst males especially that women are inferior to them and should be subjugated. In order to deal with this social problem, co-education colleges are important to bring about a change in mindset as males working with female fellows would find it easier to live with a more educated and intellectual spouse. It will also lead to greater acceptability and willingness to treat members of opposite sex as equals.

To conclude, it is important to recognize that the Gulf States have decided to act towards liberalization and simultaneously localization policies for which certain measures are required. Also, the staunch supporters of single-sex colleges in such societies need to realize that it was an idea suitable for conservative societies which these states either intend to or otherwise need to progress from. Qatar, UAE and Bahrain have already started with the process, but Saudi Arabia still resists bringing about these changes. Considering the opposition from radicals and conservatives, it makes sense as to why the governments shy away from the imposition of such measures. This necessitates the need for a slow and gradual change as drastic changes will result in social backlash which might even sabotage the whole process. While the States plan to implement these policies, it is also
their responsibility to alter the mindset through public discourse and propagation of an appropriate narrative. The states need to emphasize the importance of co-ed environments to achieve and accommodate the desired changes, and to explain why this does not go against the core religious fundamentals of Islamic teachings.

Works Cited


Biography

Muhammad Raza is a student at Texas A&M at Qatar, currently enrolled as a sophomore in the Chemical Engineering Program. He is originally from Islamabad, Pakistan. Apart from being interested in studying engineering, he takes interest in politics and occasionally writes about issues related to society, politics and international affairs.
Casey Fattig

In a world where computing power is doubling every 18 months and our technological advancement far outpaces any laws we create to constrain these technologies, it is now necessary to start considering the ethical issues of the future. At the moment, unmanned military systems (UMS) are one of the most controversial technologies used by several countries, each with different views on the ethically correct way to employ UMSs. As their use becomes more widespread and these robots are given increasing freedom, there are ethical issues that arise. How should we reconcile the differences between each country’s views? Should these robots be given the power to kill? Should we or should we not continue to use robots within the military, and if so, should they be restricted to only military use?

War & Peace (and Robots Too)

Autonomous robots should never be allowed to use lethal force directly against humans, and they should be implemented into our military and society as soon as safely possible.

First, I will explain my convictions about never allowing robots to use lethal force directly against humans, while addressing several counterarguments and other issues that may stem from such a constraint. I will then elaborate on two reasons why I believe that we should use all deliberate speed to implement robots into our military: 1) that Unmanned Military Systems (“UMS,” an acronym I will use interchangeably with “robots” throughout the paper) can also be applied to both the civil and domestic spheres (with slight modifications) and 2) that the use of UMS can lead to an obvious decrease in human war casualties.

If human warfare eventually became fought only by robots (which I think it one day will be, and rightfully so), it would be an ideal situation to program each robot to only be able to destroy other robots, not humans. I assert that, in order to minimize the loss of human life, robots should only be able to disarm and stun humans, rather than exercise lethal force. As much as I would like to claim total originality for my idea, this assertion has been made in the past in different forms. One is by Isaac Asimov’s I, Robot, which posits laws that state that “robots must never harm humans” [1]. Notice that the difference between Asimov’s and my argument is that I believe robots should be able to use nonlethal force, rather than prohibiting using any force against humans at all. This will allow for police and more extensive military applications of UMSs, which I will extrapolate upon in my second point. Sparrow quotes Canning as “championing another version of this approach, in which autonomous weapon systems would be tasked with targeting only enemy weapon systems rather than enemy warfighters” [2]. This is virtually another way of stating Asimov’s suggestion, where robots are not allowed to harm humans directly. Under my suggestion, the winner of a war would depend upon whose robots were superior. The way I imagine it, there would be many robot battles, eventually culminating in the human leaders of the defeated nation being captured, not killed, by the conquering nation’s robots. Critics like Peter Singer may argue that designing robots to only shoot at other weapon systems is just
an excuse “for giving the system more autonomy… [It] takes us further down the slippery slope that we say we’ll never, ever cross.” He states sarcastically that “they can’t shoot at people in the tank, they can shoot at tanks” [1]. This is the greatest hindrance that our modern imaging technology presents to my argument right now; the dilemma of whether or not to allow robots to destroy vehicles and structures with humans inside of them. I can see how Singer would say this, and one way to create a wall to prevent one from sliding down this “slippery slope” would be cooperation among nations to create international standards for robot warfare.

Just as there were laws established for a “fair war” by The Hague and Geneva Conventions, there should be international laws defined for robot combat as well. Sharkey states, “No international guidelines or even discussions exist about the warfare uses of autonomous robots. Both are urgently needed” [3]. I completely agree, and as I said before, the main necessary constraint should be that robots are not able to apply lethal force against humans directly. Sparrow identifies many criteria for UMSs that he believes should be met before their implementation, such as “reliable ‘friend or foe’ identification in order to avoid causing casualties by friendly fire” [2]. If my recommendation of altogether eliminating robots’ potential for lethal violence against people is used, it would help eliminate the need for such complex criteria. Rules surrounding the creation of UMSs would be simplified to one basic rule: they can’t kill people directly. This becomes more complex with buildings and vehicles though. As I mentioned previously when quoting Singer, my opponents may wonder about what to do when it comes to structures with humans inside. My conclusion right now would be that, until we have improved imaging technology where robots can effectively see through walls, they must be permitted to fire upon vehicles and buildings. Now, as long as the world knows that these are the laws regarding UMS combat, and soldiers are informed that they may be fired upon when shielded from a robot’s view, this is not unethical. The soldiers know and understand the implications of their attempts to hide: they may be killed.

However, if they were to reveal themselves and surrender, the robots would not be able to fire. Critics may additionally argue that this is a naïve attempt to establish standards, and not all countries would follow these rules. These critics believe there would be some robots created to kill humans, and I don’t pretend to ignore this possibility. However, just because some rules are not followed by everyone does not make them unethical or any less just. Take Russia’s recent invasion of Ukraine for example. They have deployed troops in Ukraine who are disguised as civilians while simultaneously denying that they have soldiers engaged in armed conflict at all. This is a “significant Geneva violation” according to the Washington Post. “There is a fundamental difference…between using special forces in an announced armed conflict and doing so while denying that one’s military is engaged at all” [4]. A U.N. resolution was passed condemning Russia’s occupation of Ukraine, with 100 out of 169 voting in the affirmative [5]. In spite of Russia’s violations, the majority of the international community holds that the Geneva rules are just and should be followed.
From the perspectives of both utilitarian and the respect for persons (RFP), the one stipulation I outlined for robot combat would be absolutely ethical. There would be less death for all parties involved (utilitarianism) and emphasis is placed on the value of the individual since robots would not be allowed to kill any humans directly (RFP). One natural consequence of waging strictly robot wars is that “estimated loss of human life” will no longer be a factor in decision, which will mostly hinge on economic and political consequences, because robots cost money. This segues into my second point, that UMSs serve a dual purpose.

In addition to their extensive military application, UMSs can be applied to both the civil and domestic spheres. Another part of the necessary criteria that Sparrow describes is that robots should be able to be “used for training and in peacetime operations alongside civilian systems” [2]. This should be a relatively easy transition to make, especially if robots are already not able to kill humans. As Singer points out, “In Asia, ‘companion’ robots for the elderly or babysitter robots for children are marketed with little controversy” [3]. Robots are already being used in the civil and domestic spheres in other parts of the world with effectiveness, and will therefore eventually be implemented in the U.S. as well. It may take some time for U.S. cultural attitudes toward robots to change, but they will come around. There is minimal mention of police application amongst the authors of the six articles, but it is one I think to be quite obvious. Many of our robots that will be used for military applications could be outfitted with pepper spray or mace and used to help track down or apprehend fugitives.

President Eisenhower’s ideas about the military-industrial complex further support the use of military robots because of their twofold purpose. When explaining what President Eisenhower meant by his comments on the military-industrial complex during his final farewell speech, Fitchelberg writes, “Eisenhower’s point is that the influx of a large-scale, permanent arms industry has a potential to sway the government towards a reliance on a policy of war. Prior to the Second World War, no such threat existed because the vast majority of industry profited well in times of peace and would not profit greatly from a conversion to a wartime economy” [6]. The problem of the military industrial complex can be partly remedied by the implementation of autonomous robots that are usable in both civil and military spheres. These “weapons” are not one-dimensional. They don’t have to be used only for war, and therefore the pressure put on governments by the defense industry will be lessened. Opponents to this argument may say that implementing robots in many civil roles will lead to an increasing income gap, derived from the displacement of unskilled workers by robots and the creation of more jobs for the educated people who would be designing and building the robots. Yes, just as when any new technology is implemented on a large scale, this will probably happen. When factory operations were mechanized, it displaced many laborers, but this argument was not persuasive enough to halt the development of mechanization. The displacement of jobs is just another challenge...
that must be dealt with so that economic and technological progress can continue. The same parallel can be drawn about the Internet. When writing about several “civilian-blowback issues,” Patrick Lin articulates this comparison quite well: “By themselves, they are not arguments that we should not develop robotics… for instance, the Internet created a host of issues related to intellectual property, privacy, information security, brick-and-mortar retailers… yet these are not persuasive reasons to think that we should never have developed the Internet. Rather, they are simply challenges that society needs to confront, and anticipatory thinking on these issues may help to mitigate negative effects” [7]. To further address my critics, I concur that we should be wary of the economic consequences of using robot technology in the civil arena so that we can reduce unwanted effects, but we should not altogether avoid their implementation.

The removal of humans from the front lines of combat will obviously result in the conservation of hundreds of thousands of lives. This is another result that most of the authors of the articles have neglected to emphasize. A possible problem with this is that since war will become less terrible, we will be more likely to resort to it as a form of conflict resolution. But does this mean that we make no effort to reduce casualties and the horrific nature of war? I think not.

Hopefully one day, as imaging technology improves, robots will be able to use less than lethal force against vehicles or structures with humans inside. In any case, efforts must be made right now to establish international standards of conduct for UMS combat, including how the robots are programmed and what criteria we will use to evaluate each robot as “combat-safe.” We may even be able to one day incorporate Michael Davis’s Seven Step Method for Ethical Decision-Making, or something similar, into the programming of each robot. I imagine it would be sophisticated, yet relatively easy to program steps 2, 3, and 4 into a robot. Much of our technology is already geared toward data acquisition (“Checking Facts” and “Identifying Relevant Factors”), and developing code that allows a robot to “Develop a list of options” [9] leading to the most desirable outcome which would be more difficult, but still achievable. I think the most difficult aspect of this task is the first step: programming a robot to identify a problem. Michael Davis’s description of step one includes that of a possible feeling that leads one to realize a problem, and, with our present technology, I’m not sure we’ll be able to embed feelings into robots. However, just because I have no understanding right now of how we could do it does not mean it won’t happen. As the science fiction author Arthur C. Clark said, “Any sufficiently advanced technology is indistinguishable from magic” [3]. Regardless, robots will conserve human lives, they have multiple functions, and some type of international guidelines on robot combat needs to be established ASAP. I believe the implementation of robots in our military and eventually into our civil society is imminent and inevitable, and to quote Gordon Johnson, “It’s not a question of if, it’s a question of when” [4].
References


Biography

Casey is an avid reader of empowering “self-help” books, and is a proponent of the view that everything we put into our minds and our bodies affects us forever. He aspires to inspire others to become the best versions of themselves and hopes to one day feel most comfortable outside of his comfort zone. Casey considers himself a philosophical realist, and his two biggest role models are his grandfather and father.
Deciphering the Past
Maryam Al-Awadi

The Chinese philosopher Lao Tzu once said “the journey of a thousand miles starts with one step.” To me, it is a reminder that big hurdles can be overtaken little by little, if we can only remember to take that first step. However, on a long journey, where the horizon is unclear, and our purpose beyond it is even fuzzier still, and, at night when we close our eyes and listen to the sound of adversity softly sleeping beside us, it is often hard to remember why we began on that journey, or how far we have come from that first step. I do not remember why I originally started to write this piece, but I do know that it led me back to the beginning of my own private journey. I also do not know where that journey will lead me but stopping to put into words how different the scenery is makes for concrete evidence of how far I have traveled.

History, Herstory, Ourstory, Nonstory

Reading old entries scribbled into newly frayed pages
Reading the story of someone else’s life
Where the brief musings of a lost girl leave gaps on the canvas
For an intimate recollection to wash over with still-bright colors

She was softer, and weaker, but the balance between belief and jadedness was in the former’s favor
And maybe that is why I miss her

Because my skin is calloused and I cannot feel the things that other people do
And that was all it took to kill her, all it took to breathe the air into my own lungs and leave her behind in the suffocating tomb of the past
Of an easier life, a life that does not meet with reality along any timeline but the time that runs through dreams
Endless but divided and wrapped in packets of sleep

And I cannot pretend that I am better, but maybe I am no worse off
Maybe all it takes to live this life is the means to endure, because some answers do not change
And many questions are unforgiving
And any placeholder that can withstand the pressure of ongoing battery and interrogation is better than none to most onlookers
Better, except to that pawn, freshly sanded off and thrown onto the board
Expected to fight for a King, a Queen, a cause as distant as the swell of motivation the pawn is expected to bring forth.

So she, we, or I, chase the stale breadcrumbs left behind to deter wandering
But still we wander like the paper, turned to dust, riding on the senseless wind
Aiming for the years that would not stay
Stopping to dig empty wells on this haphazard path
Sinewed by silence, we thought – I thought, but the throat still thirsts for catharsis
Only to be quenched by a waterfall, long dead at its source.

Then the book closes, the papers forgets, and the pen was born dumb,
And this part of our story dies in a subtler flame than that which the phoenix knows,
But still I look through the ashes, and still I will look every time I hear the whispers,
crawling like ants from my eyes to the shelf where I can find her and read her story.

Biography:
Maryam Al-Awadi is an Electrical and Computer Engineering junior at Texas A&M at Qatar.
She enjoys reading books about social phenomena, watching cartoons with her brothers, and
playing with words on occasion. Her other hobbies include cooking and drawing. She also enjoys
any craft that involves the use of her hands, and has recently gotten into art journaling.
Ghada Al-Haroon

I was asked to write a literacy narrative essay for my Composition and Rhetoric course, Spring 2015. There were many literacies that I wanted to write about, but at the end I made my decision and chose fencing to be my literacy because it’s one of my hobbies that I practice regularly. During the later years of my primary school I started playing fencing. It was a really interesting sport that I instantly liked. However, at first I was forced to stop playing due to my grades going down. I wasn’t really sad because at first I wasn’t really into the sport. Two years later my coach visited me and convinced me to get back to the sport. I started playing with my right hand for almost 2 years even though I was left handed. By the end of the second year I decided to change and play with my natural left hand. So this piece portrays the struggles I went through during the switch and how I managed to obtain many medals by improving my performance.

Not a Quitter Anymore

The place was hectic and full of people. “Don’t forget to raise your hand higher as you attack, Ghada,” yelled my coach behind me as I lunged hastily into my opponent. I am competing with an Emirati fencer in the Gulf Fencing Championship, and through my wired mask I can see my team cheering out loud, standing behind my opponent.

I was introduced to fencing in primary school in the first semester of grade five during lunch break. My friends and I were in the school cafeteria planning to play hide and seek when our sports teacher called us to the gym hall. It was the first time for me to hold a sword not made of plastic.

I decided to stick to going to the gym three times a week because I found fencing an interesting sport to practice. I tried my best not to miss any fencing lessons. After a lot of practice, I managed to develop some experience. I qualified to play in my first tournament held locally, and eventually, I managed to place first among players under the age of 10. I felt proud of myself because the work I had put into it didn’t go to waste.

After a year, my mom forced me to quit because of my poor academic performance. I had fallen from an A student to a B student. I didn’t beg her to let me continue, because at that time I wasn’t really taking the sport very seriously. I didn’t think I would end up being a famous athlete.

Two years later, my coach popped up in my school again. As I was digging out a pencil from my school bag, I heard the sound of a familiar voice – highly pitched and croaky – reminding me immediately of my coach. I looked up, and indeed it was her. My stomach did a double flip. She still had her thick black hair that reached just above her shoulders, and she was still dressed in maroon. She always dresses in maroon because that’s the color of our team uniform. Wherever she goes, she seems to bring joy and a positive outlook to the room which makes her a bright and a lively character whom everyone enjoys talking to.
“You should totally give it a second try and rejoin the team, Ghada,” said my cousin. She was a basketball player after all. Unlike me, who hadn’t stepped a foot on the gym floor at all during those two years. I was the type of girl who stuffed her head with equations and facts related to science, and there wasn’t any space for anything else. I shrugged, thinking to myself, “Why not?”

The coach and I fell into an easy conversation, and by the time we were supposed to go back to class, she had asked us to write down our full names and contact addresses. As soon as I grabbed my pen, she caught me writing with my left hand. It was the moment of regret. “How come you never told us that you are a leftie? You do know that you should play with the hand you write with, right?” asked my coach. A wave of resentment rose up inside me. All those months that had passed I was supposed to lead with my left hand, and not my right hand. “I never knew that before because no one told me,” I protested. During primary school, I saw my friends holding their swords with their right hand, and so I followed exactly what they were doing because I didn’t want to be different.

The next day, I informed my mom about rejoining the team. Reluctantly, she agreed. But she made her permission conditional on my good academic performance. She dropped me off to the practice hall one hour before the training time because I was so eager to practice again.

I recall that day so well. There were so many girls my age wearing white Adidas t-shirts, black pants, and colorful sneakers. I remember the moment when my coach got up, shuffled over to the fencing equipment, and picked up my new left-handed sword. Oh, how I wanted to shout “NO!” because I wanted to hold my previous sword again and fence just like before.

That night the coach made us compete in order to improve the skills that we had learnt in practice. The girl that I was going to oppose was much taller than me, with long flowing light brown hair. I recognized her; she used to come to the gym back then before I quit.

The match started. I tried to attack her first by lunging forward. I had the perfect chance to score, but suddenly, my left arm tensed, moving my sword uphill, giving her the opportunity to trap my lunge and attack back. At that moment, I realized how meticulous this sport is. Just one pause, one false movement, and the opponent ends up scoring on you. She ended up winning. I hoped that no one noticed the heat in my cheeks. I was about to die of embarrassment.

“It’s not too late to start all over again; it takes dedication and hard work only,” the girl with the light brown hair whispered while I extended my hand to salute. I didn’t get how fast someone can change. She used to be a defeatist who always expected failure. But now she won so easily. Impossible. There must still be an old chicken-out layer buried underneath her skin.
I caught the eyes of my coach. She looked at me just long enough to slice my heart. Her face was impassive, but I could tell she was struggling to maintain control. I whirled around and hurried outside the piste to escape out the front door. I felt a tear trickle out of the corner of my eye. I pressed the back of my hand against my eyes and choked back a lump in my throat.

The next day, I returned to my old boring routine. I went to school and came back home to have a nap just like before. I decided that I couldn’t go to practice anymore and instead would become a quitter. I won’t keep putting in effort because I knew how impossible it is to succeed in doing something that you are not good at. Maybe I was just overreacting, but I’d rather quit than be humiliated.

I woke up from my sleep to check my cellphone and found numerous text messages and missed calls from the coach. I chose to ignore them. Then after a few hours, I saw her standing at our front door. I could see a bead of sweat above her forehead; I assumed she had just come back from practice. She held my eyes. Hers were so crystalline and clear that I felt like I was staring at the bottom of the sea. Abruptly, her mouth started to move, “We need to talk, young lady.”

We sat outside on the porch. After an awkward five minutes of silence, she suddenly said, “Now, tell me what is going on?” And as soon as I opened my mouth to answer, my brain went numb. I couldn’t think of any suitable answer. She gazed at me confused, waiting for a reply. “Since I started to play with my left hand, I have a lot of trouble in implementing the things I’ve learnt from the private lessons in the competitions.” That’s all I could come up with. “And I think I can’t do it anymore.”

“Stop saying ‘I can’t.” You can. You just choose not to.” She cut me off. “What I saw yesterday is not how you play, Ghada. You are better than that. I just want to let you know that you do not lack the ability nor the talent. You just refuse to believe in yourself.”

I bent my head down as I was filled with shame. “And I don’t want to see you give up on that piste; I have trust in you,” she completed. I wish I could reply, apologize for letting her down or promise her not to give up anymore, but there was this feeling of remorse pressing on me from all directions, taking my breath away and preventing me from speaking. I spent that night rethinking her words.

The following morning, I woke up with a realization that maybe it wasn’t my coach’s fault after all (for not telling me about the switch thing at the beginning), maybe it was something with me, maybe I was just feeling insecure. Thinking about yesterday, I began to look forward to competing with the tall girl without the fear of losing. I even prepared a good trick for her.

After four years of practicing, and now that I believe in myself, in the current 2014 Gulf Tournament, I managed to defeat my opponent without fear. After celebrating our
victory, one of my teammates twisted her head to meet my eyes over her shoulder. “You
are not a quitter anymore, Ghada. You are one of us now.” I smiled slightly and shook my
head. Exhaling the breath I was holding, I replied, “I didn’t know I could actually do it.”

Every one of us has something we are passionate about, and I found
that passion in fencing. What I didn’t know as a young fifth grader was that going
through this experience would make me a much stronger and more confident person.

Biography

Ghada Al-Haroon is a freshmen student at Texas A&M University at Qatar. She graduated from
an independent school in 2014. Being the only girl who wants to be an engineer in the family, she’s
planning to get her mechanical engineering degree as soon as she graduates in 2018. She spends
most of her time practicing fencing at Qatar Fencing Federation. If not there, you would mostly
find her burying her head inside a book.
Hanaa Loutfy

This paper is a report I wrote in Fall 2014 for a required course for electrical engineering students which covers economic analysis of engineering projects. Therefore, the paper mainly describes the business aspects of engineering. My topic for this paper was investigating the decline of Blackberry. In the paper, I discussed why analyzing such cases as the decline of Blackberry is important for engineers.

Investigating the Decline of Blackberry

Abstract

The smartphone market is fast-growing and is one of the most competitive in the IT industry today. Research in Motion (RIM) was a pioneer, a leading company in the smartphone market. It spawned a cultural revolution that made wireless e-mail a necessity for professionals in the 24/7 global market. RIM, motivated by an engineering culture, focused mainly on large corporations and not on consumers, and therefore their Blackberry smartphones provided high security features. RIM’s business was very profitable until iPhones were released by Apple in 2007. Today, Google and Apple hold more than 80 percent combined market share of the smartphones market.

Since 2009, BlackBerry reported a substantial decline in revenue, serving as an affirmation that good engineering is not always sufficient for a continuous success in the market, especially in the technology sector. Thus it is imperative that engineers understand business principles that enable economic stability and growth of their products. It is also essential to adapt to competition in the market and to employ effective marketing strategies. Nevertheless, it may not be the end for Blackberry. Consumer needs are always changing and security features and invulnerability to hacking of Blackberry phones may just be the next hype of the upcoming years. An overview of the initial success of the company and the reasons behind its decline are presented in this paper.

Keywords: Smartphones, Blackberry, iPhone, Android, Research In Motion, RIM.

Introduction

The recent developments in the engineering and technology of smartphones today might be great for some companies in the market, but for Blackberry (formerly known as Research In Motion) it was not. In the engineering field, awareness of the developments in the market is critical as it directly impacts the desired success of and the demands on products being marketed. It is imperative that, in the global society, engineers understand business principles that enable economic stability and growth of their products and thus Research in Motion’s performance is worth examining.
The smartphones market is very fast-growing and is one of the most competitive in the Information Technology industry today. Due to the increasing competition, new technologies spawn every year and several companies race to dominate the smartphones market, resulting in more options and appealing prices for end users. Research in Motion was once a pioneer, a leading company in the smartphone market, but since 2009, BlackBerry’s market has been drastically spiraling downwards. The fall of the once-innovative RIM is an affirmation that good engineering is not always sufficient for a continuous success in the market, especially in the technology sector.

This paper presents an overview of the introduction of Blackberry devices to the market and the initial success of the company, then focuses on the reasons behind the fall of RIM and provides an insight to how RIM’s sales could flourish again.

1.0 The Rise of Blackberry

In 1984, Mike Lazaridis and Douglas Fregin, two engineering students, founded Research In Motion (RIM) as an electronics and computer science consulting company in Canada [1]. For years, RIM focused on developing wireless communication technology until it developed a breakthrough technology: an effective and secure smartphone device that liberated corporate emails from the PC: the Blackberry. The Blackberry gained enormous popularity among business executives, celebrities and even heads of state which granted RIM a valuable status in the smartphones market. In 2009, the “revenue for RIM’s entire fiscal year was $11.07 billion, up 84 percent from $6.01 billion in fiscal 2008” [2]. For the fourth quarter of fiscal 2009 alone, the company “signed up 3.9 million net subscribers”. Overall, that year more than 50 million Blackberry phones were sold worldwide [2].

1.1 The Evolution of Research In Motion

In 1996, the company launched its first wireless pager which, when flipped open, revealed a small keyboard and a display screen. This pager enabled peer-to-peer messaging plus sending and receiving emails and faxes. However, in 1998, the company released its first BlackBerry phone. Blackberry phones sported “a patented keyboard design that made it easy to type with your thumbs,” a breakthrough in the phone market [1]. Blackberry phones rose to prominence as a phone with a QWERTY keyboard that excelled at messaging and wireless email. The secure messaging system operated by RIM made the phone particularly valued by corporations and enterprises. In 1999, “listed on the NASDAQ”, the company raised “over £150 million” [1]. From that point onward, “rapid growth followed” for Blackberry while “sales went through the roof” [1].

“By 2006, RIM was attracting major mass market attention”, especially within the business community. Its products appealed to the consumers as more features appeared in their Blackberry releases, which included “cameras, navigation, and chat features” [1]. In 2007, RIM became “the most valuable company in Canada” while having “over 10 million subscribers”[1]. And in 2008, “RIM hit its all-time highest estimated worth at £49
billion”[1]. “There was no sign of concern about the iPhone’s potential as a BlackBerry killer, with RIM clearly feeling that functionality was still the most important element to the smartphone buyer” [1]. As, in 2009, 35.1 million Blackberry phones were sold, versus 25.1 million iPhones. [3]

1.2 NTP Raises a Lawsuit against RIM

In 2001, “a major patent infringement lawsuit was brought against RIM by NTP” (a patent holding company in the fields of wireless email and RF Antenna design) [1]. Initially, the jury “ruled in NTP’s favor and awarded $33 million damages” [1]. RIM continued to fight the lawsuit, but eventually it lost the battle. However, this legal case highlighted “the growing popularity of the BlackBerry brand” [1]. In fact, the U.S. Justice Department warned “against a network shutdown because of the government’s reliance on BlackBerry” [1]. “By the time the case was settled in 2006, RIM had almost 5 million active BlackBerry subscribers and a net income of £240 million for the year” [1]. BlackBerry was rising high, with an almost unstoppable revolution until Apple and Google emerged in the smartphone market.

2.0 The Fall of Blackberry

Success came almost effortlessly to RIM until 2007, when Apple released the iPhone and overturned RIM’s marketing strategy which focused primarily on professionals. Apple extended its market share by designing a phone for the great mass of consumers and not exclusively for business purposes. Apple’s success influenced another large competitor, Google, which developed Android-based phones. The smartphones landscape shifted dramatically and RIM made costly missteps.

Today, Google’s Android and Apple’s iPhone took over the market, holding more than 80 percent combined market share [4]. Struggling to capture a diminishing user base, accompanied by low sales of its smartphones, Blackberry no longer dominates the smartphone market. “The company is now estimated to be worth less than £3.5 billion,” a very insubstantial amount [1].

The Figure 1 shows the global market share held by RIM (Blackberry) from 2007 to 2014, by quarter. As indicated by Figure 1, Blackberry’s sales increased rapidly in 2007 and peaked in 2009. However, since then RIM’s market share has been seriously diminishing to less than 5% today [5].
The following sections detail the reasons behind the fall of RIM’s market. Notably, all are related and, when combined, led to the company’s failure to maintain its strong grip in the smartphones market.

2.1 Lack of Innovation

The first reason “is simple, but perhaps the most difficult to overcome: a lack of innovation” in terms of hardware and software “in an industry that is racing non-stop toward the ‘latest and greatest’” [6]. According to Bejarin, “When you dominate a market like RIM did, there is a tendency to become complacent and believe you are untouchable. However when you combine the rapid pace of technology advancements with a free market society, no company is ever really safe at the top” [7]. For that reason, the company didn’t continuously step up the performance, appearance and features of their smartphones, thus lacking innovation.

2.1.1 Blackberry versus Other Smartphones

The growth of BlackBerry smartphones is trivial in comparison to that of other smartphones in the market – especially, the iPhone. According to Tim Shea, CEO of Alpha NetSolutions, “If you just look at a typical BlackBerry phone, it’s really hard to tell a new one from one from five years ago. The form factor is the same.” Shea also noted that although a bigger touchscreen could have given RIM “a much-needed boost,” it would not have been enough to regain the spotlight from Apple and Google [6].

Moreover, iPhones brought new features such as Siri, an “intelligent assistant application” which raised the innovation bar extremely high. According to Shea, “in the mobility market, it seems catching up isn’t enough – you have [to] be there first” [6].
2.1.2 Emergence of the App Economy

This emergence of the “app economy” critically affected BlackBerry as many devices were utilizing iPhone and Android software. While Android and iOS developers continued rapidly introducing apps and app stores, RIM lacked an application system which contributed to the decline of its market share. Additionally, it contributed to the failure of RIM’s future product releases. When “the iPad’s success pointed to the potential of the tablet market” ... “RIM decided to produce a tablet of its own” [1]. In 2011, RIM released PlayBook which was never a success from the beginning, mainly due to a lack of apps and a less than user-friendly interface. At its release, it didn’t even have an email app. In addition, plenty of criticism was targeted at the tablet’s form and appearance [1]. In 2010, Blackberry had around “5,000 apps available for it, versus more than 185,000 on the iPhone” [3]. In 2011, “Apple had 60% of the app market, followed by Android with 32% and BlackBerry with 4.4%” [8].

2.2 Strong Competition

Any successful product fosters competition, though BlackBerry declined because it failed to keep up with the competition. Companies such as Google and Apple were developing powerful smartphones with consumer-friendly features, while BlackBerry thought of its phones as creative and e-mail-enabled. Even before Apple and Google advanced in the market, other smartphones developers produced devices that, while not having RIM’s secure servers, could do many of the things a Blackberry could do.

According to CRN News, “statistics published by mobile market analyst ComScore show that as of October 2011, Google’s Android OS accounted for 46.3 percent of the smartphone market share, while Apple claimed the runner-up spot with 28.1 percent. RIM followed next with 17.2 percent of the share. Unlike its competitors, though, RIM’s hold on the market slipped rapidly compared to the 21.7 percent it held only three months earlier in July” [6].

Figure 2 displays RIM’s market share against those of other smartphone platforms: Apple, Google, and Microsoft [10]. Certainly, Google and Apple take the lead, allowing no comparison to RIM’s market share which is much less than 10% as of September 2014.
2.3 Poor Marketing: Failure to Adapt to Customer Needs

BlackBerry failed to respond to the changing needs of the consumers in the market. Consequently, Apple and Google outperformed Blackberry. BlackBerry continued producing devices with keyboards while many consumers showed preference for touchscreens, which facilitated faster navigation and better viewing of videos. In 2012, it was evident that customers were losing interest in Blackberry phones as “48% of U.S. smartphone users have an Android, followed by Apple (32%) and Blackberry (12%)” [9].

After establishing an impressive performance in the corporate market, BlackBerry did not predict that consumers, as opposed to business customers, would play a critical role in forcing a revolution in the smartphones industry. There was a shift in the smartphone market, which RIM failed to anticipate, as users now expect their phones to meet personal and professional demands. As a result, BlackBerry phones, which dealt almost exclusively with the corporate world, did not satisfy many consumers. “To successfully enter the consumer market, RIM needed” to modify its products “specifically for that market, and that is exactly what it did not do” [7].

2.4 Poor Management

In 2011, riots swept across the world due to a massive Blackberry services’ blackout in the US, Europe, and Middle East that troubled its users for more than three days. This blackout was caused by complex series of hardware and software failings at RIM, which was a disaster for the company. More users were inclined to buy cheaper phones that offer much of the functionality of the Blackberry, without the usual two-year contract [1]. Eventually
RIM’s co-CEOs resigned due to their inability to survive against Apple’s iOS and Google’s Android that were flooding the market. Furthermore, there were several delays in releasing Blackberry 10 to the market, “originally set to launch in 2011.” Its launch was first delayed to 2012, but it “didn’t actually arrive until January 2013, when BlackBerry subscriptions had started to decline as users got to the end of their two year contracts” [1].

3.0 Can Blackberry’s Sales Improve Again?

Blackberry could employ different strategies to boost its sales and to ensure both viability and profitability. One strategy would be to extend the consumer base by targeting youth and adults who are tech-hungry consumers. The youth market is large and could significantly boost the company’s sales. Secondly, the company could focus on areas other than emailing services, which is what other smartphone companies managed to offer. Customers are likely to purchase a product that offers more innovative features. Another strategy would be to investigate producing high-tech, but more affordable devices. Increasing sales requires the implementation of a touchscreen as consumers prefer touchscreen devices over those that use keypads. More significantly, modifying the appearance and look of products would increase their appeal, such as using a range of colors and designs to offer the consumers more choice [11].

Conclusion

According to Stone, “BlackBerry has spawned a full-blown business and Cultural Revolution” that made wireless e-mail a pressing necessity for “professionals and business travelers in the 24/7 global economy” [12]. Nonetheless, there is a valuable lesson for engineers in the decline of BlackBerry, which has reported large year over year drops in income since 2009. According to Nalty, RIM “was the unsurpassed smartphone leader,” but it was “driven by an engineering culture,” where it focused on gaining “a virtual monopoly by targeting large corporations’ information technology (IT) groups, not phone users themselves” [13]. Blackberry phones were “the exclusive mobile device” for large corporation, as they met “security requirements to protect data” on them [13]. “This focus on meeting or exceeding the needs of the corporate IT department was very profitable” until Apple designed “new products that tapped into desires end users didn’t even know they had” [13]. Blackberry’s competitors’ “strategy was less about security and integration, and more about the end users’ experience” [13]. While “large corporations insisted their employees use BlackBerry for corporate e-mail, end-user demand turned the tide” [13]. In the end, corporate IT ceased to support Blackberry, as Apple’s and Android’s corporate-supported sales surpassing Blackberry’s.

The decline of Blackberry is proof that good engineering isn’t always sufficient for continuous success in the market. Success is achieved and maintained by those who try and keep trying. It is thus essential to continue adapting to competition in the market by adjusting to more effective marketing strategies. Now, the focus of engineers should be
to understand “the depth and breadth of the end-user experience” and pick up on what customers truly want [13]. Nevertheless, it may not be the end of the journey for Blackberry. The CEO of Blackberry, John Chen, recently stated “the company's focus is on security and not the consumer market” [14]. Therefore, “BlackBerry will focus on ‘extending [its] legendary security foundation with new solutions for the enterprise’” [14]. As stated earlier, consumer needs are always changing; security features and invulnerability to hacking of Blackberry phones may just be the next hype of the upcoming years.

References


Biography

Hanaa Loutfy is an Electrical Engineering student who is expected to graduate in May 2016. She believes good writers are made rather than born. Her advice to everyone is to continue writing, keep trying and seek help from your instructors. University may be your best opportunity to acquire and improve your writing skills. Remember, engineers spend a significant amount of their time writing every day!
The paper discusses how certain factors such as time, organizational, culture, and politics affect engineering decision making in ways that can impede ethical engineering practices. Classic examples in engineering ethics, such as the NASA Challenger disaster, are explored and used as evidence to support the argument that said factors act as barriers to ethical decision making in a number of instances. A solution is also proposed that can aid engineers in making ethical decisions despite the pressure of time, organizational culture, and politics. The paper was written for my Ethics and Engineering course, Spring 2015.

Barriers to Ethical Decision Making: Time, Organizational Culture, & Politics

Engineers have the power to create things that a lot of people use or get exposed to. This power comes with the responsibility for the health and well-being of those people who depend on the robustness and quality of engineering products and services. Engineers are often blamed when such products or services fail, jeopardizing the health of people or property. However, it is important to identify the different factors that affect engineering decision-making in order to minimize the likelihood of the occurrence of said shortcomings in the future. This paper argues that constraints faced by engineers can act as barriers to ethical decision-making. In this paper, I will address three constraints: time, organizational culture, and politics or government, then provide supporting evidence proving that they act as hurdles to ethical decision making. I will conclude by proposing a solution that can potentially mitigate the effects of the three constraints.

Time constraints can be an obstacle to ethical engineering decision-making since, in many instances, it is the most limited resource for an engineer. Time is such a limited resource due to the fact that it is needed to achieve any task and, at the same time, is highly valued by employers and customers who are always looking for means of minimizing time used. Charles Harris discusses a chemical plant in which “one process can affect the other... with little time to correct a serious problem before a disaster”[1]. He then explains that such “tight coupling” between processes is “not always avoidable and perhaps should not always be avoided”[1]. Since making an ethical decision often requires time, such fast processes impose a strong constraint on the ability of engineers to make ethical decisions when something goes wrong. The Challenger disaster provides another example where time constraints made ethical decision-making considerably less possible. Diane Vaughan discussed how engineers could not change the culture of National Aeronautics and Space Administration (NASA) overnight [1]. Michael Davis described Vaughan’s stance, explaining that “to stop the launch, Boisjoly [one of the engineers who attempted to stop the launch] would have had to have begun to change his working environment months or even years before. The night of January 27-28 was
too late” [2]. In that example, time was required to develop the favorable environment needed for the sustenance of ethical decision-making. Hence, engineers were simply incapable of making the ethical decision to stop the Challenger launch as a result of time constraints.

Constraints enforced by organizational cultures can limit the ability of an engineer to make ethical decisions. Preferences of management and concerns related to budgets and profit are the main aspects of organizational culture that influence and, in some cases, impede ethical engineering decision-making.

Upper management can have a significant influence on the decisions of an engineer since they can directly affect the career of the engineer by promoting or slowing down his/her professional progress. This influence can often be a barrier to ethical decision-making. Authors Lynch and Kline argue that “most engineers operate in an environment where their capacity to make decisions is constrained by the corporate or organizational culture in which they work.” [3] They use the Challenger accident as an example of an incident where organizational culture “constrained” the decisions of engineers and was a main factor causing the disaster. Indeed, a heavily quoted NASA manager told the engineer who objected to the launch of the space shuttle and recommended that it be delayed until the temperature rises above 40°F: “Take off your engineering hat and put on your management hat.” [4] The engineer then gave in and accepted the launch. This serves as an example of corporate culture and, more specifically, upper management actively influencing an engineer to make an unethical decision which adds another form of resistance against the engineer’s ability to make ethical decisions in the often limited time he/she has to make decisions.

Budget and cost constitute another area of conflict between management and engineers that can often act as a hurdle for ethical decision-making. Lynch and Kline [3] recognized the “conflict between management’s cost-benefit calculations and the engineer’s commitment to public safety” as a primary focus of engineering ethics. This emphasis of engineering ethics is due to the significant effect of cost and budget concerns on ethical engineering decision-making. Indeed, there exists a clear divergence of management’s and engineers’ objectives relating to budget and cost. Michael Davis argued that “Managers…are trained to handle people; engineers, to handle things.”[4] He further went on to explain that management is more concerned with the expectations of stakeholders (which is mainly profit and timeliness) rather than evaluation of things such as equipment. This apparent conflict due to cost and profit constitutes another barrier that engineers might not be able to overcome in the short time they often have to make a decision.

Politics and government can be resisting forces to ethical engineering decisions. The delay of appropriate legislation necessary to enforce more ethical engineering
practices due to pressure from business owners or other groups as well as the political consequences of ethical engineering decisions can become barriers to ethical decision-making. Appropriate legislation enforcing ethical practices on businesses can often be a necessary tool for engineers to make impactful ethical decisions, so when such legislation is delayed, ethical decisions can also be delayed. A fitting example concerning early boiler construction in the United States was discussed by Charles Harris. After the introduction of commercial steam-powered ships, the construction of boilermakers was not governed by any codes or standards which resulted in numerous explosions and deaths. Harris explained, “In 1837, at the request of the U.S. Congress, the Franklin Institute undertook a rigorous examination of boiler construction. Boilermakers and steamboat owners resisted higher standards, and Congress did not impose the higher standards until 1852, after many more people had been killed in steamboat accidents” [1]. In this example, engineers could not force business owners to make a more expensive yet safer product without the help of appropriate legislation which did not come about in a timely fashion due to politics.

In addition, politics can have another negative effect on ethical decision-making which is more pronounced in large government-sponsored engineering projects where politicians and government agencies expect a significant political gain in the case of project success. The Challenger project was one such project in which politics created a barrier to ethical engineering decision-making. Michael Davis explained how management at NASA wanted to launch the space shuttle as scheduled so that the President could “announce the first teacher in space as part of his State of the Union message the following evening, to create very good publicity just when the shuttle program needed some”[4]. In this case, politics added to the pressure on the engineer to go further with an unethical decision that resulted in fatal consequences.

On the other hand, some experts disagree with the premise that pressure due to constraints of time, politics, or organizational culture should be considered as an obstacle to engineering ethical decision-making. They argue that engineers should enforce ethical decisions despite constraints, and that the constraints argument provides an excuse for engineers’ mistakes. For example, Michael Davis argues that “pressure does not rob decision-makers of the power to choose otherwise than they in fact did. Decision-makers who ‘can’t stand the heat’ are supposed to ‘get out of the kitchen’”[2]. This argument struck me as a bit shallow as it attempts to simplify a quite complex situation. The argument tends to wrongfully assume that engineers could enforce change, but chose not to because they could not handle the pressure. Davis did not provide nearly enough evidence to back up this assumption. Rather, he went on to apply his argument to the Challenger disaster, arguing that if “certain engineers or managers [had] thought about what they were doing somewhat differently…they could have postponed the launch to a warmer day.” I think this is a very generic solution, providing
little support to his argument and, more specifically, does not provide sufficient evidence that the engineers had the ability to execute an ethical decision and prevent the tragedy.

In conclusion, I think that time, organizational culture, and politics and government are common constraints to most engineering work as they are limiting factors in many engineering projects. They can place enormous pressure on engineers to satisfy their requirements so that it becomes very difficult, if not impossible, for an engineer to make ethical decisions. As demonstrated by the aforementioned examples and opinions of experts in the field of engineering ethics, this pressure and the resulting decisions can jeopardize public safety and impede ethical engineering practices. The importance of a solution to mitigate these negative effects of constraints to ethical engineering decision-making is, hence, very apparent.

I propose a solution that relies on two tools, Michael Davis’ *Seven Step Guide for Ethical Decision Making* [5] and the National Society of Professional Engineers (NSPE) Code of Ethics [6]. These two tools can be used together to provide guidance and much needed support to an engineer when he/she experiences the pressure resulting from time, organization culture, or political constraints. They can, therefore, increase the likelihood of ethical decision-making by providing a systemic approach to ethical dilemmas that, in turn, results in better clarity and insight into the ethical implications of the decision at hand. The Seven Step Guide starts by stating the problem which motivates the engineer to look at the specific issue at hand, pinpointing the problematic aspects of it. The engineer is then asked to check the facts, which is a step to verify the magnitude of the problem. After the problem has been properly identified, the engineer is then directed to seek relevant laws, standards, or any other relevant factors which shall provide him/her with the support needed to convince others of the final ethical decision. At this point, the engineer can check the NSPE Code of Ethics which provides fundamental canons and rules of practice for professional engineers. The engineer is then motivated to develop a list options that can potentially mitigate the problem. The canons and rules in the NSPE Code of Ethics can then be used to perform the following step in Davis’ guide: testing the options. The options can be filtered based on the Code of Ethics as well as other tests such as the publicity test which begs questions such as: “Would I want my choice to be on the morning news tomorrow?” The penultimate step is to make a choice based on the results of the tests, and the final step is to review all the steps in an attempt to learn from the past how to have fewer problems of the same type in the future. I think this proposed solution can help future engineers avoid mistakes such as the *Challenger* disaster by allowing them to gain better insight on the ethical implications of each individual problem. Furthermore, I think this insight can result in a better understanding of how to deal with the pressure arising from time, organizational culture, and political constraints which, in turn, would result in more ethical decision-making.
References:


Biography

Baher Azzam is a mechanical engineering senior at Texas A&M University at Qatar. He is interested in politics, economics, and, of course, engineering. Publishing a non-technical paper in Best Writing allowed him to go outside his comfort zone of engineering.
Life takes us through dynamic and irresolute paths that often find us questioning how we ended up where we are. Looking back, however, you realize you couldn’t have been the person you are today if it wasn’t for those impediments. The ensuing piece is a personal narrative written in response to a Composition and Rhetoric assignment that traces my metamorphosis into my present identity.

The Potter’s Wheel of Circumstances

Sitting in the very first row in ENGL104, I stare straight ahead as my mind obliterates the last few words of the lecture, involuntarily allowing myself to fall into a state of deep reflection. Looking back at the timid but eager little girl who wore short hair and her brother’s hand-me-downs, I realize I have come a long way. I let my muscles relax and my shoulders slump as I allow my chain of thoughts to lead me down Memory Lane.

My pursuit of education had bleak beginnings – It found me shuffling inch by inch into the crowded little classroom of boisterous kindergarteners, brimming with panic threatening to burst any moment. It found me clutching my satchel in terror. Afraid. Uncertain of where my place was in this overwhelming spectacle of a classroom.

Being a bit of a tomboy, I was never very popular with the other girls. They seemed to be offended by my very presence because I wasn’t a “girly girl,” I hated dolls, and I thought makeovers were silly and pointless (although I didn’t say so to them). I was different – cared about different things and had different priorities. As a result, I was often reclusive and solitary. The social outcast. The one who didn’t belong to any group. The misfit.

Very much like Richard Rodriguez, the author of The Achievement of Desire, I was a “scholarship girl” – not exceptionally brilliant but eager to learn. I always sat at the front and raised my hand excessively, much to the teacher’s dismay. Unlike Rodriguez, however, I had my own different environments (or “worlds”, as he puts it) to adapt to. At home, I was subjected to a lot of physical, emotional and mental trauma by an abusive father. This impacted my life in more ways than I would care to admit. I was constantly afraid of people. This only added to my inadequacy at making friends.

School did help me in many ways, though – I have to give it that. Probably one of the first major life lessons I learnt here was that not everyone is going to be like you, and so to expect this would not only be unfair but also an absurdity. During my first year at school, I naively and somewhat inexplicably decided to punch a Nigerian girl on the nose because I didn’t like her hairstyle. I remember the feeling as my knuckles came into contact with skin – I immediately regretted it and was overcome by an overwhelming sense of guilt. This incident helped me discover tolerance of other cultures and encouraged me to try to understand differences rather than attacking them. We later ended up being best friends.
The classes at my school were mixed-sex up to 4th grade. I slowly worked my way up socially and learnt to fight for myself. By the end of 4th grade, there wasn’t a boy in class with whom I hadn’t gotten in a full-blown fistfight – and won! Though I continued to engage in fist-fights, I learned to leave events that happen at my house at home and not let them fester in my mind and take them with me to school. It was a kind of “dual existence” phase of my life. Although my world at home greatly influenced my school world, both of them somehow gave the illusion of being detached and alienated from each other.

At the start of 5th grade, we were suddenly switched to an all-girls class – a major change in my life because suddenly I had a lot fewer friends. I vividly recall the time in 6th grade when a girl said something offensive and I delivered a couple of solid punches. I got into huge – HUGE – trouble; which came as a real shock to me. You see, due to my background, I had come to accept violence as something as natural as breathing, and consequently had a hard time understanding why the other girls made such a big deal out of it. Also, it was what I had been doing all along before 5th grade. It was only then that I learned the social norms and rules one has to comply with to stay out of trouble.

As a perfectionist and a very competitive person, I have always liked to win and be the best at everything I did – winning was (and still is) very important to me, not just in my fist fights as a child but also at school and my studies. I struggled to be at the top of my class, sometimes waking up late at night when everyone was asleep so I could study. Between juggling my intellectual pursuits and my life at home, I often found myself sleep-deprived – sometimes sleeping a total of just three hours in three days. Sitting here with the privilege to daydream in Texas A&M University today, I believe all of that has paid off.

I found my education a necessary escape valve from my turbulent past and a source of hope for the future. In it, I found ways to express myself and keep my competitive spark contained. I discovered the power literature has – to take you far away from all your worries – and the ardent voice that it empowers even the meekest of souls with. Like Rodriguez, I focused on what education could do for me.

Life has ultimately taught me a lot. They say life throws the same challenge at you in many different manifestations until you learn the lessons behind it. Maybe I’m just a slow learner. Whatever the reason, things have looked up a lot since then. I now have no issues controlling my temper, have no particular difficulty making friends (although I may tend to be a little reserved), can flexibly adapt to different environments, and can get along with nearly everyone. This is one of the most important things my education and schooling has taught me.

The potter’s wheel of circumstances whirs on subliminally as I snap back to reality. I risk a quick glance around, scanning for anyone who might have found a source of amusement in my blank stare. The tiniest hint of a smile trespasses at the corners of my mouth as I reach my verdict: books and lectures aside, life – I’ve discovered – is what you make of it.
Biography

S. Farheen Mansoor is currently a Mechanical Engineering Sophomore at Texas A&M University at Qatar. She was raised in Qatar and loves animals, countryside, mountains, beaches and small towns. She is very passionate about writing both prose and poetry. In her free time, Farheen loves to organize and categorize her papers and her massive book collection. Her favorite authors include Harper Lee, Nicholas Sparks, and Wendy Holden.
Jack AlTwal

I wrote this piece for a political science class last year. The point of this paper is to explain the Ukrainian Crimean crisis, a current event at the time, to people who have little to no political knowledge in a step by step fashion to allow them to come up with their own view of whether the crisis and all its events were justified.

The Game of Politics

“May the odds be ever in your favor” has become one of the most well-known movie quotes of all time, despite being around for just about a year and a half; while it has helped bring life to the incredible movie franchise The Hunger Games for which it is famous, most people fail to realize that it can also bring to the surface another game that is played all around us on a daily basis: the Game of Politics. This game is played on a daily basis all around the world and on countless levels; it is also known to be the only game that takes decades and centuries to be played and never really ends. This essay will explore one part of this never ending game, looking at who the players are, what moves they played, what are the costs of playing the game, and who emerges as the winner.

The first move of this long and complex game occurred in early 1991 when The Soviet Union was dissolved and Crimea became a part of the Ukrainian republic. This led to severe tension between the nations of Russia and Ukraine, tension that seems to have currently reached a boiling point, since one side now covets what the other had once had. For Russia, Crimea represented a strategic link to the Middle East and The Mediterranean, as well as to the Black Sea and the Balkans. The fact that the majority of Crimean citizens are of a Russian ethnicity further augments the Russians’ belief and desire to control the Crimean peninsula.

Enter Viktor Yanukovych, the first of our major players. Viktor was the fourth president of Ukraine holding office from February 2010 till February 2014. Early On in his presidency, Viktor led his nation into a series of talks that would, if successful, lead to closer ties between Ukraine and the European Union. However, Viktor played a hand, the second move that turned out to be one of his biggest mistakes, or a great success depending on your perspective; in November 2013 he scrapped the European Union talks in favor of closer ties with Russia. This led to a series of peaceful protests across Ukraine, especially in Kiev. If the protests had been allowed to remain peaceful, things might have turned out differently, but unfortunately, it is the nature of those in power to constantly abuse it and use it to torment others. In January 2014 the Russian parliament, our second major player, initiated the next move of the game by passing laws to restrict the people’s ability to protest, resulting in: the third move. This combined with other “clever” maneuvers such as police attacks on students led the people of Ukraine, our third major player, to initiate the fourth move of the game by turning these protests violent.
But why would they? Why would they go to such trouble and sacrifice so much, 77 people dead and 600 wounded only by February 20th? The answer: to send a message to their ‘leaders’ that they will be heard, and that they do not approve of this untimely series of events; the latter emphasized by their impeachment of President Yanukovych on February 20th of this year causing him to flee to Russia.

The fifth move of our game was initiated by a new player, Mother Russia, when shortly after President Yanukovych’s impeachment Mother Russia sent unmarked Russian soldiers to invade the Crimean Peninsula. This was the major move to ignite international backlash against Russia as the United States and the European Union immediately called this maneuver a breach of international law. Russia replied by criticizing the impeachment of President Yanukovych, calling it unconstitutional since it failed to meet the required voting standards.

The sixth move of the game was played on March 16th by the Crimean legislature with the assistance of the subdivisions of Ukraine. On said date, the previously mentioned parties, also major players, passed a referendum to the people of the Crimean region asking them whether they wanted Crimea to once again become a part of Russia, or whether they preferred to restore the 1992 constitution with Ukraine. Before I divulge the result of this referendum, I will first present you with some valuable pieces of information. The republic of Crimea was notorious for having an ever-changing demographic distribution, which happens to currently consist of a majority of Russians and Russian speakers. On March 17th it was revealed that 97% of the people voted to break away from Ukraine. This result activated the seventh move of the game wherein the U.S. in joint effort with the European unions has issued “travel bans and asset freezes” against several Russian and Ukrainian officials.

While it has become obvious that the United States and the European Union are vehemently opposing Russia and its actions, China has thus far remained neutral, and India is in favor of everything Russia has done, arguing that its hold over the Crimean Region is perfectly legal. So what causes these countries to pit themselves in struggles that are half the world away? There are two main reasons for this. The first is that due to today’s modern economy, all the world’s countries are interconnected, and what happens to one will eventually affect the other. The second is the simple truth that all countries want their voices heard in the eternal, never ending quest for political domination. Take, for example, the Syrian revolution which has become a sort of chess board for super powers like Russia and the USA to manipulate and play to suit their own ends.

This is hardly the end of the game, my friends, as the end and the winner are yet to be revealed; indeed the seven moves that have been described in this essay are only a turn in a chapter in the never ending Game of Politics. A never ending game that we all play in one way or another; a game where the players are secretly planning to cheat, lie, and kill.
to achieve their means while openly encouraging and cheering for each other and saying “may the odds be ever in your favor.”

**Sources**


Altwal, Metri. personal interview. March 17th 2014.

**Biography**

*Jack AlTwal was born in Amman, Jordan, in 1995, spending the first 10 years of his life growing up there around family and friends. In 2003, his father was offered a job in Qatar, and thus moved here from Jordan while the rest of the family stayed behind. In 2005 the rest of the family relocated to Qatar, where they have lived ever since. It was during this time that Jack developed his passion for reading and writing. He has been a student at Texas A&M University at Qatar since Fall 2012.*
Abdulla AlSowaidi

This short story was based on an accident with my younger brother that happened in my childhood. I wrote it in response to a class assignment for an STLC Alpha class in Spring 2015.

When the Game Was Over

“Ha-ha…I won again!!” I shouted, looking into my younger brother’s eyes.

“I just want to win once in my life,” he replied with tears.

“You’re a loser!” I shouted back.

“I’ll win,” my brother replied, “but in my own way!”

My brother then took the game controller, raised his hand as high as he could, then threw the controller on the ground. The pieces shattered all over the room. This is where he said, “Game over!”

I couldn’t believe what was happening. I grabbed a stick beside me and started to run after my younger brother. He was faster than I was, and he was running all over the house. When I approached him, he did the unexpected. He made a short cut by stepping on a chair and then he continued running. I wasn’t going to let him go, so I stepped on the chair as he did, but my jeans were too long. I tripped and fell to the floor.

I tried to get up quickly to catch my brother, but my body wasn’t responding. I couldn’t move a finger. My brother was watching me from a safe distance. I couldn’t see him clearly since I dropped my glasses. I heard my brother screaming, “Mom!! Abdulla fell on the ground.” But my father came instead. He was talking to me, but I couldn’t hear a thing. I only heard air when it came in and out of my lungs. I saw my father moving my hand around, then putting his ears to my chest – maybe he wanted to hear the air also. Then when he raised his head up a little bit, I saw tears coming from his eyes. He was shouting at me. I was so scared that I couldn’t hear anything or respond to him. Then all of a sudden he laid my hand down and started to run away from me. The whole world began to move around me. Everything was getting darker and darker. My head began to shrink. I was breathing slowly, so slow that I couldn’t hear the air coming in and out. My eyes were out of control. They were fixed on the sky. Was that it? Was this what they called death? But my mom told me that was for very old people. Or maybe I was too old for death. But I was just eight years old. Everything was getting dark. My vision was getting darker and darker; the only thing I could see from my black eyes was black!

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I am sitting in front of a garden in the middle of nowhere. A man who sits beside me has asks, “Isn’t that odd?”

“What’s odd?” I reply.
“The apple tree was full of apples yesterday but it’s not today.” I stare at the apple tree without knowing what he was talking about. “You are new here, right?” he asks.

“What do you mean by new?” I answer his question with another question.

“Aha! Listen, This place is for people who are not in the real world. Now you are either unconscious or probably dead. At this time, you will stay here ‘til you become awake in the real world or you will stay here forever. You won’t remember anything about your past; you will have no idea about your future.”

“How could you prove this?” I ask.

“The only way to prove it is to be conscious because you will not be able to remember all of this. OH! Did you find anything strange about those people?” he says, pointing to people in the background.

“Yes I did. Some have broken legs, yet they are running. Other have broken arms and they are playing volleyball as if nothing were wrong with their hands,” I offer.

“Yes! This is because your physical damage in the real world will not affect you here. You’ll just have the appearance of a sick person. That’s why you can move your hand freely,” he explains.

“I see,” I say. “Do you know how lon–”

I started to lose my hearing. I saw him talking without hearing anything and my vision became blurry. I began to hear people chatter in my ear as if they were whispering to me. I had heard those voices somewhere before. I lost the feeling that I was on a chair beside that man. I felt that I was lying down somewhere. The whole place was changing: the garden, the street and the man began to disappear from my vision. A new picture was being revealed.

I was now lying down in the hospital. My mom was on my right crying, thanking God that I was fine. My father was in front of me with his bright smile. And just behind him, my younger brother was looking at me with his right eye, keeping the left side of his body protected by my father. When I smiled at him, he smiled back and showed his whole body. He knelt down to pick up something, then handed it to me. It was the game controller. He had gathered the shattered pieces and glued them together. On a piece of paper beneath the controller, he had written: “Sory Abod :)”

**Biography**

*A Mechanical Engineering student at Texas A&M at Qatar, Abdulla was born and raised in Qatar. He wrote this piece in his freshman year. The story he wrote was based on a real accident that happened in his childhood.*
Siba Moussa

This submission is a poem dedicated to a dear friend who passed away in the beginning of the 2014-15 academic year.

Glimpse

You, over there, with that hoodie on,
forget that agonizing smile,
you are no longer there.
Remember, you left us.
You are gone,
ashes to ashes,
with no goodbye
where was the warning?
For you,
Tears, we shed
Stories, we told
Yet, wounds were left unhealed
hearts were left shattered
friendships perhaps damaged
You, over there, with that hoodie on,
Is it really you?
Never mind, just another stranger,
Simply another face,
But not another memory
it is the memory of you,
bittersweet indeed.

Biography

Siba Moussa struggles with answering the question of where is home due to the numerous times she has moved around. Born in UAE, moved to Canada several years later, and then to Saudi Arabia, she currently finds herself residing in Doha, Qatar, where she is pursuing her studies as a Chemical Engineer. Her spontaneous stabs at writing are mainly due to her love for reading, which she does when her choice of path to be a successful Chemical Engineer makes it possible to do so.
Belonging to Communities
Belonging to Communities

Alanood Mohamed Al-Jaber

This Arabic poetry was written with love, peace, and sympathy. The name of this piece is “We are all with Gaza.” Gaza has been destroyed, and people have been killed. Gaza was described along with how people have suffered during the war where people died, and children got lost. In this poem, it was explained how people became lost, sad, and full of blood. Catastrophes could occur, but this catastrophe was an intended non-human disaster. It doesn’t matter who you are, or what is your religion because you only have to be human to feel Gaza’s pain.

We Are All With Gaza

Kanā Gāţe

Rahlat shawbīn murtajī
Māmā shī'īn qad bi ka
Tafaghin mātā bil thīn
A'īn al-arūbā bārī.!
Dhūl al-ahwād bil qowī
Woslā 'l-fațāh fil-djī
Qalāt-nfusīn 'l-murtajī
Wusma tsayfī muntajsī
Bailāt 'alndī murtajī
Gīrī dīrī miltajī
Sarfī al-mulqī
Wusma 'l-dawā al-mulqī
Yāmī, nīnā al-mustfī
A'mā qribī fudhī nnsī
Džārī amīn la nnsī
Lībīl al-arūbā lo 'rī!.

Biography

Alanood Mohamed Al-Jaber is studying Mechanical Engineering at Texas A&M University at Qatar. She is a Qatari citizen, and she was born and raised in Doha. She started to write Arabic poetry in 2004 at the age of 10. Since then, she has gained a lot of experience in writing, teaching, programming, and designing. Her goal is to send meaningful messages to people using Arabic poetry. She inherited this hobby from her aunt, who used to publish her poetries in magazines and newspapers. This year Alanood started writing her first Arabic stories book.
Ahmad AlRsheed

This paper talks about what it was like for me to leave my hometown at an early age, and how I was confused as a child about the place I come from. I describe my struggle with defining my identity, along with the turning point that helped me get past that, allowing me to come up with my own definition of “Home.”

Looking for Home

“Write an essay about your culture and what you love the most about it,” my grade three English teacher said. I sat for almost half an hour not knowing what to write. I was out of words, out of ideas, and not a single thought had crossed my mind when my teacher assigned me that homework. The teacher came up to me and said, “All your classmates are almost halfway through the assignment, why haven’t you written anything yet?” and my answer was: “But Miss, I don’t know which culture I am supposed to write about, is it the Qatari culture or the Syrian culture?”

I left my hometown when I was five years old, and I never got to know much about it. I was not able to celebrate Eid there, and to experience what it feels like to celebrate with my relatives. This caused a lot of confusion in my head as a child. I knew I was Syrian, but I knew almost nothing about my birthplace. I had no memories of my childhood there, no sense of what it feels like to have a place I can call “home.” And I never realized this until I was asked to do that assignment. It gave me an awakening desire to know more about the place I came from, to understand myself more, and to fill the gap that made it feel like a part of my life was missing.

Thankfully, my teacher didn’t punish me for not completing the assignment; instead, she gave me a book about the Syrian culture and asked me to read it, and that was the first book I had ever read in my life. I was blown away by the beauty of my country and its rich history and culture.

The book gave me information about all the big cities in Syria, particularly Aleppo (my hometown) and Damascus. Through reading that book, I got the chance to know so much about my country, a lot more than what my relatives who live there know! It was a turning point in my life because that book literally made it feel like I had lived my entire life in Syria. It helped me envision the history of Syria and live in its present. After I read the book, I wrote a long paper about my country and got a full mark in the assignment, but what made me feel so happy wasn’t the grade; it was the fact that I got to know where I come from, my roots, and the place I belong to. I no longer felt lost!

Ten years after leaving Syria, my family thought it was about time we visited our home country. I still so vividly remember what it felt like to witness all the things the book talked about, and feel that sense of belonging people feel in their hometowns.
Everything I imagined in my head became a reality, and was even far more beautiful than what I imagined it would be. “I am home,” I said. Saying this for the first time was magical. I said it as I felt its embrace. I closed my eyes, and felt it, I felt the warmth of home, and listened to the sound of people, churches, and mosques. I am like everyone else now; I can go back to Qatar and tell all my friends about it, tell them I visited my hometown, met my relatives, and had Friday dinners with them. For the first time, I felt like I no longer have to stutter every time someone asks me about the place I come from, I no longer have to fake knowing what it’s like to have a home, a home with childhood memories of late night parties, weddings, and celebrations.

Syria is now more well-known for all the political conflicts we see in the news, but I want the world to know that my country has so much more to share with the world than what we read in the internet or hear on the radio. I want people to know about our traditional sung poetry that’s called “Muwashshah” and how it was influenced by Al-Andalus, namely Portuguese; I want them to know about all the civilizations my country witnessed thousands and thousands of years ago; I want them to know about how Syria went from being part of the Ottoman (Turkish) empire to being one of the countries that came under the French invasion and still kept all the unique aspects about its culture; I want to tell them about the beauty of the old streets of Aleppo and Damascus that date all the way back to 6000 B.C! And most importantly, I want the world to know how valuable it is—to have a place you can call home.

Today, after living for more than 15 years in Qatar, I consider myself part of two amazing cultures: the Qatari and the Syrian. People might think that it’s almost impossible to be part of a new culture and still keep your hometown culture alive inside you, but that wasn’t the case with me. After I moved to Qatar, I was privileged enough to be friends with so many people from all around the world who introduced me to their culture and made Qatar feel like a second home to me. This wonderful experience opened my eyes and mind to the world, and it made me realize that living outside my country was never an excuse for losing my identity; instead, it was a chance to learn more about it, and to get to be part of another culture that made me grow a lot as a person. I now realize that home is where it feels like home. I don’t have to be living in my birthplace; I can be in any place in the world and turn it into home.

Biography

Ahmad AlRsheed is a junior student, majoring in Chemical Engineering at Texas A&M University at Qatar. Ahmad was born in Aleppo, Syria. He moved to Qatar when he was about five years old and considers it to be his second home. Despite the fact that he’s pursuing an engineering degree, Ahmad is very passionate about reading and writing, and he’s currently working on his first novel that he plans to publish after graduation.
Sharouq Al-Malki

*I wrote this essay in my Spring 2014 Composition and Rhetoric course in response to an assignment to conduct a case study of a discourse community.*

Helping the Communities of Qatari Mothers and Daughters Understand Each Other

**Introduction:**

Qatar has developed rapidly in the past 10 years. This in turn has created a wide gap between the mothers’ generation and the daughters’ generation. In the old days, girls lived so they can be wed with a future husband and raise the next generation. Females could get educated and pursue careers; however, being married was the ultimate role for girls. But this idea has started to change bit by bit.

These days, girls have been exposed to new ways of thinking and ideas. Adopting with the new age, girls these days started to look higher and higher. They look forward to achieving their dreams of pursuing a career and getting a job. They can get educated until they have a PhD., drive a car, and little by little gain a certain freedom and independence from their families. And when the time comes for them to wed, they go haywire because achieving their goals gave them a sort of independence where they may believe they do not need a man to control them. They think that they achieved everything in their life without any support from their parents or a husband, and it is hard all of a sudden for a man to enter their lives and control them. Girls these days started to develop this negative idea about men and that they don’t need one to get wed in the first place. This in turn made mothers worry about their daughters’ futures and wonder how to get their daughters at least thinking about their futures.

In Qatar, most parents believe a girl must ultimately get married to secure the girl’s future and have a place to settle in while the girl grows old. It is not accepted in our culture for a girl to live alone and have her own place to stay. That is why the mothers rush in to find husbands for their daughters. Ultimately, this began to form a gap between the mothers’ generation and the daughters’ generation.

At this point, some daughters began to distance themselves from their mothers. The daughter thinks that she can survive without anyone’s support. However, this will not last forever and ultimately she will seek marriage at a later age accepting a proposal from nearly anyone who pops up and asks for her hand. But this could turn bad if the mother rushes things and gets her daughter to marry someone the daughter does not like. So this can be a two-sided problem. Either the daughter will get married to someone she does not like, selected by her mother at a young age, or she will marry
anyone who happens to propose to her and marry someone she does not like at will. I remember once my mother gathered up with my aunts and some of her friends to discuss the matter. Some mothers said that they will force their daughters if they have to which I think is totally wrong. They can force them by stressing how society looks at them or remind her that she will left alone in the future if something happened to her parents.

In this study, I referred to both Tony Mirabelli’s (539-554) and James Paul Gee’s (482-94) ways of describing a discourse community. In both their articles, they start by defining the community, their shared goals and their purpose as well as describing how to enter this community and be part of it. In this study, I will be studying two discourse communities: one being the Qatari mothers’ community and the other being the Qatari daughters’ community.

**Characteristics of the Community of Qatari Mothers:**

Looking further into the mothers’ community, their main goal in life is to raise the next generation and prepare them for the future. Without the teaching and the guidance of our mothers, the next generation will find it really hard to survive and endure life. Mothers, like all women, like to gather up and talk for hours and hours about nearly everything in their lives. The gathering can be done in someone else’s home or on the telephone between two. Mothers still have not gotten used to technology in Qatar, so they avoid using emails and Skype. They do use text messages through the mobile. Usually mothers like to talk about their experience in marriage and raising kids and pass it on to others whether to someone close to their daughter’s age or younger. When mothers ask their daughters to leave the room, that could mean two things: 1) a major crisis in the family or 2) someone has been proposed to. You have to get married and experience motherhood to be part of the mothers’ community in general. The longer you stay married, the more you gain experience and status in this community.

**Characteristics of the Community of Qatari Daughters:**

In this community, for this study, I am referring to the girls of my generation which are born between 1988 and 1994. Girls of this generation are known for living both the old way and the new way. So they kind of know how mothers are thinking right now, but at the same time they can be blinded by the modern way of living. For these daughters, getting an education is the ultimate goal for them. Marriage is like a second option. This generation uses a lot of technology including mobile phones, internet, chatting and more. In this community, girls like to gather in public places like malls and coffee shops. Rarely, someone would ask to gather in someone’s house. When girls get together, they usually discuss how to improve themselves through make-up, social positions, and hobbies. They rarely talk about marriage or getting married. As for the newly wed girls, they do not usually discuss their lives with the other girls. Girls usually speak in both
English and Arabic. There are not really any newcomers to this community, because the next generation is born with all the technology and the new way of thinking. The next generation finds it hard to accept the old ones and tries their best to influence others with their new way.

Methods:

In order to find more about the gap between the mothers’ community and the daughters’ community, I had to meet with representatives of two different communities, one being the mothers’ and the other being the daughters’.

First, I started with the mothers. Since almost all mothers share the same goal, I decided to interview my mother, who has been married for forty years and is a mother of two sons and three daughters. The interview took place at my house in my parents’ room. I began by explaining the purpose of my study to my mother and telling her about what kind of questions I was going to ask. I began asking my interview questions and my mother replied to all the questions.

Then, I turned around to interview a member of the other community, which is the daughters’ community. I chose someone who happens to have been married recently and is studying in Texas A&M University at the same time. I will call her Maryam. The interview took place at the TAMUQ library. I repeated the same questions as I did to my mother. I explained the issue and the aims of my study and what kind of questions I was going to ask. The person I interviewed got married last summer and she answered almost all of the questions.

Results:

I took the answers from my mother and Maryam and I began to study the patterns in their answers.

Regarding the Girls of This Generation:

For the first question, I asked, “What do you think about the girls of my generation?” My mother divided the girls of my generation into different kinds including the good and the bad. She began by describing the girls of this generation as being smart. They tend to be strong and know what to do. They have a tendency to know how to combine between the traditions and the religion and the modern way of living. They are more likely to be comfortable around men because in the old days, unisex schools were rare and not everyone approved with this idea. But, these days, people started to accept the unisex school and the girls learned how to behave and react toward men. Maryam somehow shared the same thoughts with my mother about the girls of this generation and implied that some of the mothers started to accept the new generation bit by bit.
Belonging to Communities

Regarding Marriage and Studying:

For my second question, I asked, “Do you think a girl must ultimately get married?” My mother said, “This is something left to Allah,” implying that we must accept our fate as Muslims. To my mother, a girl must ultimately get married, if Allah blessed her with that, to complete her message as a mother. Maryam also said the same thing. The third question I asked was, “Do you think studying and getting married can be achieved together? Does it apply to everyone?” My mother fully agreed with that. My mother said that women are very strong in nature, and Allah has given them strength to endure everything. And studying is a simple matter to her if the woman has the will, compared to labor and raising kids. On the other hand, Maryam showed great concern about this matter. In this part, she shared a bit of her experience with marriage. She said that before she got married, her parents sat with the groom and explained that she is in her final year so, she needed to concentrate well and that means coming home late and not having a lot of free time for him. For the fourth question, I asked, “At my age, do you think I should focus totally on my studies or finding a husband next to my studies?” She again referred to what Allah has written for me in the future. She said that marriage and studying can be achieved together and that does not depend on the age of the girl. Some girls got married in the middle of their studies, had kids, and continued with their studies. On the other hand, some girls had high certificates and did not do well in their marriage. My mother did stress that a women who got married with a high certificate will be a strong role model for her kids. She mentioned a quote from Prophet Mohammed and how he encourages a Muslim to be strong. Maryam, on the other hand, laughed at the fourth question; nonetheless, she did disagree with the matter. She said it is better that she focus completely on her studies. The fifth question I asked was, “How do you feel about women who rose to the top without getting married? Do feel sorry for them?” My mother also referred to accepting what Allah has written because whether to get married or not is up to Allah. Even if the girl did not get married, my mother said that she can still teach the next generation and the kids do not necessarily have to be her own kids. She must be optimistic and must not envy other people. Maryam did not really have a response to this question because I think she did not have an answer in the first place, or perhaps she preferred not to answer.

Regarding the Qualities of the Husband and Wife:

My sixth and seventh questions were connected: “What are the good qualities that a husband must have?” and “What are the good qualities that a wife must have?” My mother said nothing in particular. Nonetheless, she did mention that this generation has no patience whatsoever, and if one side did not find the good qualities in the other side, they immediately ask for a divorce or a break off the relationship. One side must accept the other with their good qualities and bad ones. But Maryam said that a husband must be a bit patient and understanding.
Regarding the Gaining of Independence:

My eighth question was, "Why do girls these days think that once they get a job and gain independence that they do not need a husband?" My mother said this is completely wrong and placed the blame on the parents for raising them that way of being independent and giving them what they want. As for Maryam, she did not really blame the parents. She blamed the individual’s thinking. When I asked, "Where do you think the idea came from?" my mother blamed the media in general and did not specifically blame one region but all regions. To her, the media in general started to emphasize the idea that women can live alone and do whatever they want in their lives. There is no such thing as responsibility or marriage to restrict her or hold her down. Also, she blamed the parents for giving the daughter whatever she wanted without any boundaries. As for Maryam, she also did not blame anyone on this matter.

Discussion:

I did expect the sort of answers each side chose for these questions. Both my friend and my mother agreed that marriage is something written by Allah and no human can interfere with it. Both of them said a girl must not hasten things or hurry to get married. This is something beyond everyone’s reach. As for the qualities of both husband and wife, my mother stressed to accept the good and the bad side. However, Maryam did strain on the husband being patient and understanding. When my mother wanted to prove something or stress a point, she backed it up with a quote from the Quran and the Prophet Mohammed. As for Maryam, she backed up her point from her own experiences. As for the last two questions, Maryam did not blame anyone for the idea of gaining independence except the girl herself and her way of thinking. As for my mother, the first thing she blamed was the parents. She placed them as the primary reason, and then the media. It seems that parents do consider the media as an influence all the time, but the girls of this generation are not aware that media influences the way that they think right now.

Besides being part of this generation, my reason for doing this study is to close the gap between the mothers’ generation and the daughters’ generation. I wanted both sides to be clear with each other to decrease the distance between them. I feel like this generation should not think that traditions and religion hold them back from advancing forward and coping with the new age. There are millions of ways to combine between the old way of thinking and the new way. I think we can take the experiences of our mothers and mix it with our own way. Arabs are so proud of their past and abandoning it would be a shame and an act of dishonor. However, I do believe that we can add up both ways and at the same time stick to our traditions.

I really did enjoy doing this study because I feel like some girls think that traditions are holding them down and that is completely wrong. I want to support what my mother said, that “in this generation, some girls did manage to combine between the traditions and
coping up with the new age” (Ali). I want to live up to this idea and show the whole world that we do not need to change who we are to advance and move forward.

Works Cited


Biography

Sharouq Al-Malki is a student at Texas A&M at Qatar. She graduated from Albayan High School and then from Qatar Aeronautical College in Qatar with a higher diploma in Ground Avionics. She is a junior majoring in electric engineering and soon will be working in Hamad International Airport in the Control Tower. She recently got married.
Rahaf Al Sa’di

Home, they say, is where the heart is. But what this piece illustrates is that home, for many, is not necessarily where the heart is, but where their company is, the company that reminds of them of their home, the company that allows them to find their identity far away from home. This piece holds the reader by the hand and takes them on a journey in the shoes of a Palestinian, who despite the luxury and blessings her parents provide her with every day, continues to long for her home country, Palestine. In this piece, the reader is given the chance to view the life of a Palestinian who is homesick for a home they’ve never been to. Since she cannot visit home, she looks for her home in Palestinian refugees who have lived in and were forced to leave Palestine. In meeting with these people and hearing their stories, she soon finds out that she too is a refugee at heart.

The Untold Story of a Refugee

Seven billion breathing human beings on this Earth, and each has his or her own personal story to tell. Many times these stories that have shaped the people we have become remain untold; other times, time determines what is to be said, and what is to be left for later, or maybe even never.

Some time around October 2014, I managed to work on a project for one of my courses. The project was to enable me to better understand the relationship between cultural diversity and adaptation. Since the very beginning, I knew I wanted to learn more about how cultural diversity affects adaptation. But what I didn’t know, until I began with my second interview, was that I was unconsciously searching for a part of me whilst conducting these interviews, which were going to answer my questions on cultural diversity and it’s effect on adaptation.

At the beginning of the project, it seemed clear to me that my question would be: “How has cultural diversity affected the people we’ve become?” I began with interviewing my first interviewee, a 40-year-old. Then I moved to my second, a 24-year-old, and soon enough I realized that both were of Palestinian origins. After some thought, I decided that Palestinian refugees would be the ideal ones to ask the question I have set, being scattered all around the world after the political instability they lived through. After conducting my first two interviews, I began to realize that the question had much more to it than one answer; the question itself had more than one question within it – poetic, I know. Like what drove people to choose to go through the troubles of cultural diversity in order to adapt? Or to what extent do people want to adapt to the environment in which they live? But far away from poetry and questions, I began to realize it’s not the cultural diversity that affects us many times; rather, it is the determination which we carry within us that affects how we adapt to our surroundings. At that very moment, it hit me. You know that expression “My whole childhood’s been a lie” that people say when they find something out after so many years? I’m afraid I’ve experienced a similar case.
Being of Palestinian origin and being away from home for eighteen years of my life, adaptation came to me as something that was present ever since I was young, almost as though I’d been born with it. I’d never tried to “adapt” per se, because Qatar has been home ever since I was a year-and-a-half old. So this is home and I didn’t need to adapt to anything, even as I grew older. I didn’t know what adaptation really was without experiencing it, until I looked around at those who’d had to go through the adapting process; that is when I came to know what adaptation really meant.

As I searched for those who’d experienced adapting to different cultures, I came across a twenty-year-old student who was only two years older than me, but clearly had her fair share of battles with adaptation. As she answered one of the questions I asked, she paused and said, “Wait, note down the word adaptable.” The confidence in which she made that remark struck me. Then to continue her performance she said with her eyes full of determination, “Do you know what it means that the spoon wasn’t in our mouths? Do you know this phrase in Arabic?” I said I didn’t, and she replied, “It means we Palestinians have to always look for the spoon in order to eat from it.” I paused, then remembered to smile, trying to hide the exoticness of my smile, but suddenly I found myself to be a foreigner. I was a foreigner to those sayings; I was a foreigner to those experiences, those thoughts.

Then I came to the realization that maybe I wasn’t looking for an answer to these questions after all. Maybe I was just looking for those people who were similar to me, with the same identity.

Who am I? Well, I’m just another story amongst the other seven billion to be told, except I wasn’t asked for an interview.

Biography

Rahaf Al Sa’di is a chemical engineering freshman, who, although she was born in Jordan and raised in the rapidly developing State of Qatar, still holds so much of her Palestinian heritage. With the continuing political conflict in Palestine, Rahaf continues to search for parts of her home, Palestine, in everything that surrounds her. She refuses to stand as an observer of what is happening as Palestine becomes forgotten, a mere memory to many. In a way, she tries to revive Palestine by gathering pieces that remind her of her home in the people she meets, the places she visits, and the experiences she lives, and sharing them with others.
Yossra Osman

This piece is a progress report written on behalf of my undergraduate research team, which presents the research conducted as well as some of the findings obtained. The paper presents the issue being faced at hand, the need for its attention, a proposed solution for the issue, as well as the results to support our proposed solution. Specifically, the problem at hand is that high school students are being admitted into university with poor scientific and practical skills, which stand at the heart of any successful career in Engineering. Because schools focus much of their attention on the theory derived from books, they offer students little scientific, hands-on, critical-thinking, and team-working essential skills. Our proposed solution to resolve this issue was to increase the usage of design-based learning activities into the learning environment. A set of five hands-on activities, incorporating different scientific concepts, were developed and taken to several Qatari high schools to study their impact on the students. The activities were based on a real life application to mimic a role of an Engineer in the real world. The responses of the students towards these activities, as well as surveys conducted, allowed us to assess the success of “design-based learning” as a learning tool. I would like to credit the rest of the research team members for their work and research contributions: Abdul Salam Abd, Meera Abu Soufah, Maream Daey, George Haleem, Hanaa Loutfy, Siba Moussa, Abdullah Najjar, and Moustfa Selim. I would also like to acknowledge the QNRF funding for allowing undergraduate students to participate in undergraduate research projects (UREP).

Incorporating Design-Based Learning Engineering Experiences in Secondary Science Subjects in Qatar

Abstract

In this paper, I will focus on the research, conducted by myself and my undergraduate research team, on the incorporation of design-based learning in scientific subjects taught in Qatari high schools, and I will summarize the results and findings on their behalf. The concern, which later fueled our need to conduct this study, was whether high school students are exposed to sufficient practical, scientific skills, which are the essence of Engineering, or whether schools are focusing most of their attention on the mere theory derived from books. The objective of this study is to develop a set of design-based learning activities for science, technology, Engineering and Mathematics (STEM) courses, implement them at Qatari schools and accordingly assess their impact on both students and teachers. The ideas which we came up with were a set of five projects that involved building and designing solutions to real life problems, on a representational level, to allow students, hands-on, to become innovative with their thoughts and experience direct application of science to the real world. The five projects which we
came up with were as following: Airborne delivery, Fantastic elastic, Purification, Bridges for Tomorrow and Electromagdozer. In this paper, I will present the design-based learning experiences tested in various Qatari high schools as well as the results and feedback obtained.

I. Introduction

Although science is of growing importance in today’s society, it is unfortunate to see that students lack practical scientific skills, such as critical thinking and problem solving, due to insufficient high school experience with practical science. We noticed that many students, for example at Texas A&M University at Qatar, may excel at Mathematics and Sciences, but their struggles often become apparent when they are faced with the challenge of using those skills to devise appropriate solutions to real life problems. The lack of exposure to practical engineering aspects is a huge cause for a large number of engineering dropouts. However, it should be noted that this issue is becoming much more visible to society, and indeed education has taken a lean towards design-based learning activities to help prepare students who might chose to follow a career in Engineering. To address this issue, we developed a set of design-based learning experiences that could be implemented in Qatari secondary STEM courses. Our goal was to encourage active learning in Qatari schools and investigate whether design-based learning really did have a positive effect on students and teachers.

II. Methods

A. Approach

Design-based learning is a form of active learning which engages students to learn through project design. Design-based learning, aims to facilitate learning through a design project; students solve problems while working in teams. Through design-based learning, students can integrate their knowledge of science and math to develop solutions through problem solving processes.

A set of five activities that incorporated the main steps in the design-based learning (shown by the cycle in Figure 1) was developed. By following this cycle, students started the activity by defining the problem, exploring different alternative solutions, designing their solutions and then finally proceeding to the test phase. One of the more important aspects of design-based learning existed in the discussion phase where students were encouraged to evaluate their designs collaboratively and determine areas of success and weaknesses within the class. This design-based learning method also allows students to explore the various solutions which may exist to solve a single problem; however, the challenge lies in identifying the most effective, safe and economical solution. In order to enhance students’ participation and enthusiasm, students had to compete with each other’s designs. Each of the five designs processes aimed at relating to a simple scientific concept previously covered in class.
Following the construction and design phase, students had to go through the evaluation phase. This included talking to the rest of the class about how they came up with their initial designs, and based on the results of the testing, whether they would make any changes and why. Constructive criticism and evaluation served as a crucial learning aid for the student’s development of concepts. Some of the criteria that we would encourage them to assess, in order to determine the success of their design in a real-life manner, were cost effectiveness and environment friendliness.

In order to allow students to fully relate to the role of an engineer, the projects were presented to them as a real-life scenario, where a village on an island was recently destroyed by a tsunami; therefore immediate help was required. Each of these projects, as shown in Table 1, aim to tackle a specific problem that had occurred in the village as a result to the tsunami. In each project, students had to apply a specific scientific to design an effective solution. For example, in the “Airborne Delivery” which is the project that I designed myself, students had to design a means to transport medical supplies and doctors for victims of the tsunami on the island from a hovering, airborne helicopter. To test the students’ designs, a raw egg, symbolizing the doctor and the medical supplies, was used. The survival and quality of the egg upon reaching the ground after being released from a height of about 3-5 meters served as an indication of the design’s success. The cost, efficiency and practicality of the design were also noted to assess the overall success of their designs. Some of the limiting constraints that we provided to the students, in order to represent a real-life problem, were; limited materials while meeting budgetary constraints.
Table 1. Design-Based Activities

<table>
<thead>
<tr>
<th>Activity</th>
<th>Scientific Topic</th>
<th>Materials Used</th>
<th>Time Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airborne Delivery</td>
<td>Air resistance</td>
<td>String, fabric, balloons, eggs</td>
<td>45 minutes</td>
</tr>
<tr>
<td>Fantastic Elastic</td>
<td>Energy</td>
<td>Sticks, CDs, rubber bands</td>
<td>45 minutes</td>
</tr>
<tr>
<td>Purification</td>
<td>Filtration</td>
<td>Sand, rocks, bottles</td>
<td>25 minutes</td>
</tr>
<tr>
<td>Bridges to Tomorrow</td>
<td>Forces</td>
<td>Spaghetti, sticks, straws, tape, cardboard</td>
<td>30 minutes</td>
</tr>
<tr>
<td>Electromagnet</td>
<td>Electromagnetism</td>
<td>Iron core, copper wire, batteries, paper clips</td>
<td>25 minutes</td>
</tr>
</tbody>
</table>

B. Teachers’ Workshops

Four Teachers’ workshops were held with over 60 teachers participating. In these workshops, high-school teachers were introduced to the concept of design-based learning and given the opportunity to participate in our developed design-based activities. The teachers’ workshops were conducted similar to the way the students’ workshops were planned. Teachers were first introduced to the problem statements of the developed projects in the tsunami scenario. They were then divided into groups with 4-5 members and each group given a different problem statement to work on. Each group of teachers had to select the materials needed to solve their given problem using a limited selection of materials. Teachers worked independently within their groups to complete their projects within an allocated time, after which each group tested their projects. Each group thus became an “expert group” on the specific project they worked on. Fig. 2 and Fig. 3 show some of the projects the teachers worked on in the different phases.

Figure 2. Teachers’ Workshop – Design Phase

Figure 3. Teachers’ Workshop – Testing Phase
An open discussion was then held between the members of each “expert group” facilitated by the research team. Points discussed included the materials chosen and why, the cost of their design, evaluating the success of their design, improvements that could be made, the scientific concepts around which their project was based, ways that their projects could be incorporated in their classrooms in order to contribute to student learning and affect classroom environments. “Mixed groups” were then created consisting of one member from each “expert group.” All the teachers in each mixed group presented the project they developed in their expert group, thus enabling the teachers to learn about all the projects used in the workshop. Each mixed group then held an open discussion about all the projects and the scientific concepts involved, how they could be integrated into their classrooms, how students would react to them, and what the teachers had learnt from the workshop. The teachers’ responses were generally positive about the activities, with most of the teachers eager to conduct the activities in their science classes. The activities were then conducted in the science classes of 10 teachers participating in the workshop.

C. Students’ Workshops

Every teachers’ workshop was usually followed up by a students’ workshop at each teacher’s respective school. The students were divided into groups of four or five. Firstly, the problem statement and the constraints were presented and then the students were given time to discuss the problem as well as propose possible solutions within their groups. Then they were given about 20 minutes to construct economical, efficient and effective designs and to test them. Designs were tested to assess whether they provided adequate solutions to the problem provided with economic factors of the design also considered. The session usually ended with an open discussion and evaluation. My research team and I recorded observations based on collaboration, engagement and responsiveness during the workshop.

D. Surveys

At the end of the students’ workshops, students and their teachers were asked to provide their feedback on the design-based activities conducted. Table 2 and Table 3 show the survey questions. For each of the statements in the survey, respondents had to select one of four options: strongly disagree, slightly disagree, slightly agree or strongly agree.

Table 2. Student’s Survey Questions

<table>
<thead>
<tr>
<th>Student’s Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1. Before this activity, I knew that engineering involved design</td>
</tr>
<tr>
<td>Q2. This activity helped me understand the steps in engineering design</td>
</tr>
<tr>
<td>Q3. This activity helped me understand that there can be several different solutions to a problem</td>
</tr>
<tr>
<td>Q4. This activity helped me improve how I analyze problems</td>
</tr>
</tbody>
</table>
Q5. This activity helped me how to make technical decisions
Q6. The problem solving in the activity helped me learn the scientific concept involved
Q7. I enjoyed working in a team to complete the activity
Q8. This activity is a more interesting way to learn traditional lecture
Q9. I would like my teachers to use this method in their classes
Q10. I am considering going into one of the fields of Engineering

*Table 3. Observer’s Survey Questions*

Observer’s Survey

Q1. Students understood the problem.
Q2. Students discussed ideas with each other.
Q3. Students understood the constraints in the design problem.
Q4. Students were able to come up with different solutions/designs to the problem.
Q5. Students were able to make good design decisions.
Q6. Students were able to complete the design activity.
Q7. Students worked well together.
Q8. Students understood the presented scientific concept.
Q9. Students worked with interest on the activity.

**III. Results**

Survey data was collected from 117 students.

Table 4 presents a summary of the responses received from the students to the design-based activities. As seen in Table 4, the majority of the students responded positively to the activities. Notably 92% of the students enjoyed working in teams.

Table 5 presents the data obtained from the researchers who also answered survey questions based on their observations of the students during the students’ workshops.

*Table 4. Student’s Survey Results*

<table>
<thead>
<tr>
<th>Question</th>
<th>Strong Agree</th>
<th>Slight Agree</th>
<th>Strong Disagree</th>
<th>Slight Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>76</td>
<td>35</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>63</td>
<td>27</td>
<td>15</td>
<td>2</td>
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<td>3</td>
<td>88</td>
<td>26</td>
<td>2</td>
<td>1</td>
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<tr>
<td>4</td>
<td>70</td>
<td>35</td>
<td>8</td>
<td>4</td>
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<tr>
<td>5</td>
<td>59</td>
<td>49</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
Table 5. Observer’s Survey Results

<table>
<thead>
<tr>
<th>Question</th>
<th>Observer Survey Results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Consistently.</td>
</tr>
<tr>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
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<tr>
<td>6</td>
<td>2</td>
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<tr>
<td>7</td>
<td>4</td>
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<tr>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>6</td>
</tr>
</tbody>
</table>

IV. Discussion

The data above shows classroom observations and student surveys. This data was analyzed to determine the students’ and teachers’ attitudes and views toward our design-based activities. The survey data indicated that 80% of the students thought these activities helped them understand that engineering involves problem solving and designing skills. This can be seen through the different approaches students had when solving the various problems. Through testing, most of the students were able to identify areas of weaknesses in their initial designs and accordingly redesign. Also, 60% of the students felt that the required problem solving skills required in the activity helped students learn the scientific concept involved. Furthermore, 85% of the students found learning through these activities more interesting than traditional lecture methods. As an observer, it was observed that the classroom environment had a much more active vibe and students had a stronger eagerness to learn than that of a traditional classroom. Students cooperatively shared ideas amongst one another and were able to identify goals and constraints. The students displayed a positive attitude and despite the constraints provided, they produced impressively creative designs. During the discussion phase, it was obvious that students had understood the presented scientific concepts. This was demonstrated when each group presented their thoughts and designs.
V. Conclusions

This study provided an evaluation of the learning effectiveness and the importance of design-based learning in Qatari secondary schools. From both the classroom observations made and the feedback received from students, very positive results were demonstrated regarding design-based learning. We conclude that design-based learning is a significant component of high school scientific learning as it develops critical thinking, analytical thinking, and teamwork skills. Thus, we highly encourage Qatari schools to look into incorporating more design-based learning in their curricula as opposed to only theory.

Acknowledgment

This work was made possible by UREP grant # [14 - 042 - 5 - 007] from the Qatar National Research Fund (a member of Qatar Foundation). The statements made herein are solely the responsibility of the authors.

References


Biography

Yossra Osman was born in Alexandria and moved to Scotland at the age of five, where she was raised in the city of Aberdeen. This life transition and the beginning of her educational years instilled a sense of sentimental fear within her as she faced a big world in her little shoes. As she developed from a shy individual, her teacher described Yossra as a “snail emerging out her shell.” Eventually, she became one of the most approachable individuals and made use of her potential. At the age of 16 she moved to Qatar to begin her career in Engineering at Texas A&M at Qatar.
Mohammad Ismail AlSayed AlMansouri

This essay was written for my Composition and Rhetoric course in Fall 2014. This research required writing an argumentative essay related to education in Qatar. I personally had a lot to talk about regarding education in Qatar, especially about high schools. In high school, I didn’t know how to put my opinions into words. I was also concerned about getting accepted in college, so I didn’t have time to develop my ideas in the first place. So my voice had no chance of being heard. But then, thanks to my composition teacher, and also a tutor from the ASC, I learned how to speak my mind in an audible way. Thanks to this course, I’m finally able to express my opinions with confidence. I believe that in this essay, I have not only fulfilled an academic requirement, but I have finally released what was always in my head for three years in high school.

Language: The Key to Securing Qatar’s Future

Qatar, known in Arabic as “the pearl of the gulf,” started glittering truly in the world’s map in the last decade due to its astonishing achievements like regional mediation and international economic investments. Different sectors in the country united their dreams to form a comprehensive vision of bringing this country from the backwaters of the Gulf to international recognition. Part of this vision has been to provide a high-class education which increases the amount of Qatari graduates in the labor pool. More recently, however, a decision was made to change the language medium of education in independent schools in Qatar from English to Arabic. The decision of this transition was patriotically justified by the assumption that Qatar was losing its culture and not perceiving the benefits of education. A high percentage of Qatari students weren’t being accepted in international universities. Thus, Qatari students risked losing their culture for a western mentality that wasn’t bringing any academic benefits either.

Be that as it may, in this period of time we’re highly necessitated with using the English medium in education rather than casting it off. Paradoxically, it is now of all time that the English language is needed by the Qatari students in order to preserve their Arabic culture. Not just that, the Arab world is already misunderstood. A decision such as changing the language medium of education back to Arabic, if not rectified, will diminish the communication abilities of the next generation to effectively express their viewpoints in the global community, including their viewpoints in response to the widening gulf between the Middle East and the West as well as other global misunderstandings. This is why the English language is needed in order to preserve our culture. We need to communicate more efficiently. This essay will illustrate the consequences of the decision to switch the medium of instruction in Qatari independent schools from English to Arabic by discussing the pros and cons of the transition, demonstrating the current situation in Qatar, and relating the transition of language medium to similar historical events. Furthermore, the discussion of changing the
language medium of instruction will be analyzed in light of Qatar’s Vision 2030, Qatar’s current economic and political activities, as well as case studies of Japan and India.

Christina Maria Paschyn, a prolific journalism professor, in her article “Zig-Zagging Education Policies Leave Qatari Students Behind,” explains the detailed background of the transition. Paschyn reports that back in 2001, an organization called RAND was authorized to improve the education system in Qatar. She conveys that RAND sought “to improve what it called the country’s ‘outmoded’ and ‘unchallenging’ curriculum, which emphasized rote-memorization.” In order to establish a more qualified curriculum, students were required to take “national standardized tests” annually which measured the educational quality of independent schools. Unfortunately, after 12 years, Qatar’s educational curriculum saw a terrible failure. In 2009, Qatar was ranked as the fifth worst country in the Program for International Student Assessment (PISA) tests (Paschyn). Moreover, 12.3% of students in independent schools between grades 4 and 11 had failed their preparatory and secondary exams (Paschyn). The main reason for the failure seemed to be due to the language of instruction. As the reform process took place, it was also a transition process to start instructing in English. Many complaints were that the teachers themselves weren’t ready to start teaching subjects, especially science, in English (Paschyn). Moreover, less than 10% of students met the curriculum standards in math and science for most grades (Paschyn).

As a result, the decision was made to switch the language medium from English back to Arabic back in 2012. Paschyn endorses that “the move was prompted in part by fierce local criticism that Qatar was losing its culture.” As for the advantages of the transition, they are yet to be seen. However, one thing is clear: The methodology of change created confusion and difficulties for Qatari students. As the decision was made in 2012, the process took place exactly in the academic year 2012-2013. It was only separated by one summer where schools were obliged to establish the new Arabic system, and what further complicated the transition was that there was no pilot program to test the new system. A student in an independent high school discussed his personal experience, saying that at the end of grade 9, “most, if not all, of the best students were interviewed as they had opposed the idea of [switching to instruction in] Arabic medium,” he says, but at the beginning of grade 10, “they applied the system forcefully on us” (Anonymous). A lot of students, especially the top ones who were supposed to get the best care, didn’t have time to adjust. Many students had emotional reactions to the rapid change, and this was a proof of their confusion.

Consequently, I believe the disadvantages are clearly expected to outnumber the advantages unless additional steps are taken. Even if the system was to succeed, we can’t deny that the majority of international higher education depends mostly on the English language. The Assistant Dean for Academic Affairs at Texas A&M University at Qatar discussed the preference of the previous English system saying that those who graduated
from the previous system “typically have an advantage,” adding that the students in the current system “may need a little extra training.” He also suggested to consider the problem of enrolling in Education City which depends heavily on English pedagogy, saying that “it remains to be seen, if the change will hurt enrollment at Education City universities, where English is the dominant language of instruction” (qtd. in Paschyn). In accordance with what the Assistant Dean said, the Arabic system will presumably create a big gap between independent and private schools’ graduates. Qatari students who enroll in independent schools may have decreased opportunities of enrolling in international universities, including Education City in Qatar, due to less experience in the language of instruction being in English.

Qatar is currently going through a continuously progressing evolution in different fields other than education, fields in which the English language is necessary. The current government has a policy called “Qatarization.” Latham & Watkins LLP, one of the most prominent law companies in the world, in their report Doing Business in Qatar, state that Qatarization “is effected by giving preference in employment to suitably qualified Qataris” (11). So the government is aiming to give qualified Qataris higher priorities in employment as part of Qatar’s Vision 2030. The vision aspires to develop “a competitive and diversified economy capable of meeting the needs of, and securing a high standard of living for, all its people for the present and for the future” (GSDP). Accordingly, Qatar’s economy is developing impressively to a level that ranked it in 2014 as the first country with highest GDP per capita in the world (GDP- per capita (PPP) ).

Likewise, Qatar aims for international political leadership as it has participated in many political events in which effective communication skills would be an asset. George Eaton, a notable political editor, in his article “How Qatar Bought London” displays Qatar’s incredible investments in London. He reaffirms that Qatar currently owns the Shard, “London’s newest and tallest skyscraper” and One Hyde Park, “the world’s most expensive apartment block,” in addition to Harrods, the Olympic Village, and some percentage of investments in Barclays Bank, Sainsbury’s, the London Stock Exchange, the Chelsea Barracks site and the U.S. embassy building (Eaton). Such foreign investments not only build up Qatar’s economy but also represent a form of Qatar’s global role. All of these economic and political accomplishments are achieved not only for Qatar’s current position, but for the future generation’s sake even more than the present one. A country with this number of foreign investments is expected to have a recognized influence in the future’s economics and politics.

Qatar’s politician and prime minister, Sheikh Abdullah bin Nasser Al Thani, has confirmed that all of Qatar’s accomplishments in various fields, especially investment activities, are for the benefit of the coming generations, as reported in Raya newspaper. And he also reasserted that all of these services will be guaranteed and ensured for the next generation. It’s undoubtedly rare for any country to experience such an
extraordinary development. No one would even think of damaging this new era of progress. However, all of these accomplishments depend highly on communication. It is communication that allowed Qatar to succeed in foreign investments. And it is what the next generation might lack due to disposing of English as the medium for education. Qatar has the youngest leadership in the region. Just Here magazine reported that HH the Emir Sheikh Tamim bin Hamad Al Thani “will be the youngest ruler in the region.” This young leadership is geared for tomorrow’s challenges, and tomorrow’s challenges are in English. In order to sustain and be able to handle and build upon the current accomplishments, we need to communicate more efficiently, not less. So the transition to educational instruction in Arabic medium will probably have a negative impact on Qatar’s current position, and therefore, harm the economic pillar of Qatar’s Vision 2030. Another pillar of Qatar’s Vision 2030 aims to develop the society, stating that social advancement means “equal educational, employment and career opportunities for all citizens” (GSDP). When the English system was established, many parents complained that the quality of the education provided in independent schools “lags behind international and private schools” (Paschyn). Even so, I think that the transition back to Arabic made a bigger gap between independent and private schools. During the English system, the only gap between independent and private schools was a matter of quality. But now with the Arabic system, it’s a matter of quality and communication. As a result, observable discrimination will take place against independent schools’ graduates. Fluent communication is a major requirement of employment in many careers whether in government or private institutions. Hence, this will create different classes of graduates who communicate differently, if not to a level of different languages within one country. The pillar of social development will certainly not be upheld as it’s impossible for all institutions to agree on considering independent and private schools’ graduates as equals, especially in communication departments. People will simply start looking down at independent schools graduates, particularly from private school graduates themselves. The social pillar aims to unite the country, not separate it.

At this point, I would like to raise some objections that might be inspired by the skeptics of this essay. When RAND’s reform failed, Qatar began “looking at education in countries beyond Britain and America for inspiration, such as Japan, Korea and the Netherlands” (Paschyn). Those skeptics might refer to a similar event in Singapore of changing the education language medium to English just like in Jason Tan’s article “Education and colonial transition in Singapore and Hong Kong: Comparisons and contrasts.” Tan criticized the English system, arguing that “the overall effect of such a system was socially divisive, accentuating racial, linguistic and cultural differences as well as the gap between rich and poor” (158). These nations surely succeeded in revitalizing their own languages as educational mediums. However, they didn’t do it overnight which is what Qatar has done. Japan, Korea and the Netherlands took
hundreds of years in order to build themselves. The modern science is created by centuries of English studies. Qatar can either follow the example of Japan and develop their scientific vernaculars for hundreds of years, or it can proceed with English and start developing from this point. Tan was right when he said that there will be division in society, but it's not necessary that the same occurs in Qatar. Back then, English was not a dominant language. Therefore, introducing English to another language's society would have caused division. But today, English is dominant in science, communication and media. So applying instruction in English will actually bring the independent and private schools' graduates to the same level platform and dispose of discrimination.

Paschyn demonstrates the main issue of language transition by citing education experts who say that "RAND is not to blame" because the reforms were not given enough time to mature. I totally agree that there was always a rush in results. Even if we were to consider Japan as an example of educational inspiration, Japan's policy had enough time to mature.

The India model is more closely applicable to Qatar. India is one of the countries that adopted the English language after colonization. It decided to boost language instruction from a realistic point, where they applied the English system on education, and moved onward from there. In 2005, India was estimated to be "the second largest English-speaking nation in the world just behind US," The Times of India newspaper reported. Recently, India had a unique achievement of launching a spacecraft to Mars which has secured a place for India "in the elite global space club of Martian explorers" (Lakshmi). This mission has also surprised the world as "the cheapest interplanetary mission ever" (Lakshmi). It's important to note that such an impressive achievement was accomplished after their proficiency in the language of English and its scientific uses which helped them to achieve their goals.

But that then begs the following question: If we keep speaking in English, how can we preserve our culture? Studying under an English system will enhance the western mentality and diminish the Arabic culture. Withal, the whole world is facing a new era of modernization in which many cultures might be lost during this process. That's why I propose that, due to the occurring process of modernization, proving the existence of our culture is what's going to save it, not preserving it only for ourselves. Qatar assumes that it's the capital of the Arab culture, but this assumption is intended to appeal to an English-speaking audience. Arab pride doesn't have such a narrow meaning of lagging behind the world just to save their culture. Qatar is frequently criticized by CNN for the FIFA World Cup 2022 and human rights issues. Exactly in this situation is where we need to defend ourselves. In order to show our ability to be good hosts, we need to communicate efficiently. This way Qatar can join the global conversation on matters that directly affect it, rather than being silent listeners to foreign conversations and active participants in smaller scaled conversations with limited Arabic audiences. Qatar needs
to unequivocally show that those who criticize Qatar are wrong and that their media are wrong. Only by communicating or responding in English can Qatar show the world that they are qualified and deserve to be recognized.

To sum up, I have mentioned many of Qatar’s achievements in different fields. Such achievements would have not been accomplished without proper communication as they primarily rely on international agreements. Besides, Qatar has charismatic leaders who speak fluent English. And they have high expectations for future generations. But the next generation will have big shoes to fill if they cannot reach the same, or higher, level of fluency. I am not against Arabic as an educational medium, but against any policy that doesn’t have its time to mature. Languages are not guaranteed keys of success; they are simply a medium. Both Arabic and English languages are important, but the English system must be established in order to graduate “qualified” Qatari who are able to build on Qatar’s achievements, complete the mission of Qatarization, and maintain their nation’s relevancy in the world. Qatar’s current achievements are, in fact, the positive results of the previous English system which didn’t have its time to mature. That is a result of an uncompleted system. A country with Qatar’s financial ability and a strong educational system that has enough time to mature can potentially rise as an exceptional economic power in the global sphere.

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Biography

Mohammad AlMansouri is a freshman in the Electrical and Computer Engineering Program. He graduated from Omar Bin AlKhattab Secondary School for Boys. He graduated from the medical class in high school and was accepted in WCMC-Q due to his substantial desire to become a doctor. However, in the very end he found himself more attracted to Texas A&M at Qatar. He is currently enrolled in Texas A&M at Qatar where he is expecting his career skills to be furthered after graduation from a mixture of medical and engineering knowledge.
Mohammed Alsada

This paper is a study of a discourse community for my English Composition course. I was motivated to conduct this study after the incident that happened at the Pearl in Qatar when a drunk driver crashed his car into a Ferrari showroom on Feb 10, 2014. Although it’s a rare thing to happen in Qatar, especially because of the fact that the state law forbids drinking, we can’t neglect the possibility of drinking and driving happening.

Against Drunk Driving

One day, while I was searching through the internet, a photo caught my eye. I dug for more information about this photo to find out what happened, especially because this incident happened in my country at the Pearl at Qatar in February 11, 2014, when a drunk driver crushed his car into a Ferrari showroom. I was so upset by this news, and thanked God nobody was hurt. It is really a big shame to see such a thing happening. There is no doubt that if you drink too much it will result in unconsciousness. What about drinking and driving? Imagine that if there had been somebody on the scene? What might have happened? Surely, it would be a disaster. It is true that it’s a rare thing to happen in Qatar, especially because of the fact that the state law forbids drinking. However, we can’t omit the possibility of it happening. According to one of the most recent world statistics, “In 2012, 10,322 people were killed and approximately 345,000 were injured. Each crash, each death, each injury impacts not only the person in the crash, but family, friends, classmates, coworkers and more. Even those who have not been directly touched help pay the $132 billion yearly price tag of drunk driving” (“Drunk Driving”).

Now when you are driving, you don’t have to watch out for your mistakes only; you should expect mistakes from other drivers. But is it worth it to go through all this pain? I don’t think so. In order to make a better society, this issue must be dealt with. My sense of responsibility pushes me to dig more about this incident, especially in Qatar. I found a couple of blogs that were posted in Qatar Living. Then, when I expanded my search about drunk driving and looked for it worldwide, a unique site caught my eye, and I started to explore it. The site is called “MADD” which refers to Mothers Against Drunk Driving. Mothers Against Drunk Driving is a website which you can find simply by typing MADD. It is a nonprofit working site and was created 32 years ago by a mother whose daughter was killed by a drunk driving incident. Their mission, as it was posted in their site “is to stop drunk driving, support the victims of this violent crime and prevent underage drinking.” They have succeeded to save one person every 8.6 minutes at no charge (“Drunk Driving”). Their enormous efforts to protect families from drunk driving pays off daily.

After reading several blogs and statistics in MADD, the thought of creating a similar site in Qatar occurred to me. It is true that it might be a big thing to accomplish. However, it
would never be an obstacle. For my project in researching a discourse community for my English 104 course, I chose to write about having an online site that fights against drunk driving. My research question would be as follows: “How can Qatar have their own online discourse community against drunk driving?”

**Methods**

My methodology for collecting data for the study included interviews and surveys. I chose to interview Mr. Abdulla Al-Suwadi because he is a dean in the Ministry of the Interior. If he likes my idea, I will have a great support and a potential sponsor. Based on his experience in that field, he will be able to point out some important things to consider. In addition to the interview, I chose to conduct a survey in order to know what other people think about my idea. Surveys help to keep identities secret, which will play an important role in providing the opportunity for respondents to express their feelings freely. After I collected the data, I performed an analysis by creating categories and displaying the results in a pie chart.

**Results**

**Interview**

(Interview questions are attached in Appendix A)

I have interviewed my father’s friend, Mr. Abdulla Al-Suwadi, who is a dean in the Ministry of the Interior, to find out his opinion about my thoughts. It was difficult to see him face to face because of his unlimited meetings and commitments. He even offered to conduct the interview by phone, but I insisted on seeing him. My reason behind that was to see his facial expression after asking each question. Mr. Abdulla greatly opposes drinking and driving. The interview goes as follow. First, I asked him to talk about drunk driving in general at Qatar. Then, I have asked about the possible means to fight against drunk driving. At the end of the interview, I drew his attention about my idea, and asked him to share with me what he believes. He was very amazed about my idea and encouraged me very much. He even offered to be a sponsor to my project. He believed that this idea in particular will pay off the most and will play an important role to minimize drinking and driving not only locally but even globally. In addition, I have taken the opinion of two more people. One of them was caught drinking and driving and the other has lost one of his family members because of a drinking and driving incident. They have shown me a really great impression about my idea. They totally support it and they don’t mind to be the first blogger and share their experience in order to give lessons. They even gave me some important recommendations for the site. For example, to include several languages and to attach pictures for each article that will be posted because it talks to the emotions of the reader, which results in a stronger communication. They even told me about some potential sponsors. I have included all of their opinions and recommendations in my paper.
Survey

(Survey questions are attached in Appendix B)

In addition to the interview, I have conducted a survey to know what people my age think about my idea. A total of twenty-seven surveys were collected. My classmates at TAMUQ agreed with the concept that drunk driving is a bad behavior and has to be banned, but not all of them support my idea. The possible ways to fight against drunk driving differed between them. Some respondents believe that it is possible to fight against it by increasing the level of punishment when caught out drunk. Others believe that the issue might decrease by organizing a campaign. However, all of them believe that if the awareness of drunk driving was spread out in a more noticeable way, this issue will decrease greatly. In order to spread out the awareness of drunk driving, my idea will be the best way.

Analyze and Discussions

I can conclude after looking into the results of my survey that my idea of starting a website in Qatar against drunk driving will be the best means of spreading awareness because social media is the best way to educate people, thereby decreasing not only drunk driving in Qatar, but also drinking. The level of drunk driving or even drinking in Qatar is already at a very low rate compared with other countries; however, having a similar site to MADD will help to decrease it even lower not only locally, but even globally because this website will be available to everybody, not only Qatari citizens. Imagine having two websites with the same goal. One of them is old and the other is new. The old one is saving one person every 8.6 minutes (“Drunk Driving”). Imagine what the new one would do. You can bet that the statistics will change positively.

Desired Characteristics of this Online Discourse Community

A great example of a future discourse community will be an online website that fights against drunk driving. To build such an online community, we should consider the three following characteristics of a discourse community: common goals, genres, and lexis.
Goal. My research matters because it spreads the awareness of the bad consequences of drunk driving. It will have a really positive effect on our society. My main idea behind doing this website is to communicate the point of view of the person who has experienced drunk driving because he is the only one who can give us a clear idea about what it’s like because he has lived that moment. Due to the fact that some people don’t like to defame their names, this website will help to keep their identities secret. I believe that my project will play an important role to show how drunk driving or even drinking affects us in Qatar as our country is a developing country. A lot of people from all around the world are coming to our country, whether to visit or to work. Some of these people might not know the sanctions of drunk driving. But if we have a website which shows all of that, these people will have a clear idea about what drunk driving leads to in Qatar. Especially, because some of these people maybe come from countries that allow drunk driving.

Genres. Through this site different people can share their experiences about drunk driving. Some of them might even share their names, and some of them might not, but all of them will definitely communicate with each other through blogs, chat rooms or comments. Whenever a member of that online community posts a blog, it will create a discussion between the one who has posted the blog, and the one who reads it. It might be an inner discussion or an outer one. An inner discussion is when the reader talks to himself about what was written in the blog and doesn’t share it with anyone else, while an outer discussion will be the response that the reader will share with the blogger or anyone else of the community.

Lexis. One of the most important characteristics of a discourse community is lexis, which refers to a specialized set of words for the community. There are some words or phrases that might be used on an online discourse community only and might not be understandable for other people. For example “DUI,” means driving under the influence. This phrase is more involved in the fight against drunk driving. It’s the name of the violation that was committed by someone who was caught drinking and driving. Another example might be “BAL,” which stand for blood alcohol level. This phrase might not be understandable by other people, but in the field of drunk driving, it is understandable. There are some words that you can’t even guess. For instance “OWI,” means operating while impaired. I bet you didn’t get that one right. Another one will be “UBAL,” which means unlawful blood alcohol level. There are also names for devices utilized in this community. For example, a breathalyser is a device that estimates the alcohol level in your blood based on your breath.

Conclusion

Being unconscious or being in a state of altered consciousness is really a bad thing when you are driving as you may end up hurting yourself and others. Be aware that we are
living in a society where human beings do not have unlimited rights to hurt themselves and others. Drunk driving causes loss of life, permanent disabilities, and often results in incidents involving innocent people. It is very unfair for these innocent people to suffer permanent disabilities or even lose their lives because of one drunk driver’s mistake. The problem exceeds the physical harm and reaches the emotional side. This by itself can harm a whole family rather than just one person. Because this problem will need more than one night to be solved, I have thought of a long-term plan. The plan is to create a website that will over time attract the wanted audience. It will, of course, require a lot of effort and good management skills to achieve the wanted results. The purpose of the website will be for people to share their experiences which at the same time will help others realize the seriousness of the situation. Once that is achieved, then it will be much easier to influence people and raise their awareness against such unacceptable behaviors. For this website to be popular amongst people it will need to be sponsored by a very effective organization which will most probably be the Ministry of the Interior. There is no doubt that drunk driving causes harms to the society and that is a main concern for the Ministry of the Interior, which will increase the probability of their adoption of my idea. Once that is done, we can start on developing the website by first making it friendly and attractive. Of course our main aim is the content and not just the exterior, so the people whom I already interviewed will be the first of a series of many others people with stories to share in order to give us lessons and raise awareness. This may take up to six months, but the results will be worth the wait. After launching the website, it will need a lot of maintenance which at the beginning will be handled by me because the expectation of the attracted audience will not be very high because the website is still considered new. But with time, if it reaches the desired results, then it will need more than just my maintenance. Once the visitors of the website reach a certain number, then a feedback section will be added to the website for users to register their comments. The feedback that we are asking for will be what they learned and whether it was helpful or not. If the plans pays off, I will consider adding an online 24 hour helpline in the website, where alcoholic people can reach out for help and. This issue is very serious, and I will do whatever I can to deter its incidence in Qatar.

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APPENDIX A

Question for the interview with Mr. Abdulla Al-suwadi

Can you tell me about drunk driving in general at Qatar?

What are the penalties that would be charge to people who caught driving when they are drunk?

What are the test that policemen follows to judge if their suspect are drunk?

Are there any future plans to prevent this incident from happening in our country?

Do you believe that social media would be an effective way to fight against the problem?

What do you think about having an online community to fight against drunk driving?

Do you believe that having such a community will contributes to solve the problem?

In your opinion, what are the roles that the members of this community must follow?

On the February 11, 2014, a car crashed into a Ferrari showroom. It was the result of a drinking and driving incident.

Have you heard about this issue before?

Yes
No

How did you feel when you read about the topic above?
(Choose all that apply)

Angry
Disappointed
Sad
Indifferent

How do you think we can fight against similar incidents?
(Choose all that apply)

By social media
By increasing the level of punishments
By campaigns

Other ____________________
Have you ever heard about the Mothers Against Drunk Driving website (Madd.com)?

Yes
No

“It’s a website that was founded by a mother whose daughter was killed by a drunk driver, Mothers Against Drunk Driving (MADD) is the nation’s largest nonprofit working to protect families from drunk driving and underage drinking. MADD also supports drunk and drugged driving victims and survivors at no charge, serving one person every 8.6 minutes” (Drunk Driving).

Do you support the idea of having a similar website in Qatar?

Yes
No

If you have any additional comments or thought, please feel free to include them here.

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Biography

Mohammed Ahmad Alsada is a junior Qatari student working toward his Petroleum Engineering degree at Texas A&M University at Qatar, as well as his minors in Geoscience and Mechanical Engineering. Coming from an engineer background, his dream since his childhood was to find out how to be a brilliant and distinguished petroleum engineer to complete the march of his ancestors. As a result, he joined Texas A&M University at Qatar to pursue his childhood dream.
Kholoud Abdulaziz

This technical review was an assignment for my senior seminar course during the Fall 2014 semester. Seawater desalination has been a topic of interest in Qatar due to the water scarcity we are facing. Even though seawater desalination is an attractive option for Qatar, it has adverse environmental impacts on the region that are discussed in this paper in detail. Ways of reducing the negative effects of desalination plants and alternative ways of usage are also suggested in this paper.

Adverse Environmental Impacts of MSFD and RO Desalination Plants in the GCC Region

Abstract

With the emergence of the 21st century, technology has been developing rapidly which stimulated the population growth. Every two years the United Nations publishes a report that includes the growth of the population and estimated future projections. The projections indicate that there will be further increases in the population that would alert officials of the future demands of the next generations. One of the problems is water scarcity, which has been a major issue in less developed countries and will continue to get worse, especially with the development of the industry sector that consumes massive amounts of water. Countries with no abundant sources of fresh water like Qatar have to find alternative solutions to solve this problem, and since Qatar is surrounded with seawater, desalination of seawater offers an attractive option for freshwater. Desalination is mainly categorized into two types: thermal distillation and membrane separation. Each has its advantages and disadvantages, with different costs and environmental impacts that will be discussed in detail. Since plants need power to run, there are different sources of energy that range from fossil fuels to nuclear power to solar energy. Any human activity should be studied in order to minimize its environmental impact, and so an Environmental Impact Assessment (EIA) is performed. Desalination plants can have an impact on the marine environment, the emission of carbon from fossil fuels, or the safety concerns about nuclear power plants.

Keywords

Seawater desalination, desalination plants, freshwater, thermal distillation, membrane separation, reverse osmosis, multi-stage flash distillation, nuclear power, solar energy, environmental impact, Qatar.

Executive Summary

As the population grows rapidly, water scarcity has become a global issue that keeps propagating. Unless a solution is found, human activities in areas like agriculture and
industry will be hindered. Seawater desalination plants offer an excellent option for countries that are below the poverty line for rainfall, such as Qatar. These plants only require pumping seawater to produce freshwater. There are basically two types of desalination plants: multi-stage flash distillation (MSFD) and reverse osmosis (RO). A third configuration would be a hybrid plant that combines MSFD, RO, and power generators. According to the availability of the energy source, location, and economic conditions, the desalination plant type is chosen. RO plants have less environmental impact due to the reduced energy requirement and hence fewer greenhouse gas emissions compared to the MSFD plants. The types of energy sources differ in terms of greenhouse gases emissions, and fossil fuels have the highest emission levels. Nuclear and renewable energy sources were considered as a substituent to fossil fuels, but the safety concerns of the nuclear energy, and the expensive technology of the renewable energy, formed obstacles to advancing those two alternative sources. In terms of capital cost, RO plants have fewer expenses as they require less energy consumption and equipment cost. There are other environmental impacts that are caused by desalination plants, like the water withdrawal and brine discharge that affects the marine life. The high salinity and the toxic contents of the brine greatly impact marine life. Proper disposal methods of the brine discharged should be considered, such as forward osmosis, off-shore disposal, electrodialysis, and many more methods. In order to evaluate the impact of a desalination plant, an EIA is conducted to analyze different parameters such as concentrations of feed, brine, desalinated water, and thermal and electrical energy consumption along with the emission of CO2. There are many proposals for constructing the ideal desalination plant that are under research and development, including proposals that integrate hybrid plants and operate with only renewable energy.

**Population Growth**

*World’s population*

The population has been growing rapidly especially with the emergence of the 21st century as technology has been developing in many areas including medicine and health. The human life span has been extended with the development of successful treatments for many diseases, especially impacting survival rates for newborns. In general, the standard of living of many regions has been improving which leads to an increase in their populations.

Even with the advanced technologies of the 21st century, many countries are still suffering from freshwater and food scarcity. Today, around 700 million people are suffering from freshwater scarcity, and of course water scarcity leads to food shortage. Following developing countries like Qatar, lesser-developed countries, mostly those concentrated in sub-Saharan Africa, are the most affected by this worldwide issue.
According to the United Nations report of the world population, the current population is around 7 billion, and in 15 years (2030), the population is predicted to grow to 8 billion (Figure 1).\(^2\) Officials must be alerted to this massive growth of population as freshwater and food scarcity will continue worsening.

**Figure 1: The predicted world population by the UN**

**Qatar’s population**

Most of the countries that suffer from water scarcity are landlocked, meaning that they have no water sources such as seas and rivers. On the other hand, countries like Qatar that are surrounded by seawater still suffer from a moderate water shortage. Qatar’s population is currently 2.1 million, and it is expected to grow more in the future. Because of the 2020 World Cup,\(^3\) officials need to consider the future population demands to avoid a water crisis. Qatar’s industry is also growing, leading to further demand of water as many plants require water usage. Industrial plants use water for heating and cooling, chemical processes, and others.

**Seawater Desalination Plants as a Solution**

As the population grows, water scarcity will get worse which may lead to the declination of many human activities in industry and agriculture. Water scarcity can also lead to an increase in poverty as water prices may increase in many countries due to importation. All countries will suffer greatly if no solution is found. Countries
with lower water scarcity threats usually have high rainfall rates and/or rivers and lakes. For countries surrounded by seawater, like Qatar, with a very low rainfall, the desalination of seawater is an attractive option to solve the water scarcity problem. As Qatar is classified as one of the richest countries in the world, the capital cost of the desalination plants is no obstacle. Seawater desalination refers to the removal of salt and/or minerals from saline water to produce freshwater. These plants could provide an endless source of freshwater. Desalination plants can be built for domestic use by the population and for industrial plants. With desalination plants, a country can produce freshwater for the population without importation. This also can stimulate agriculture and so the country can also grow its crops if the weather allows it. Qatar has built desalination plants in Ras Laffan\(^4\) and Halul Island\(^5\), and there are plans for building more plants to satisfy the future needs of the population. From 2006 to 2010, the production of desalinated water has increased 14% annually in Qatar.\(^6\) The Gulf Cooperation Council (GCC) countries like Saudi Arabia and the United Arab Emirates have also built several desalination plants for the same purpose.

**Types of desalination plants**

Desalination plants have different mechanisms of converting seawater to freshwater, but they are mainly classified according to two types: multi-stage flash distillation and reverse osmosis.

**Multi-stage flash distillation (MSFD)**

In MSFD plants, water is transported to the boiler to heat it. Water then boils leaving salt at the bottom; the water vapor then condenses due to a temperature drop and is collected. This stage is repeated to get more freshwater while a highly concentrated solution called the brine is left behind. The process is summarized in Figure 2. The brine can then be disposed of by diluting it to match the seawater level and then it can be safely dumped in seawater.

![Figure 2: Multi-stage flash distillation plant.](image_url)
The first seawater desalination plant in Qatar was an MSFD plant located in Ras Laffan. The plant (Ras Laffan A) started operating in 2004 with a capacity of 151,000 cubic meters per day of desalinated water. Another plant built in Ras Laffan (Ras Laffan B) was completed in 2008 with a capacity of 27,500 cubic meters per day of desalinated water. Finally, Ras Laffan C desalination plant was built in 2011 with a capacity of 286,000 cubic meters per day of desalinated water, which is so far the largest production in Qatar.8

The latest MSFD plant to be completed in 2015 in Qatar is located in Ras Abu Fontas.9 With a capacity of 160,000 cubic meters per day of desalinated water, it will be supplied to Kahramaa. The plant will also include mega water reservoirs that can hold up seven days of back-up water for emergency by 2016.10 Water reservoirs are necessary in case the plants stop working due to technical damage. If this occurs, the population should be made aware of the crisis and be conservative with water use until the desalination plants operate again.

**Reverse Osmosis (RO)**

In RO plants, the seawater is pumped in a high-pressure stream to run against a semi-permeable membrane that would only allow water to pass through leaving salt behind. This process is repeated until the desired water quality is reached. The process is demonstrated in Figure 3.

![Figure 3: Reverse osmosis mechanism.](image)

The water stream passes through pretreatment and post treatment processes. Chlorination refers to the addition of chlorine in small amounts to disinfect the water. The water stream also flows through a gravity filter with different sand particle sizes in addition to a cartridge filter to decrease the turbidity of water (solid suspensions). As for the post-treatment, calcium hydroxide is added to the desalinated water to adjust its alkalinity. Chlorine is also used to get rid of microorganisms during storage.12

Saudi Arabia has built one of the first RO plants in the world located in Yanbu Industrial City. This plant produces 50,400 cubic meters of desalinated water per day.13 Throughout the duration of this operation, two main developments were implemented: one involved converting the plant from MSDF to RO system, and the second incorporated the use of energy recovery devices. Those two developments have significantly lowered the capital and operational costs of the desalination plant. Further development is the use of
nanofiltration membrane pretreatment, which is more efficient in terms of reducing the turbidity and the bacterial content in the water. A pilot study was conducted, and it was proved to be successful as it increased the production rate by 40%.13

Qatar’s only RO desalination plant is located in Halul Island and owned by Qatar Petroleum,5 which has 11 crude oil storage tanks with a capacity of 5 million barrels. Plans are being made to build more RO plants in Qatar, currently under study by the Qatar Environment and Energy Research Institute (QEERI).14

**Hybrid desalination plants**

A hybrid desalination plant that uses the mechanisms of both MSFD and RO plants is being built recently in addition to power generation. This type of plant has been proven to decrease the capital and the operational cost of the plant significantly as it lowers the requirement of the pretreatment processes and decreases the rate of membrane replacement of RO by 40%.15 Hybrid plants also decrease the energy consumption as shown in Figure 4. The energy decrease is due to the blending of the distillate from MSFD plant with the permeate of the RO plant. The plants mainly operate the MSFD and RO in parallel with a common intake and outfall. The integration of this type of plant is achieved by operating them in series to increase the production of the desalinated water by feeding the MSFD to the brine reject from the RO. This configuration would decrease the cost substantially as the pretreatment process will be less and hence decrease the rate of membrane replacement.

One of the largest hybrid plants in the world is Fujairah F1 Independent water and power plant located in Fujairah in UAE and has been operating since 2004.15 It has a desalinated water capacity of 455,000 cubic meters per day and a power capacity of 893 megawatts.16

![Figure 4: Comparison between hybrid and dual-purpose plants in terms of energy consumption](image)

*Figure 4: Comparison between hybrid and dual-purpose plants in terms of energy consumption*16
Comparison between MSFD and RO desalination plants

Not only does the mechanism of the processes differ, but the MSFD and the RO plants have also different energy use, CO₂ emission levels, brine discharge concentration, and cost. Depending on the plant capacity and energy availability, one type can be chosen over another.

Energy use and CO₂ emission

The selection of the amount and source of energy is a crucial element in any desalination plant. The selection is dependent on many factors like the availability of an energy source, safety, environmental impact, and economic considerations. Due to the availability of fossil fuels and natural gas in the GCC countries, MSFD plants have been widely used to provide desalinated water. With the increased demand for desalinated water, the production capacity has been increasing, which in turn increases the energy use and the emission of CO₂. Greenhouse gases have been the main cause of global warming which consists mainly of CO₂. Since RO plants do not require thermal energy, they have been an attractive choice to reduce the environmental impact of desalination plants. A study by Tokui et al demonstrated an environmental assessment for both MSFD and RO plants using Inclusive Impact Index light (Triple-I light) in Saudi Arabia. The study concluded that RO plants have a lower index compared to the MSFD plant due to the low electrical energy consumption. Also, the sustainability of the plant can be greatly affected by the total amount of water supply, and the researchers propose a reduction in electric power consumption to maintain the sustainability of the plants.

Nuclear energy has been considered as a source of thermal energy for desalination plants in countries like Japan and India, but because of the safety issues associated with nuclear power, it hasn’t been a competitive option to be considered to power a desalination plant. On the other hand, nuclear energy has less environmental impact compared to fossil fuels and is considered in countries that lack the abundance of fossil fuels. A feasibility study was conducted by Jung et al of a small-sized nuclear heat-only desalination plant in UAE. UAE has one of the most advanced nuclear programs and is planning to build desalination plants based on nuclear power. A small-sized plant was chosen to maximize its safety features, so it only generates heat (not electricity). After conducting a performance and economic analysis, it was concluded that nuclear desalination plants are a feasible option in the UAE.

In Australia, a study was conducted by Shahabi et al where they studied three cases: an RO plant operating with fossil fuel as a source of electricity, 100% wind power, and 92% wind energy plus 8% solar energy. It was proven that renewable energy powered plants cause a 90% reduction of greenhouse gases emissions compared to the fossil fuels powered plants. This high percentage of reduction is capable of preventing considerable greenhouse gases around the world. Having hybrid sources of energy is also a good option to consider as a start where you can partially decrease the emission of greenhouse gases associated with the production of electricity for desalination plants.
**Brine concentration and content**

The discharged brine from MSFD plants contains up to 70 g/L of dissolved solids. With its high concentration of suspended solids, the brine can greatly impact the marine life. Since the brine is a highly concentrated saline water (33% saltier than seawater), it has a very high density compared to the seawater. As the brine is discharged, it sinks to the sea floor, affecting marine life. Regulations restrict the brine salt concentration to 20 g/L, so appropriate disposal methods should be followed. The high cost of the brine discharge disposal methods is one of the obstacles to proper disposal, so advanced technologies with low costs have to be developed.

One method involves diluting the brine to reach an acceptable salinity of water that won’t affect the outlet area by forward osmosis. An MSFD desalination plant in Kuwait is located near a steam power plant, where they dilute the brine with cooling seawater. A second method includes discharging the brine far away from the withdrawing area so that it will not distort the water concentration by withdrawing and discharging at the same area.

There are other methods like solar evaporation where evaporation ponds are constructed to hold the brine discharge from plants. With the sun’s energy, the water evaporates leaving the salt behind. Evaporation ponds are easy to construct and have low capital cost since they only require a pump to transfer the brine stream. A more advanced method is the electrodialysis, where electrical potential difference is used as a driving force to transfer the ions and this method is more efficient in terms of energy use compared to MSFD plants. The brine solution is concentrated from 0.2-2% to 12-20% by this method with only 1-7 kW/m³. A disadvantage of the electrodialysis is that the efficiency of the process drops as the concentration of the brine increases.

There are more methods that are used to dispose of the brine, including evaporation and crystallization systems, membrane distillation, two-stage reverse osmosis, and closed-circuit desalination. Some are applied in industry-scale, and some are still in a pilot-study stage that needs further development and research to be more efficient in terms of brine discharge disposal and energy consumption.

The brine also contains the chemicals used in the pretreatment and post treatment processes, but the most harmful ones are the bio-fouling agents. Chlorine is one of the bio-fouling agents used with a typical dose of 0.5-1.5 mg/L and is a very toxic chemical to many organisms. In MSFD plants, the chlorine is discharged with the brine directly, while in the RO plants, the water stream goes through a de-chlorination process to eliminate most of the chlorine. The brine from the MSFD has a chlorine content of 0.2-0.45 ppm, while the RO plants have almost non-detectable amount of chlorine. On the other hand, there are many useful metals contained in the brine that can be recovered by separation, such as cesium, rubidium, gallium, and germanium which are recovered by chemical separation processes like liquid-liquid extraction, crystallization, and cation exchange processes.
exchange resin. Some of these metals, like uranium, are expensive and under high demand by other industries. Metal recovery is not applied on an industry scale yet as it needs further research and development to execute these processes efficiently.\textsuperscript{20}

**Capital cost**

MSFD and RO differ in their capital cost as they have different mechanisms with different equipment use and energy consumption. With the increase in the energy prices, RO plants have become a competitive choice for a desalination plant mechanism. For the MSFD plants, both thermal and electrical energies are used to operate them, while the RO plant only requires electrical energy for the pumps with a consumption of only 25\% of that of MSFD plant.\textsuperscript{12} If the RO plant is using an energy recovery system, then it would require even less energy than the MSFD making it a very attractive option. Also, bio-fouling agents like chlorine found in MSFD plants triggers the corrosion of pipes, thus increasing the cost of replacement. Although RO plants require membrane replacement, they still offer less capital cost compared to the MSFD plant.

According to Figure 5, for any plant capacity, the RO plant has a lower capital cost compared to MSFD plants. The cost difference is even higher as the plant capacity gets smaller and at higher energy costs.\textsuperscript{21}

![Figure 5: The capital cost of MSFD and RO plants\textsuperscript{12}](image)

A hybrid RO-MSFD plant is also considered in the economic analysis, and it was found that it is even more efficient than the previously mentioned types. The hybrid plant requires less cost for the pretreatment process and improved water quality due to the blending of the distillate and the permeate of the RO plant.\textsuperscript{21} This type of plant also lowers the rate of membrane replacement for RO, which further decreases the cost.

**Environmental Impact Assessment (EIA)**

One method to assess the impact of a desalination plant is an EIA which involves studies that enable the estimation of the impact of a project or work.\textsuperscript{22} For desalination plants, the effects on marine life, surrounding water salinity, and energy consumption are considered.
By conducting an EIA study, you will be able to find the best mechanism, location, safety and corrective measures for a desalination plant both quantitatively and qualitatively. Basic information about the plant plus analysis of the feed, desalinated water and discharged brine should be obtained in order to evaluate how they impact the marine life. Energy consumption (thermal and electrical energies) should be analyzed along with the amount of emission of greenhouse gases in order to avoid contributing to global warming.

A study in Spain by Fuentes-Bargues evaluated the environmental impact of 24 desalination plants by conducting EIAs. The major environmental impacts during construction are identified as: land used to build the plant that affects the habitat, oil spills, noise generated by machinery, and dust emission from building the plant. During the operation period the impacts are identified as follows: increased salinity of seawater, noise generation by desalination plants, major energy requirement to run the plant, and impact on the landscape because of the facilities built on it. Corrective methods should be proposed by all EIA studies in case the desalination plant has a great impact on the environment. It is recommended that any starting projects of desalination plants should be analyzed by conducting EIAs so as to decrease the impact on the environment surrounding the area.

**Conclusion**

Seawater desalination plants offer an excellent option for countries that are below the poverty line for rainfalls such as Qatar. There are mainly two types of desalination plants: multi-stage flash distillation and reverse osmosis. A third configuration would be a hybrid plant that combines MSFD, RO, and power generations. Each type has its advantages and disadvantages depending on the availability of energy resources and the economic circumstances of the country. RO plants have particularly reduced environmental impact due to the less energy requirement and hence less greenhouse gases emissions compared to the MSFD plants. Also, depending on the source of energy, greenhouse gases emission varies, as it is the highest for fossil fuels. Nuclear and renewable energy sources were considered as a substitute to the fossil fuels, but the safety concerns of the nuclear energy, and the expensive technology of the renewable energy form obstacles to advance in those two alternative sources. RO plants have also been proven to have fewer capital costs no matter what the water production capacity is for the plant. There are other environmental impacts that are caused by desalination plants, like the water withdrawal and brine discharge that affects the marine life. Not only is the high concentration of the brine harmful, but also its toxic contents like chlorine may kill marine creatures living nearby the discharging area. Several solutions were offered to reduce the environmental impact, including diluting the brine discharge stream and choosing a discharging area far away from the withdrawal area to decrease its impact on the water salinity. There are many other methods to properly dispose the brine discharge that are discussed in detail, including solar evaporation and electrodialysis. Several examples of desalination plants were reviewed.
in this paper, demonstrating the different conditions in which they operate. The EIA is a way to study the effects of a desalination plant on the environment by analyzing different parameters such as: concentration of feed, brine, desalinated water, and thermal and electrical energy consumption along with the emission of CO₂. There are many proposals for constructing the ideal desalination plant that are under research and development, such as integrated hybrid plants that operate with only renewable energy. The fair use of clean water and awareness will always be a way to decrease water scarcity and hence provide abundant clean water to satisfy the future demand of the next generations.

References


Biography

Kholoud Abdulaziz is a senior student majoring in Chemical Engineering. She is passionate about research and development and so decided to pursue her goal through Chemical Engineering at Texas A&M University at Qatar. She believes that Texas A&M University at Qatar is her stepping stone to becoming a successful engineer and researcher who will contribute to the development of Qatar.
Muhammed Bilal

This piece was composed as a response to an assignment for the elective course Literature and Other Arts in Fall 2014. The class was supposed to analyze art installations on display at the Mathaf museum. “The Curved Salon” was the artwork that enticed me the most, especially because of the numerous intricate details and also because of the passion that I hold about the topic. Being a resident of a Middle Eastern country, I have first hand experience of life in this region. Also I am well aware of the catastrophic damage caused to humanity by the barbaric terrorists. Not only is the issue interesting, but the way it has all been laid down in the setting of a living room is what fascinated me. The artist ingeniously used a simple and common setting to deliver a powerful message. Moreover, the subtle nature of the message makes it more effective as one does not realize the concept at first glance; hence, the long time taken to analyze the installation leads to a better realization and appreciation of the effectiveness of the message.

The Curved Salon

Ghada Amer (b. 1963), Le Salon Courbé (The Curved Salon), 2008
wallpaper, embroidered furniture, silk and wool carpet, dimensions variable
Collection: Mathaf: Arab Museum of Modern Art, Doha

Choosing an art piece to analyze and breakdown for this assignment was not a difficult task at all. Although there were many other commendable and marvelous art pieces, none fascinated me more than the “Le Salon Courbe” (“The Curved Salon”) by Ghada Amer. Upon entering the museum for a visit, our Literature and Arts class was advised
not to touch any of the exhibitions, and there was a special caution regarding a sofa that was placed on the first floor. The exact words of the tour guide of the Mathaf Arab Museum of Modern Arts were: “You will see a chair on the first floor, please do not sit on it, as it is an art installation.” That’s when I thought to myself, “How in the world could a sofa be art?” I would soon find out.

The class broke up into small groups and we went about looking at the various exhibitions. I too wandered here and there, baffled by the various awkward paintings and sculptures. However, I soon found myself on the second floor and things made a tad more sense there. There were some interesting pieces and after briefly examining them, I moved on to a hall where I saw three sofa seats with pink thread on them. “An incomplete room?” I wondered at first, then realized that this was the sofa mentioned by the tour guide. Interesting. I soon found myself breaking apart the various elements in the room, trying to make sense of what’s going on. Of the one hour and thirty minute trip, I spent about an hour just analyzing and looking at “The Curved Salon.”

“The Curved Salon” was made by Ghada Amer, an Egyptian born American contemporary artist based in New York. She was educated in Paris and Nice.

As shown in the picture above, the setting consists of three main elements: a sofa set comprised of three chairs, a rug resting between the sofas, and a wall surrounding the sofas from three sides. The sofas are of imperialistic design and the pink wallpaper is typical to Western style houses.

The three elements are laid out in a very sober manner; the tone seems to be saddened and troubled. The colors and the emptiness of the room (due to absence of any other objects typical to a living room) also create a very grave and thought-provoking sensation in the observers. Plus there is also a sense of incompleteness or misunderstanding due to tangled mesh of string on the sofas. At first it seems quite vague; however, there are subtle hints that point towards the subject matter of the art piece.

When closely inspected, the wall is full of English print with a layout similar to that of dictionaries. The print was the word terrorist, and its definitions as given in various English language dictionaries. The color of the wallpaper is also unique and typical of Western style houses. It can never be seen in houses in the Middle Eastern and Arab world. There are also crowns of different designs that can be found in the wallpaper design. The design of the sofas also follows Imperialistic references as the wallpaper. The sofas, on the other hand, are a common sight in Arab homes. The rug itself is brown in color and consists of various Arabic alphabets. At first the alphabets seem to be randomly arranged, but when some Arab friends and I took a closer look, we found certain combinations of sentences and words.

One of the sentences that we made out was “Terrorism is real.” There were also words such as fear, but apart from that, the arrangement was random. The sofas also have Arabic letters written on them, in the same random order as the rug.
In my opinion, “The Curved Salon” consists of two phases. The sofas and the rug form a phase and then the wall forms another. Due to the fact that the wall consists of words in English and the sofas consist of Arabic words and letters, I concluded that the sofas and the rugs represent the ground reality of the terrorism situation in the Middle East, where the local people are the ones who suffer directly at the hands of terror: their families are destroyed, their houses ruined, and their lives devastated. They are victims and not instigators of terrorism. This idea is also supported by the Arabic text on the rug that conveys that Arabs themselves have to bear the direct destruction of terrorism. Moreover, the string that was used to thread letters on to the sofas was never cut off. It forms a tangled mesh of dark pink, further highlighting references towards trouble that Arabs find themselves in at the hands of terrorism. The dark pink thread could also mean blood and violence. Whereas the wall that surrounds the sofas and the rug could be thought of as the Western media and stereotypes that associate and define terrorism such that it is synonymous with the word Arab. This argument is further fortified by the imperialistic and western designs of the wallpaper. Thus in summary “The Curved Salon” is just another criticism of the “Arab=terrorist” stereotype and calls out the observers to realize that they are in fact victims suffering greatly at the hands of terrorism and violence.

“The Curved Salon’s” general condemnation of war is a theme shared by several poems in the book Victims of a Map which was also assigned for this English course, including the poems “The Abandoning” and “Conversation between an Ear of Corn and Jerusalem Rose Thorn” (both by Samih al-Qasim). “The Abandoning” also talks about the world seeing Palestine bleeding and being killed, but cannot do anything about it. “The Conversation between an Ear of Corn and a Jerusalem Rose Thorn” also mentions killing and death while focusing on the Israel-Palestine conflict, which is basically a problem common to all the Middle East as it makes people suffer at the hands of violence and murder. Both these poems condemn violence by raising awareness towards the real facts: both parties are affected by violence, and Arabs are not the ones to cause terrorism; in fact they are at the receiving end. Le Salon Courbe also reminded me of Edwin Starr’s “War,” a song that was analyzed in class. Edwin Starr also condemns war and speaks against violence.

Being a Pakistani citizen and a resident of the Middle East for over a decade, I am very well aware of the reality and gravity of the damage caused by terrorism. In Pakistan alone, over fifty-five thousand people have lost their lives at the hands of terrorism between 2003 and 2014. In Iraq, about fifty-one thousand people have been killed by terrorist attacks from 2006 to 2013. These statistics clearly point out that the people living in these regions are the direct and most affected victims of terrorism.

Apart from the violence and terrorism perspective, “The Curved Salon” also points towards the difference between perception and reality. What people perceive of you
might be very different from what is actually in your heart. I have had to face this situation throughout my teenage life. Due to having a shy personality, I never had a lot of friends and so I could never be open to people. I became lonely and people stopped talking to me. However, I was happy; though I did not have a lot of people that I was close to, I did have a small group of friends whom I had known since my childhood. These people knew the real me, and they looked over my shyness and quietness and once they got to know me, we found numerous mutual interests. The fact that I had these few close friends gave me the strength to open up and be proud of my thoughts and opinions. I managed to break out of my shell and overcome my troubles because of the support of people who took some time to know me, instead of just judging and stereotyping based on initial contact. This could also apply to the terrorism situation; if the world would come together to perceive Arabs as victims and understand their problems, I am positive that there could be an effective solution leading to peace and prosperity.

Works Cited


Biography

Muhammad Bilal is a Mechanical Engineering student who has been residing in Qatar for 15 years. The experience of simultaneously belonging to two cultures has opened up a new way of thinking and analyzing the world. It allows for a more educated perspective and has enabled him to be passionate and curious about the similarities in various cultures, despite the immense differences. Originally wanting to tear through the blue skies above in supersonic flights of military jets, Muhammad Bilal had to transform his dream into pursuing a mechanical engineering degree. Thinking and trying to find reasoning behind human actions, cultures, and relationships is something that he loves doing.
Elsherif Mahmoud

Two Arabic Poems

عنوان

ذاقوا بعد الشهد صبارا
عنوان اللغة كانت بـموم
أم العلوم رفعة وازدهارا
عندما فقد ضاعت منا هويتنا
وتبعنا الغرب إعجابا وانبهارا
بعدما كا ملك حضارة
أشادت شمسها الكون أذروا
فصرنا من بعد عـ حيارة
دار الزمنينا علينا
فلا مغدو حفظنا ولا حضارا
نتيه بين اللغات جميعها
والجيـع كـا كـا كـا كارا

سؤال

قرر قابع ظلال خادع، وضمت خاشع...
ضوء يسطع، وصوت يفرغ، وآه تسме، وصبي نصرع، وفتاة تنهض، عين تتنع، وأخرى تلمع...
نار ولهب، وفلاه وهرب، وأمان قد ذهب...
صرخات توالت، صيحات تعلات، جثث تنهوات، وحياة تلاشت...
مطر يبتلع، وماء يقطر، وشمس تظهر...
دماء تنسح، وجثث تسبح، وكبار نبلح، وألومن تنزح، وسؤال يطرح:

لماذا نذبح؟!!