Best
WRITING
Building Words, Building Worlds
Edited by
Amy Hodges
Mysti Rudd
Dear Readers,

When I talk to my students about their paper assignments, I tell them about the rhetorician Kenneth Burke’s metaphor for the act of writing. Burke says that writing is a lot like going to a dinner party at a friend’s house, and I think you’ll like his description of what happens:

Imagine that you enter a parlor. You come late. When you arrive, others have long preceded you, and they are engaged in a heated discussion, a discussion too heated for them to pause and tell you exactly what it is about. In fact, the discussion had already begun long before any of them got there, so that no one present is qualified to retrace for you all the steps that had gone before. You listen for a while, until you decide that you have caught the tenor of the argument; then you put in your oar. Someone answers; you answer him; another comes to your defense; another aligns himself against you, to either the embarrassment or gratification of your opponent, depending upon the quality of your ally’s assistance. However, the discussion is inerminable. The hour grows late, you must depart. And you do depart, with the discussion still vigorously in progress. (110-111)

Whether you find yourself discussing important issues in a parlor, in a classroom, in your workplace, on the Corniche, in the majlis, in your favorite restaurant, on a website, or even in the car while you’re stuck in Doha traffic, welcome to the party! The “conversations” in the following chapters of Best Writing reflect the diversity of interests at Texas A&M University at Qatar, and we hope you’ll find a discussion or two to join.

At this party, our writers talk about who we are, where we live, making difficult choices, exploring the world, creating pathways, and building the future. Before this book existed, they had conversations about these issues with their professors, other students, friends, family, and resources in their textbooks and on the internet. We hope that you will contribute to these conversations in this book, and even beyond these pages, as our young people continue to analyze, critique, and enrich the communities we live in.

We at Best Writing believe that one key to the success of Qatar’s knowledge economy is our support of Texas A&M University at Qatar students’ creativity and critical thinking skills. Current research tells us that the 21st century global workforce values “the capacity to detect patterns and opportunities, to create artistic and emotional beauty, to craft a satisfying narrative, and to combine seemingly unrelated ideas into something new” (Pink 2). Engineers are capable of doing these things, and indeed, have been doing all of these things for a long time. But how can we, the community in Qatar, encourage critical thinking and creativity in this particular generation of young engineers?

Engineers who are creative and critical thinkers acknowledge the limits of their own perspectives. They picture a world that is too vast and too complicated to be contained within any single document, but they still have the courage and tenacity to join the conversation. At this Best Writing party, you might listen to some arguments that you don’t agree with, but I think we can appreciate their efforts to create a dialogue about the issues they feel are important.

Engineers who are creative and critical thinkers also understand the value of others’ ideas and feedback. They know that “the landscape of effective creative learning is a social landscape and that we learn better when we learn together” (Padget 6). Although some of our students may write alone with their laptop the night before their papers are due, writing is a social activity which fosters our connections to one another. The students in Best Writing address a wide variety of audiences, and they incorporate the views and knowledge of many others in their writing.

Thus, the editors of this volume believe that you, our readers, aren’t just celebrating the achievements of your son, daughter, friend, employee, or student by coming to our Best Writing party. You are encouraging a generation of engineers (and maybe even yourself) to think critically and creatively about the discussions that matter to our world. We hope you have a great time.

Sincerely,

Amy Hodges
Co-editor of Best Writing

Works Cited
**Dear Readers,**

Welcome to the very first anthology of student writing from the engineering majors of Texas A&M University at Qatar. As an international branch campus of the home institution in College Station, Texas, Texas A&M University at Qatar has graduated over 500 engineers so far and also has a current enrollment of over 500 students. These students choose to major in one or more of the following areas of engineering: chemical, electrical, mechanical, and petroleum. For this premier edition, students enrolled at Texas A&M at Qatar anytime since its inception in 2004 to Spring 2014 were invited to submit writing previously completed either for coursework or as an extracurricular activity. The Aggies of Qatar responded generously to this call, submitting not only technical reports, proposals, reviews, analyses, and critical arguments, but also works of fiction such as stories and poems. The result is the book you now hold in your hands, a “multigenre” project since it features the variety of genres in which Texas A&M University at Qatar engineering students can and do write, both inside and outside of the academy.

The arrangement of this book into six chapters loosely connected by a theme supports the concept of a multigenre text that includes “multiple, even conflicting perspectives of one event or topic” (Langstraat) expressed in many forms (e.g. charts, poems, and interviews). Multigenre texts often require more patience from a reader as they lead to “delayed convergence” of meaning (Jung 28). Rhetoric scholar Julie Jung declares that multigenre texts “disrupt an academic reader’s expectations” and result in “slow[ing] the reader down as she struggles to make meaning across a field of generic differences” (33). In a single chapter of this book, therefore, you will find proposals next to poems, personal narratives intermingled with technical reports. By arranging this book as a multigenre text, the Best Writing Committee hopes to encourage you to read beyond the genres and writers most familiar to you in order to explore the possible connections and potential conversations between the topics addressed, the words relied upon, the worlds imagined.

We also urge you to expand your reading abilities by going outside your comfort zone: if you are more likely to appreciate the art of writing rather than the science of it, we encourage you to pick a technical report to read from start to finish; and if you are more likely to appreciate a report than a work of fiction, we invite you to dive into a poem. In either case, following writing scholar Peter Elbow’s advice about the “believing game” may assist you in this unfamiliar territory. Elbow proclaims that most of us in the academy are “particularly good at the doubting game — we can always sense a contradiction or lapse in logic even if it is very hidden” resulting in a “highly developed doubting muscle” (164). Playing the believing game, on the other hand, turns the reader into a “good critic” whose goal is “not to discredit a bad reading but to make better readings more available” (Elbow 166). “A good reading,” Elbow continues, “is like a good lens. You don’t so much see ‘it’ as see through it to more of the text” (166).

Certainly you will discover inconsistencies and places for improvement in some of the pieces of student writing in this volume, but we ask that you experiment with Elbow’s believing game, seeing “through” the text on the page to what has been left unsaid and longs for representation in the next draft.

It took great courage for many of these engineering majors to send their writing out into the world, and we hope you join us in applauding them for taking this step, focusing on their development as writers who will improve over the years (Across the Drafts). In that spirit, we have included submissions from students just beginning in the bridge program at Texas A&M University at Qatar all the way to graduate students. Each of the pieces in this collection has been deemed “best” in some context. The label best does not represent a competition so much as a recognition that a piece submitted by a student impressed the Best Writing Committee in some way. Sometimes the label refers to a strong example written by a student in response to a particular course assignment; sometimes it confers excellence in choice and/or coverage of a topic; sometimes it reflects the massive scope of a study or project; sometimes it serves as a means of rewarding risk-taking in form or content. Many pieces submitted but not chosen to be published also met one or more of these meanings of best, but alas we could not publish a 500+ page volume. On that note, we encourage the writers of those pieces to keep working on their drafts and consider resubmitting next year.

Since 40-66% of an engineer’s typical working day is spent writing (Hertzum and Pejtersen 761), Best Writing hopes to be an annual publication that champions the writing of our student engineers and helps prepare them for successful futures. The writers in this volume are well on their way to using writing as a creative tool for addressing both their inner and outer lives. From struggling to find the balance between hope and fear as they long for future careers while juggling current course loads — to applying engineering knowledge to solve local and global problems — the Aggie writers in this volume showcase their talents as critical thinkers, creative artists, and engaged problem solvers.

On behalf of the Best Writing Committee, I am thrilled to invite you to celebrate the engineer-writers published in this premier edition of Best Writing. So dig in and develop those reading muscles! And don’t skip the “Writer’s Reflections” at the beginning of each piece as these paragraphs not only set the context for the paper that follows, but they also reveal connections between writing and engineering, between creativity and critical thinking, between process and product.

Sincerely,

Mysti Rudd,
Co-editor of Best Writing and Chair of the Best Writing Committee

**Works Cited**


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, this, the very first Best Writing anthology 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” Best Writing Committee for demonstrating commitment to this project by volunteering many hours. They were experts at collaborating, working together tirelessly to meet challenging deadlines. Every single member of this committee contributed in many ways, but we want to mention at least one of their contributions:

*Brenda Kent:* for planning a wonderful party celebrating all the student contributors, and also for double checking IEEE documentation.

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*Deanna Rasmussen:* for creating the student consent forms and making sure they were signed, and also for the wonderful help in the mad dash of editing the manuscript for deadline.

*Tanya Kane:* for reading and reviewing submissions objectively, and arguing with an anthropologist’s lens for the interesting ones to be published.

*Lesley Kriewald:* for helping the committee understand marketing terminology, and also for aligning this publication and its advertisements with regulations from Texas A&M University.

*Sherry Ward:* for reading a significant number of submissions, and also for administering the drawing for all participants (plus being the unofficial “bouncer” at the student party).

*Kelly Wilson:* for joining us late but quickly becoming the “voice of reason,” advocating for many submissions to be published because she was able to see the possibilities and appreciate the content in these pieces of student writing.

Dedicated

to the teachers who see beyond the flaws and errors
to the possibilities
of each piece of student writing
and to the students who —
despite what they may have been told — have the tenacity to keep writing.
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What I Want my Words to Do to You...

Pavithra Manghaipathy

I want my words to take you into my world. I want my words to show you what it is like to be me, to make you feel the way I do. I want my words to pull you into a different dimension, and even if it’s for a few minutes make you smile, think and question.

I want my words to immerse you into things you never thought of or things you pushed to the back. I want my words to make you recall those precious childhood memories and think about the present. I want my words to open myself to you and show you the way I express myself.

I want my words to inspire you and show you new ideas for the future. I want my words to ignite a flame in you—the fire to love to read and write. I want my words to be not just words but also signs.

I want my words to be magical and stay in your minds forever. I want my words to make a difference in your day; I want my words to make your reading worthwhile.
The Real Me

By Ahmad AlRchid

Writer's Reflection

During my first semester at Texas A&M University at Qatar, I was introduced to so many types of research in my English class. One of them was focused in helping us as students understand how our writing style constantly changes and how this maturing process is influenced by the books we read, the movies we watch, and the experiences we go through. In the assignment given, we were asked to conduct research on ourselves. We were supposed to study our writing style by doing some kind of small investigation where we observe and study our writing habits by applying different procedures introduced to us during class. Writers usually tend to express themselves through writing, and that is exactly what I wanted to understand when I conducted this small research. I was trying to learn more about myself, my writing style, and what influenced it. Through the process of writing this paper, I learned a lot. The first thing I learned was the fact that people can study themselves, which is something I never knew about before. I learned how to use artifacts to get better results. I also was able to go through a process of self-discovery, which made me realize how experience can most of the time be the driving force that gives writers their own unique voice. Finishing this project made me feel so happy. It showed me the things that inspire me as a writer, and it also showed me the sides I need to improve.

“We live by stories, we also live in them. One way or another we are living the stories planted in us early of along the way, or we are also living the stories we planted – knowingly or unknowingly – in ourselves. We live stories that either give our lives meaning or negate it with meaninglessness. If we change the stories we live by, quite possible we change our lives.” —Ben Okri “The truth about stories”

I was a ten-year old kid when I wrote a story for the first time in my life. It was a story about a village where a bad king sabotaged the people who live in that village. He made them work for him and he never gave them a reward back for all the hard work they did for him. Then, one day, a wise old man decided to gather all the people in the village and encouraged them to get rid of that king so that they could live happily until the end of their lives. At the end, they were able to kill the unjust king, to choose a new kind one, and live their lives happily.

Remembering my first story made me feel somehow surprised, because at the beginning when I started writing stories, all my stories were about things that didn’t exist, and my writing style was oriented towards stories I used to watch in cartoon shows. Also, my audience included only my family members – my mother and father. However, now, when I want to write stories, I write them either about myself or about messages I want to convey through a fictitious storyline. And now, my audience never includes my family members. It is either me or my friends. This peculiar transition made me think over and over about the way my writing style has changed over time in a completely different direction. And it also made me question the reasons behind this drastic change. I kept writing for two years but when I turned twelve, I stopped. And why did I stop?!!

Well...

The main reason that sparked this sudden change was that I started to find myself growing up. And by growing up, I mean, not feeling excitement when I watched cartoons, and since all my previously written stories were inspired by cartoon series, they started to sound lame and boring to me. In addition to that, I had no one back then who explained to me that a writer must go through stages of maturity, and that I must look for something else that suits my age and interests back then. Such guidance could have instead directed me into finding something that was more mature and interesting to write about. Another reason behind the sudden change was my habit as a child of always trying something new. For example, when I stopped writing I immediately bought books that teach beginners how to draw. I kept drawing for months, and then I stopped again.

When I began grade eight, I was severely bullied by some of the students at my new school, so I decided to join many clubs, including the library club, to find an escape from all the haunting pain and keep myself busy all the time. There, I started reading and I really enjoyed it.

This time, the relation that grew between me and reading was really strong. So, what was the reason behind this chemistry?

Well...

This surprising strength of relationship that was unlike my previous ones with other hobbies grew because of pain. Pain was able to create a very strong bond between me and reading. It was just the same as the strong bonds we usually describe in chemistry, and those bonds are the ones that come to life as a result of sharing. Through reading, writers shared their experiences and feelings with me, and as one of their readers, that made me relate to them. This time I couldn’t stop like the old times. This time I needed to read and reading was my escape into a place where I just didn’t have to worry about anything happening, and immerse myself in other people’s stories and journeys. It was the need I had within me to forget about the excruciating words. And that need made me read for a long time, so it wasn’t just for entertaining myself. After reading so many books, I started to feel that I wanted to be in the position of those writers. I wanted to write and translate what was in my mind and heart into written words that I can read one day in the future. This time, I was my audience; I started writing in my journal and recorded everything that happened to me. I used to respond and express my feelings about it. This time, I again, for the second time, couldn’t stop like the old times. I needed writing as much as I needed reading. They both gave me a sense of strength and escape. I felt that having the ability to write and having the passion to read were both inseparable powers that enabled me to forget about what made me think I was weak back then. Being weak was a lie that kept growing in my mind and heart until I started believing it. All the cruel words and things students used to say and do to me kept haunting me every day, and that feeling of weakness kept growing and digging more and more scars of vulnerability in my heart. I wasn’t able to defend myself most of the time. I also could not find someone to talk to about what was happening to me. I just couldn’t trust anyone, so instead of talking to someone I chose to write and I knew that my journal would never judge me no matter what I wrote. Also, going through the disappointment of being misjudged all the time made it so hard for me to be myself and act like the real me. The only thing that used to make my world seem a little brighter was having this thing I used to look forward to do every day when I was on my way back home: Writing. My identity was hidden and through writing I was able to slowly unlock it. I remember my beginning in writing diaries. All the things I used to write were depressing and sad. I used to see the world in black shades, and that really showed in my writing.

To get an idea of how my writing used to look, here are some excerpts from my journal. I am going to show the progress of my writing, and how the description of my feelings altered from “weak and sad” to “happy,” and finally to “optimistic and confident.”
In these three excerpts, my style was completely different from the two excerpts mentioned previously. It’s apparent that my identity was given back to me. My beliefs changed and I started to look at all what happened in my life from a completely different perspective. I realized how strong I was and how wrong I was for calling myself weak back when I was in the middle of all the pain. I also came to believe that people’s opinion doesn’t matter anymore and that the way I look at myself is what matters the most. I also became confident in a way that stopped the doubt I used to have about myself.

When I started writing in my journal, it was just a space for me to take all the anger and the sadness out. But with days passing, my journal started to be a space of self-discovery. I began to look at myself differently, and look at all the students who made fun of me differently as well. My point of view of the term “weak” was not the same anymore. I realized that I was strong, tough and courageous. Maybe I couldn’t defend myself most of the time, but I was able to stand strong in the middle of all the storms. Before I started writing, I used to think that I was living to explore people and the world. Ironically, I ended up discovering myself. I started to be one of the important participants at schools in terms of activities and academics. I participated in many research competitions, in debating, volunteering, organizing events and so many other activities. My grades went higher and I won a lot of competitions including the annual writing competition at school. I began to feel that I wasn’t just a waste of space, that I was important and that there was a place for me to fit in.

When I saw the diaries I wrote during that period. I noticed how my style changed from sad to optimistic, happy and confident.

Writing enabled me to change my story the same way that Okri talked about. I was able to use the power of reading and writing as weapons that protected me from giving up to all the bullying and all the hatred. Writing gave me the liberty and the freedom to be myself when I was told not to and that was exactly what enabled me to slowly transform into the real me. This made me realize how our reactions to what’s happening around us can change a lot and can turn our lives completely to the better or the worse.

Now, I still see myself as storyteller and my audience is still me and sometimes my friends. However, when I started college I used to think that writing something that’s out of the story-telling zone would be a hard task for me to do, since it’s not something I am used to. But going through the process of learning how to write a rhetorical analysis, summary, and visual analysis, I realized that I have the ability to write that something that’s out of the story-telling zone would be a hard task for me to do, since it’s not something I am used to. But going through the process of learning how to write a rhetorical analysis, summary, and visual analysis, I realized that I have the ability to write analysis, I realized that I have the ability to write something I am not used to and still have the ability to add my own story-telling touch to it. A good example would be the visual analysis assignment. In my visual analysis article I added an imaginary story to describe what’s going on in the picture and convey a message through telling that story. This unfinished experience of writing helped me mature a lot as a writer and see how I can write in different styles and still be able to stick to my own style as it evolves, and that’s exactly what separates us as writers from each other whenever we come to write about exactly the same topic. It’s our style and the way we look at the topic we’re approaching that makes an article we write different from the others.

Works Cited

Biography
Ahmad AlRchid is a sophomore student at Texas A&M University at Qatar, majoring in Chemical Engineering. Ahmad was born in Aleppo, Syria. He moved to Qatar when he was 10 years old. He considers Qatar to be his second home. Ahmad graduated from Omar Bin Al-Khattab scientific school and then immediately joined Texas A&M University at Qatar. Despite the fact the he is pursuing an engineering degree, Ahmad is passionate about reading and writing, and he is planning to start working on his own book when he graduates from university.
Why I’m Here
By Muhammed Bilal

Writer’s Reflection
Growing up, I was fond of reading, and the process of turning words into images in my head seemed quite fascinating. As I grew up and got comfortable with the English language, I started writing essays, letters, stories, and other things. However, I do not feel very comfortable about my writings, always feeling they are lacking in some way, either grammatically or content wise. The English course that I took helped me a great deal, and it made me confident about my work. I see writing as the most beautiful and limitless form of self-expression. This writing was an assignment for an English class, a reflective essay, tracing my journey to Texas A&M at Qatar.

The Fighting Falcon, a marvel dominating the clear blue skies as it soars through the air. The sophistication of the aircraft beautifully masked by its elegance and agility as it rises up and turns. Within a few seconds, the F-16 is miles away, by its elegance and agility as it rises up and turns. The thrill of the moment is not only mesmerizing, but also exhilarating. Watching the never-ending blue skies and whizzing between clouds at speeds even greater than the speed of sound, twisting, turning, owning the sky. Now, that is what I call Nirvana.

Airplanes and jets have always held my fascination. I clearly remember the seven-year-old me, running around with a toy jetliner. I would sit in a corner and make it land and take off, acting out the instructions that the pilot would give out from the cockpit. I imagined situations where the pilot would have to save the plane from crashing: maneuvering the jetliner as if it was a small fighter plane, going close to the sea (the floor of my room) as both of the engines would fail and then magically bringing up the plane and saving all the passengers and becoming the hero of the day. Yet here I am, eleven years into the future, sitting in the library of an ENGINEERING school and writing an ENGLISH assignment, nowhere near any jets or pilots!

Being an engineer was not something that I always wanted. Although being a pilot was and is my dream, I have come to terms with engineering as my field. At some point in my life, part of my fascination for turbine jets transformed into internal combustion engines. The prospect of working with different machines and materials became enticing and interesting. This change in passion was a gradual resolution. The main factor causing it was my mother and her overprotectiveness. Studying a pilot course would mean going out of country and being away from her and she could never imagine allowing something like that. In her mind, I’m still the same four-year-old baby that she used to carry around. It’s a shame she isn’t a politician. Destiny is the word, or fate, whichever seems more suitable. I believe that I am here because I was supposed to be. One thing led to another and it happened. Now the important thing to consider is WHAT I’m going to do here.

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Time passed on and my high school went into its last year. Decision time. The same old issue came up again. My mom wasn’t ready to let go of me yet. She wanted me to stay with her in Qatar till my graduation. According to her opinion, which seems more like that of a mother bear, graduation would make me super responsible. However, before graduating from college, she wanted me to be around her so she could keep an eye on what I do, giving me advice and setting guidelines. Qatar it was then. With Texas A&M University at Qatar being the best engineering school here, it was not hard to set it as my goal to get accepted. Challenge accepted! Boring details followed. I had my ACT and the exams and applied. After three long months of waiting, I was woken up by a phone call at 9 am in the morning. The call was like two cups of black coffee at once (I have never had coffee). I lost all my sleep and rushed to tell my mom. My dream came true.

Biography
Muhammed Bilal is a freshman in Mechanical Engineering. He originates from Pakistan but was brought up in Qatar.
Remembering His Playful Smile

By Ayah Hamad

Remembering his playful smile, the tears flow down her face. It fills her heart with agony, losing his embrace.

She once had high spirits — was joyful, calm, and safe — but ever since he’s left her side, all she does is pace.

Wandering... Looking...
A lost soul she has become.
With sleepless nights of terrors, her essence slowly numbs.

The mask she wears wards away stares. It keeps people away. For they don’t know the extent of despair she suffers every day.

If her existence would cease, it would be a vast relief, but she must carry on. The pain will slowly ease as she comes to see, he’s never truly gone.

In her heart he has a home, in her memories he remains. With the image of his playful smile, the flowing tears leave stains.

Biography

Ayah Hamad is originally from Palestine, but was born and raised in Michigan. She is majoring in Mechanical Engineering and is set to graduate in 2017. Despite choosing a path in engineering, writing has always been one of her great passions and a vital part of who she is. It has helped her express her thoughts and emotions in a way that no other medium made possible. She is currently working on a fiction trilogy that she hopes to get published after graduation. When she isn’t writing or studying, she’s usually gaming, watching anime, exercising or fast asleep.

The Seed You Nurtured

By Muneera Al-Qahtani

Writer’s Reflection

This paper was written for an ethics class in Spring 2012 and discusses the reason behind the hesitation of some females to choose engineering as a profession. The topic was chosen for all of the class, and we had to use the articles that were provided to do the assignment. I was a senior back then, and hearing about the assignment made me terrified. I had senior design, other courses, and thought, “I don’t have time for this too!” Those were the feelings going through my mind. It seemed impossible, but I did it and got a good grade, if I may add. However, I did not reach to the good grade that fast. I had to work on the paper for a month or so. This paper has gone through 15 drafts if my memory serves me right. I had many meetings with the writing teacher to help me see what my paper was lacking grammatically and structurally. I had a clear goal that I wanted to get an A, and so I worked for it and got it. Seeing the paper again made me laugh at my previous senior nervous me. I am not saying writing the paper was easy; the journey to getting my final result was more than satisfying. I laughed, cried, worried, and got frustrated while going through it.

What makes a good engineer? According to my engineering professors, a good engineer displays teamwork and good communication, as well as problem solving and leadership skills. Also, he/she needs technical and scientific knowledge. However, these attributes and skills do not require a specific gender. Both men and women can make good engineers, yet we see that society thinks otherwise. The society thinks that if you are a man, you automatically have what it takes to be a good engineer. This paper will discuss how traditional cultural ideas have evolved into the conventional gender gap in engineering, but it is not trying to find a solution.

Most people have a pre-determined notion about raising their children. These notions have been handed down from their ancestors. However, did anyone ever stop to ask whether these notions are applicable at this time? In the past, boys were raised as heroes, while girls were caretakers. Men protected and provided for their family. During the Enlightenment period of discovery, the hero was associated “with knowledge, progress, and technical and scientific disciplines” (Adam 40). The man risked his life to collect data and help in developing the society (Adam 40). This idea has evolved into the assumptions that men are better than women in science and technical majors. Therefore, the family has high hopes when a baby boy is born. They think of his future and possible achievements. Thus, they start focusing on how he can succeed in life by giving him keys to success: giving encouragement, challenging his mind to think outside the box, encouraging his independence, and supporting his ambitions.

On the other hand, the girl is left with little attention to her future career. Since she will be a caretaker, most parents raise her to be financially dependent on them and on her husband after she gets married. Also, some parents discourage their daughters from doing anything that is not “natural” for girls to do. The natural role for a woman is to be a mother, a teacher, a wife, etc. These types of accepted roles cannot support the woman financially.

For example, there was an outcry when Ramalatha Marimuthu wanted to become an...
engineer. The community said, “Why does a girl have to go such a long way to study, and if she’s going to get married and have children, why does she need engineering?” (Wax 30). Marimuthu’s community did not agree with her pursuing engineering because it was not one of the natural roles for women. They did not think that she needed engineering because she would get married and her husband would support her. Thus, she would be financially dependent on him because that was the “natural” role for the husband.

Furthermore, when a girl becomes a woman, she thinks that engineering is not her place because she knows this fact: “Engineering is a man’s world.” Since engineering is a technical field and male dominated, it is, in the opinion of many, not suitable for women. This thought is implanted in all children’s minds as they are growing up. Finally, the way our children are raised has made them believe that engineering is not for women.

Ramalatha Marimuthu is a living example of a person whose upbringning affected her future. Marimuthu is an engineer who graduated from Anna University with a bachelor’s degree in engineering and has won many achievement awards because of the amazing work she has done (Wax). When she was young, she was not raised only as a caretaker; “her father, one of the community’s first few university graduates, taught her about books and often took things apart so she could figure out how to put them back together” (Wax 29). Her father did not limit her but rather raised her to think and do as an engineer. He challenged and taught her to pursue whatever she wanted. He raised her as an individual, not as a man or woman. From Marimuthu, we conclude that how we raise our children does play a role in their future.

As a female engineer, my personal experiences give real world examples of this mentality. When I was accepted in Texas A&M University at Qatar to study Electrical and Computer Engineering, I met with a manager to discuss my future aspiration as an engineer if they were to accept me in their company. During the meeting he said to me, “Why do you want to be an engineer? You know I will throw you in the field, you and your traditional clothing. Engineering isn’t for women. Why are you in it? Why don’t you go into an art major instead?” I said to him, “It is okay. You can place my desk in the field. I don’t mind that. I would like to do the best I can at my job, so I’m ready for anything as long as it does not go against my religion.” When I met with him, I thought he would give me useful advice rather than trying to dissuade me from going into engineering because I am a woman! His words did affect me in a way deep down. As I was leaving with my father, I asked him, “do you think what he said is true?” He replied with a question, “What about the things you said back there? Where is that courage you showed him?” I do tend to bring up my defensive confident face when I have to, but that does not necessarily mean I believe in what I said. I looked at my father waiting for an answer to my question. I was feeling down and wanting to see his support. Luckily his answer was exactly what I needed! He said, “You can do whatever you want once you have your mind set. You know that, right, or have you forgotten?” He reminded me how I got myself into Texas A&M, which, believe me, was not an easy task. After gaining my confidence back, which for a moment there I thought I lost, I took the manager’s words into a challenge and it made me want to be an engineer more than ever! I wanted to prove that a female engineer is not any less than a male engineer.

When it comes to the engineering field, women tend to be a minority: “we know that fewer women than men choose to begin college in an engineering major” (Jenkins and Keim S2H-13). Women do not choose engineering primarily due to their lack of confidence. They were raised to think engineering is not something they can do, so they question their abilities. Also, other people around them tend to reinforce the idea that engineering is not a field for women by their comments or attitudes toward them. Even though some women do get good GPAs, they still leave engineering. Jenkins and Keim conclude, “The higher average GPA of female students leaves engineering points to some combination of lower self-esteem of female students and loss of interest in engineering” (S2H-17). They walked away from engineering even though they were capable of graduating. Women did not believe that they could do it even though their GPAs indicated otherwise. They still doubted themselves and lost interest because of it. From this, we can conclude that women’s low self-esteem has caused them to leave engineering and lose interest.

Moreover, females who do continue in engineering may lack confidence, which gives the appearance that they are not good engineers. A participant in Ingram and Parker’s study exhibited this behavior: “Melissa, for example, rarely participated in her team’s technical discussions, those shows of competence which in the culture of engineering are expected of professionals. In fact, she rarely participated in the team’s technical discussions at all, giving her male colleagues a free rein to show their own technical knowledge while effectively silencing her own” (Ingram and Parker 13). Despite the fact that Melissa was a good engineer, her uncertainty of her knowledge made her seem otherwise. She silenced herself in meetings, which made her seem as if she did not understand. Hence, females’ self-doubt has either stopped them from continuing in engineering or made them look like incompetent engineers.

In conclusion, I believe the gender gap is a result of the Butterfly Effect. The Butterfly Effect is a theory that initial conditions will affect the end result back then. Here, the way we raise our children (your seed) affects their future (the end result). As I mentioned earlier, this paper is not trying to solve this issue. It is a mere study of why the engineering profession lacks the female element. I am a female engineer, but I did not get there by myself. I had my family, friends, professors’ support and guidance.

Works Cited

Biography
Muneera Al Quatani, working for Qatar Foundation/Facilities Management as Trainee-Electrical Engineer in Operation and Maintenance field, graduated in 2012 from Texas A&M University at Qatar with honors receiving a bachelor degree in Computer & Electrical Engineering with minor in Math. She is currently enrolled in the Executive Master of Energy & Resources program provided by Hamad bin Khalifa University and expects to graduate in 2015.
The Hijab has been viewed by secular countries as a major sign of women’s oppression and has created a gap between culture, religion, and freedom of choice. Secular countries claim that human rights and freedom of choice suddenly vanish when Hijab is brought up into any discussion. Is it because they don’t understand what Hijab is to Muslim woman? Or is it because they believe it is misogynistic? Can it be a possible stroke of anger against Muslims or is it for the sake of religious neutrality?

To most Muslim women, Hijab is a worship rather than an oppression; they wear it to complete their faith. It’s not a gender-biased oppression and it never was. Muslim women believe that Hijab allows people to know who you truly are and it prevents others from judging you truly are and it prevents others from judging their modesty: “And say to the believing women that they should lower their gaze and guard their modesty; that they should not display their beauty and ornaments except what ordinarily appear thereof; that they should draw their veils over their bosoms…” (Quran, Surat An-Nur, verse 30, 31). As mentioned here, Hijab is linked to modesty as it cultivates women into being more modest and poised. Hijab is also worn for protection, as it is also stated in the Quran, “O Prophet, tell your wives and daughters and the believing women that they should cast their outer garments over their bodies (when abroad) so that they should be known and not molested” (Quran, Surat An-Nur, verse 33). It is clear that if these women cover their bodies (in the previous verse the meaning in Arabic includes the head as a part of the human body), they will not be harassed by society, while in secular countries, for the purpose of civilization and evolution, woman are sexualized and encouraged to wear revealing clothes as a sign of civilization which will subject them into being victims of rape and smell. And in the end, women are the ones who are paying the price, so who is misogynistic?

Some debaters and decision makers don’t have a detailed education about the Hijab and that is why they believe that it is a misogynistic, oppressive symbol. I strongly believe that the previous paragraph explains where I stand and why I don’t think it’s misogynistic. However, there is something that needs to be considered and pointed out: if Muslim woman don’t think it is oppressive and are perfectly fine with wearing it, then why are these countries so argumentative about it, when clearly it’s none of their business?

The debates about banning Hijab in these countries are on the rise. In fact some of these countries, such as France, have already banned it in universities. There is no justification for banning the Hijab. In fact, banning it in universities won’t change a thing; the students will be the same, the curriculum won’t change, and educational activities won’t be touched. In Belgium, the government is considering a ban on what they call “clothes that hide a person’s identity.” Among these are the Muslim women’s garments. The funny thing is that these politicians are debating about Hijab banning in public as if it is a gun on the streets. I strongly believe that there are more important issues and problems to be debated rather than a simple headscarf. Debating about that simple headscarf is a waste of time. Important and crucial issues are one the rise around us that need fast and reliable solutions, such as teen pregnancy and prostitution. These problems are affecting all of the society, not just a small group of women.

They say they are banning religious symbols to promote religious neutrality, but I say that if they ban these religious symbols then surely they are destroying every individual’s religious identity. What builds up a person’s identity is culture, religion, and traditions. If one of these crucial elements gets crossed out, then a society of no diversity and no identity is being built.

Secular countries need to stop fighting it and look at it differently. By fighting it they are stepping on the only thing that promotes them as secular countries: their claim of freedom of choice. By doing so they are promoting the idea of “if you don’t look like me then you are the enemy,” and this will lead to a society built on physical appearance rather than true identity. They are building a shallow society and neglecting moral ethics. Muslim women in these countries are being blocked by their own society just because of the way they look and dress. Unlike secular countries, most Muslim countries don’t set regulations to what and how non-Muslims should dress. Even though the way they dress is against Islam, it is strongly believed that non-Muslims in Muslim countries have the right to dress the way they want for the sake of acceptance of religions and cultures. This makes me wonder what will happen if regulation were set to non-Muslims in Muslim countries, will they feel the same?

If they keep on fighting Hijab, hate crimes will rise more and racial profiling will reach extremes. Extremes such as the story of Youssra, a mom of a three-year old boy, mentioned in an article by Angelique Chrisafis, a correspondent in The Guardian news: “When Youssra’s three-and-a-half-year-old son started nursery school, he really wanted his mum to come on a school trip. So she signed up to help out on a cinema visit. She buttoned the children’s coats outside their classroom and accompanied them to the front hall. But there, she was stopped by the head teacher, who told her, in front of the baffled children: ‘You don’t have the right to accompany the class because you’re wearing a headscarf.’ She was told to remove her hijab, or basic Muslim head covering, because it was an affront to the secular French Republic” (2013). First, a mother should never be treated like this in front of her son and his friends; all I could think of is how bad he felt and of all these bad effects on his feelings. Again, doing such a thing in front of kids will promote the idea of a shallow society. Second, if a non-Muslim mother was allowed to accompany her kid on a trip, then this should go for a Muslim Hijab-wearing mother because all mothers are the same and they should not be treated based on what they look like or are dressed like. In Muslim countries, our countries, some if not most of our teachers don’t look or dress like our parents, but despite that, they are trusted with our children because people should be judged based on what type of person they are.

In the past, secular countries did not seem to care, but now it seems as if they are stoking a kind of anger against Muslims. Is it another effect of globalization, or is it a post 9/11 reaction to Muslims? I wonder how life would be if these countries hadn’t had that reaction? I believe so many things will change. The gap between cultures will grow less and people will be more open and accepting of different cultures. People will learn to respect all religions no matter what they believe in or how they dress. People will
be more functional as a society, as they won’t see any differences among them and will treat each other equally.

In order to be contributing members of their society, Muslim women in secular countries are forced to strip out of their identity, or else they will live in denial and isolation. Their covering their heads doesn’t mean that they are covering their brains, and that’s why they want to be treated as who they really are. They want to be appreciated and not freed, setting obstacles in their way and forcing them to take it off is a violation of freedom of choice. They are not oppressed; they only choose to wear it because it completes their faith. They don’t want to be freed, in fact debaters need to free their mind and see who’s really oppressing and forcing Muslim women into something they don’t want. They want the right to educate and be educated without discrimination, a life as normal as yours.

So, whose problem is that? It is a known fact that people have the choice to view certain things or feel about certain things the way they want, and that they also have the freedom of representing their ideas about it; in fact, that is exactly what debaters against Hijab did. The question here is, why are the choices and opinions of Muslim women not taken into consideration? Is it because they don’t represent “the nation’s voice”? Why are they being judged and punished for holding tightly to what they believe in? I strongly believe that no matter what secular countries do and no matter how strong the argument is, Muslim women will never take it off if they want their faith to be fulfilled. To Muslim women, religion wins over politics and it is the debater’s problem if they are not comfortable about it.

They banned the Burqa for the reason of security and safety, but what exactly is the reason for banning the Hijab? Whether banned or not, secular countries won’t get a thing out of it except promoting themselves as oppressive countries with shallow societies. They should work on finding ways to unite their nation, not creating ways to separate and categorize it. They should create a society full of solidarity to one another, just like what Swedish men and women did for the support of a Muslim woman attacked by a racial assailant, where they organized a campaign to ensure the rights and safeties of Muslim women in Sweden (Aljazeera.com, 2013).

The Mitigating Role of Women in Engineering: An Unjust Affair or a Self-Inflicted Problem?

By Mohammad Hassan Mohammad Khorasani

References


Writer’s Reflection

By writing this essay for a fall 2013 English class. My intention was to ensure the rights and safeties of Muslim women in a broader understanding. Deciphering the stereotypes and incorrect beliefs, lack of authentic career choice narratives and the self-mitigating role of women. This paper argues with strong conviction that the absence of women in engineering is due to their laissez-faire and self-deprecatory approach to work ethics, whereby they naturally succumb to unwarranted male dominance. In due course of this paper, these arguments will be tabled and an attempt will be made to reach an even and fair judgment on why the current status quo has been maintained. Finally, a proposal will be tendered based on personal insight and empirical knowledge in order to alleviate the status of women in engineering through the creation of a new ethics based on ethics of care as an alternative model that can combine masculine and feminine qualities in order to reform power relations.

The role of stereotypes often deals a harsh blow to the assimilation of women into engineering. “It is hypothesized that gender remains a salient organizing idea for students, despite women’s attempts to move beyond stereotypical gender boundaries” [1]. As stated by Barnard et al. [1] stereotypes are one of the most prevailing issues against women in engineering. Too often have we hypothesized that engineering is a field that is better off with men. In fact, it appears many students themselves fall prey to such rhetoric and outdated beliefs. As admitted by Taconis and Kessels, “Dutch students perceive those that study science as less attractive, less popular...” [2]. To further add to the problem, women themselves also hold contradictory views on their own emancipation, citing remarks such as, “One female student…believed male brains to be more...”
logical than female brains” [1]. This, alongside the Queen Bee Syndrome, is a clear example of the self-deprecatory measures women impose on themselves. This implies that women are, in fact, leading from behind and leaving men to dominate, while failing to encompass their own abilities. Yet, critics may argue that it’s not all to do with women’s attitude toward work but also to do with their physiological role. Morgan emphasizes that there is a “priority placed on marriage and motherhood—leaving little time for “responsible careers as scientist, engineer...” [3]. This objection holds true, since many women will become mothers, and this role will and should naturally take precedence over any other role.

Furthermore, there remain many incorrect beliefs and labels attributed to women that serve to their disadvantage. There is often significant social stigma and disdain related to any feminist action or even activism. As Powell et al. stated, “Research suggests for example, that many women now resist a ‘feminist’ label because of negative connotations” [4]. The notion of feminism and the stigma related to it can be rooted in historical events. Adam [5] draws a modern day parallel between classical literature related to the moral hero and peers to pursue engineering and technology (E&T) than men. “By gender, 43.4% of women surveyed agreed that they were encouraged to study E&T by a school teacher, compared to only 33.7% of men” [4]. This is a clear paradox. If more women are encouraged, then how is it that the exact opposite of the intended outcome is true? In response, Powell et al. [4] implicitly assume that prospective women engineering students suffer from misinformation or misunderstanding due to the lack of expert opinion.

Furthermore Powell et al. state, “Knowledge was rarely gained through career advisors,” [4] and to further elevate the problem, “90% of women said they had no idea what ‘being an engineer’ involved” [4]. This implies that women lack the necessary advising in order to make an intelligent decision. This is perhaps from where the gendered identity of engineering prevails. This lack of expert knowledge can work in the opposite way, too, in the sense that women may be forced into the field against their own will, often times resulting in dropping out of college. This is presented in the collaborative project analysis by Ingram and Parker [7]. A female engineering student who is struggling on a collaborative project considers dropping out of college. She later admits that, “her father forced her into electrical engineering” [7]. Thus, pre-college advising and career choice narratives should be enhanced for women in order to develop gender resistant identities.

Moving on, it can be seen that women often contradict their own cause by entrenching themselves with apologetic and mitigating beliefs. In a way, they inflict themselves with this problem from its inception. Ingram and Parker’s [7] investigation of team collaborations clearly represents how women self-deprecate. The behavior of Carol and Melissa in two all-male teams shows that from early on the girls label themselves with derogatory terms such as “bitchy or bossy” [7] and often appear apologetic. Even though Carol’s dedication is beyond that of her male counterparts, she uses self-deprecatory phrases [7] and Melissa even goes further to say, “you can trash mine completely,” [7] in reference to her own work.

Similarly, there can be a cross-link drawn between Ingram and Parker’s [7] work to Powell et al.’s who state, “Despite evidence that the abilities of women are equal to, and even exceed, those of their male peers, women continued to perceive difference between women and men as innate” [4]. These two girls essentially give a free rein to their male teammates, and thereby, incite male dominance and even resentment, as the men later resort to sexist jokes seeing no resistance, which is abhorrent to the National Society of Professional Engineers (NSPE) Code of Ethics. As one of the male teammates correctly stated, “You won’t get anywhere. You may get through university, but as soon as you get out in the real world...you can’t be that way” [7]. In this regard, Powell et al.’s [4] argument is very accurate and essentially sums up this paper. At the end of the day, women need to be the change they want to see. Once you have passed the threshold of “30%” [4] women in engineering, then the monopoly of a masculine culture has no choice but to succumb to a new ethics of compromise and equality.

This paper argues that a revival of feminism is in order and necessary for any reform to take place in these power relations. Adam proposes and assumes that “A Sibylline Ethical Praxistic” [5] based on ethics of care will absolve the issue. Moreover, Gilligan [8] delivers an overture based on this principle and debates that women’s reasoning should broaden rather than weaken its appeal. This is in coherence with Ingram and Parker who argue that while men have an ethics of objectivity, “women exhibit an ethics of care which prizes being responsive and caring for others” [7]. There can be a cross-link drawn here between this notion and what was previously stated by Gilligan [8]. Consequently one can strike an intriguing comparison between this canny idea and the Code of Ethics of NSPE. In this code of ethics, it is stipulated that one must “work for the advancement of the safety, health, and well-being of their community” [9]. This is in complete empathy with the ethics of care that is seen in women. Therefore, is it not reasonable to inquest for a new alternative model of ethics in engineering based on the traits of care, compassion and selflessness seen in many women?

Critics may, however, pose an argument in complete contrast to the substance and core of this paper. There are those who argue that there is no inherent need for equal representation of men and women in engineering. As pointed out by Powell et al. [4], there is mutual underrepresentation of men and women in various fields such as, “under-representation of men in female-dominated occupations” [4]. Therefore, this problem, or critics may even say a lack-of-problem, goes both ways. Here Powell et al. [4] imply that sometimes it is imperative that in some fields, such as nursing, women should be more prevalent, whereas in other fields, men can be more dominant. This paper refutes this objection based on previously stated insight and knowledge that women should not be under-represented in engineering since their ethics of care may be able to reform engineering for the better and elevate the role of codes of ethics in the work field. Thus, we are not incorrect in justifying the place of women by comparing it to the absence of men in other fields as this is a weak argument.

Accordingly this paper strongly urges for the execution of a new model as posed and supported by Adam [5], and Ingram and Parker [7]. Critics, however, may argue that such a monolithic view of women purely in the form of a Sibyl is inappropriate. This is an area of weakness in Adam’s [5] argument. In contrast, Ingram and Parker [7] propose a more praxistic model that must be more encompassing of masculine and feminine traits and must not view women solely as Sibyl. Such endeavors
may usher in a new era in engineering which can be more inclusive of women in addition to being more caring and embracing to concepts such as whistleblowing. Likewise, Ingram and Parker state that men “use strategies such as boasting, interrupting others, and taking longer turns in conversations,” [7] in direct juxtapose to women who “will use strategies such as active listening, asking questions, and soliciting input from others” [7]. Women hold paramount public interests more often than men, and such work ethics can be a strong catalyst to move in the direction of the ideals set out by the NSPE Code of Ethics.

In the final analysis, the moral issue of injustice against women in engineering is a real and pressing issue. The elements discussed present the complexity of the situation and how several factors constitute the current weak status quo of women in engineering. From stereotypes to the mitigating role of women themselves, we have discussed the most prevalent obstacles. One thing is certain; we can absolve this dilemma by prompting women to take a more proactive role rather than leading from behind. Ultimately, this paper argued that the underlying obstacle to women in engineering is their own lack of assertion and leadership. In addition, it urges for the creation of an ethics based on ethics of care inclusive of both feminine and masculine qualities as an alternative to the male-dominated model. After all, we men often forget that women have unwillingly but bravely assumed the responsibility of procreation, the greatest engineering of all. Therefore, it is only just to embrace the greater presence of women in engineering.

References

The Morality of the Socioscientific Dilemma as it Relates to Women in Engineering Workplaces: A Focus on the Middle East with a Genetic Perspective

By Fatima Ahmed Raja

Writer’s Reflection

I wrote the following paper as part of my ethics class in Fall 2011.

In the past, a qualitative approach to the analysis of gender misrepresentation in engineering has been used. This essay discusses some of the genetic, social and literary factors that reflect the overall low number of female engineers working in the Middle East today. The essay first explores the deep-rooted idea common in the Middle Eastern, as well as the global society, of female incompetence in the field of engineering. The essay will explore the effect of genetics on the possible predisposition of men to be better equipped with engineering skills. It then sheds light on the archetypical male character portrayed in folklores and compares it to modern situations. The question whether engineering as construct better serves men than women will be then explored in the light of contemporary gender trends on retention and group dynamics in engineering colleges in the United States of America and in Qatar. While it is hard to derive quantitative measures to determine why women engineers are so under-represented in workplaces, this paper attempts to understand possible genetic, historic, social and moral reasons that may account for this trend.

While for many years the myth that women are incompetent engineers has found its roots in socially constructed ideas related to the gender-specific role of an engineer, genetic differences between male and female brains shed a different light on this claim. Does an engineering job require physical strength, higher spatial intuition and nonverbal intelligence that comes naturally to men, or is this dogma a re-incarnation of long held gender-related stereotypical bias that has long been brewing in society’s norms? Proponents of such customs may use genetics as an objective reason to justify the relatively low number of females in the engineering profession. However, it does not come as a surprise that such prerogatives are not only deemed irrational and unethical, they are in fact illegal. A woman is just as likely to excel as an engineer, without the above mentioned characteristics, as a man is likely to fail with them. Of course, whether the presence of these traits can actually account for a ‘good engineer’ is still questionable, but for the sake of this argument we will suppose that it is.

In the above mentioned scenario where men are said to be better engineers based on their dominant left brain functionality, women are suspected to be worse off for higher right side brain activity. A higher left side brain activity could result in improved performance of effective visual-spatial holistic strategies involved in rotation of 3-dimensional objects, use of logic, detail-orientation and competence in mathematics and science. Women, however, with a dominant right brain functionality have strengths in the areas of verbal and analytical strategies, imagination, risk taking and are likely to be more competent in philosophy and religion (Jordana, Wüstenberga and Jochen 2402). The question as to whether these differences spring from a gender-specific brain development (nature) or differential socialization (nurture) is outside the scope of this paper. However, a popular belief amongst
biologists is that males and females faced different evolutionary pressures while navigating through their environments in pre-historic time. The evolutionarily dominant role of men to hunt and provide for the family is most likely the root of present day male dominance that seeped from domestic situations to professional platforms.

‘Masculinity’ is an interesting concept that has often been linked to the profession of engineering, thereby increasing women’s marginality from taking these roles. Classical myths link masculinity to ‘heroism,’ a concept that often emerges in popular discussions of engineering risks (Adam 40). As Adam argues, throughout time the notion of the “hero” in folklore and fable tales has depicted “qualities that men are supposed to have – to be brave and skillful warriors” (40). While this may prove our previous argument that the male population has historically been pre-disposed to more physically challenging tasks than women, it fails to account for emotional bravery, where women are the “heroes.” Engineer Marimuthu would call her fight against cultural norms and familial pressure to pursue an academic career as no less than “heroic” (Wax 30). Aircraft engineer Al-Shamsi, too, would vouch against the classical definition of a “hero” based on masculine figures and claim the title as her own (Salim 36). The role of a woman, however, as painted in classical mythology is that of “Sibyl, the wise woman” (Adam 44). Sibyl carries the essence of a woman’s “slower, more mediated, feminine form of (moral) decision making” (45).

While evolutionary science supports the physically, mentally and psychologically strong aura that an archetypical male in ancient myths possessed, it fails to account for the characteristics that men have developed through time and that are rather feminine in nature (or would be considered ‘feminine’ in stereotypical terms). One example is the contemporary trend of fathers staying home to raise children while the mother steps outside to earn their livelihood. While such scenarios are relatively few to make a general statement, the fact that exceptions exist, and with time are growing in number, is a huge indicator that gender roles may, after all, be socially constructed rather than genetically predetermined. It may also suggest that contemporary societies, or societies where the stereotypical gender roles were broken in the past, find it possible to shake off gender-biased moral intuitions that are deep rooted in storytelling, myths and legends. They adapt the “ethics of care” model as a moral compass that Adam suggests as an alternative to the moral hero who is a “detached, heroic individual” (42). At this point, it is hard to place a finger on what causes individuals to break stereotypical gender-related norms: shifts in evolutionary pressure for women to be more active breadwinners, or men to be more nurturing, or a transformation of the basic core morals of society? However, one thing is true throughout history; exceptions occur.

Engineering environments have, through time, been socially constructed to cater to the mental stimulation, professional development and learning curves much more suited to men than women. This trend is specifically common in the Middle East where women are, by default, considered second-rate citizens; a notion that stems from a shrewdly manipulated version of religious doctrine that is in fact nonexistent. Male dominance in the workplace is an inevitable result of the unequal gender representation in engineering schools and faculty (Ingram & Parker, 2002) where men outnumber women in almost all engineering majors. This unequal gender representation, however, does not explain the statistically significant difference in four and five-year graduation rates between female engineering students, the former outnumbering the latter (Jenkins and Keim 17). The trend is reversed for six-year graduation rates as far more men graduate from engineering schools than women; 47% versus 42% (17). These higher male engineer-retention rates could be due to a higher social tolerance for men to pursue careers in engineering, even when it involves spending one or two extra years in school. Moreover, the study indicates that female students who drop out of engineering schools leave with a higher Grade Point Average (GPA) than their male counterparts. Also, minority students leave engineering with a lower GPA than nonminority students who follow that path. While the study failed to identify factors that may help predict when or who leaves engineering schools, it helps us negate the following assumption; low numbers of female students in engineering is caused by them being a minority group.

Women engineers in most cultures face social pressures that are not unique to women in the United States. As Engineer Marimuthu’s story reveals, “their natural job is still to take care of the family and children, and their career is seen as a secondary thing” (Wax 32). Women in the Arab nations, especially in the Khaleij, consider themselves as second-rate citizens, and it is this underlying streak of insecurity in their own social standing that puts them at a disadvantage in a society that is already stained with male dominance. The female engineering students studying at American engineering schools complain of similar parental, familial and social pressures. Female engineers in the Middle East face significant challenges in regards to getting employment and other opportunities that could potentially enhance their careers, both in the educational realm and the professional platforms. When asked if they were treated any differently than their male counterparts, female engineers studying at Texas A&M University at Qatar replied in the affirmative. They complained that the relatively higher number of male faculty in the engineering school hampers their ability to readily relate to in-class and out-of-class interactions. Since most engineering courses require some nature of group work, a large male population results in an unequal group dynamic, much like that investigated by Ingram and Parker (17).

This paper analyzed the contemporary problem of unequal gender distribution in the field of engineering from a genetic, historic, social and moral perspective. The role of evolutionary pressures on male and female brain development was also used to determine whether men really are genetically predisposed to be better at engineering-related tasks. However, due to the lack of specific quantifiable characteristics that account for a ‘good engineer,’ this biological analysis was rendered inconclusive. Nevertheless, the role of social constructionism was found to be great in determining individuals’ approaches to the idea of the “moral hero.” Additionally, the paper utilized a relatively quantitative approach to the issue of low female retention rates in engineering schools to gain deeper understanding of its causal factors. While the issue of gender misrepresentation in engineering colleges and professional institutions rages high in the Khaleij (including Qatar), it is in fact a reflection of the global trend that has a long history behind it. Nevertheless, the prevalence of the problem does not justify its existence; therefore, strong measures must be taken to break gender biases that have through time been reinforced by classical folklore, stereotypes based on biophysical generalizations and socially constructed gender roles.

Bibliography
13-18). Savannah, GA.


Biography

Fatima is a third culture kid, born in Pakistan and raised in the small but diverse land of Qatar. Home is a relative term for her, not unlike many other young adults of a similar upbringing. Fatima started off her tertiary education in the field of Medicine. Fate, however, had her route engraved in the study of chemical engineering—which she thoroughly enjoys and intends to continue paving a career in after graduating from Texas A&M University. Her reading interests are vast and her literary inspirations many; however, she is an unabashed Jane Austen fan. As a third generation engineer in her family, she is intrigued by the gender-related bias that exists in the social and professional circles of this part of the world.

Analysis and Synthesis: Autoethnography of a Freshman College Student

By Rashid Al-Muhannadi

Writer’s Reflection

I submitted this paper as a part of my final portfolio for an English class during the Fall 2013 semester – my first semester at Texas A&M University at Qatar. By conducting an autoethnography, I attempt to explain why I used to dread creative writing back in high school.

Researchers have been studying writing for a long time in the hopes of coming to a full understanding of how people go about writing. In her article titled “The Composing Processes of Unskilled College Writers,” Sondra Perl attempts to bring the composing process of unskilled writers to the fore through her examination of an unskilled writer. Perl’s article triggered a series of studies that use unskilled writers as their subjects of study. The exigency was created due to the need to study unskilled writers to identify what it is that they’re doing differently or rather what it is that they are missing that hinders them from writing coherently and professionally (194).

Through her use of the “think-aloud” protocol, Perl managed to link what her participants—that is, college students - were thinking as they composed their written pieces. This enabled Perl to break up the writing process of the students into several stages that can then be examined closely. In another study carried out by Carol Berkenkotter, an experienced writer was studied using the methodology employed by Perl; however, Berkenkotter took Perl’s method a step further since the allotted composing time of the test subject was not limited to one hour: the test subject–Donald Murray, a professional writer–had to record his thoughts in a log if he wasn’t near the recording device (220). In both of these studies, the main focus was on what the test subjects were cognitively doing as they composed their texts.

In my study, I wish to examine the effect of the type of text to be written on the writing method employed by the composer–the composer being myself. The purpose of my study is to provide a comprehensive response to the following research question: To w-hat extent are analysis and synthesis different for a freshman writing for a first year composition class?

Throughout this article, the terms analysis and synthesis will be frequently used. In her article, "Writing as a Mode of learning," Janet Emig defines analysis as “the breaking of entities into their constituent parts” and synthesis as “combining or fusing these [parts]” (122). In the context of my study, I would define analysis as splitting up a text into its components and explaining how the components fit together. Synthesis, however, is the ability to construct a platform in order to place your ‘originality’ and ‘experience’ building blocks on top of that platform. The definitions I proposed seem to fit with Bloom’s taxonomy: a classification of levels of intellectual behavior (see fig. 1). From the model, it can be seen that synthesis requires a higher level of cognitive thinking skills than analysis does.

Figure 1: Bloom's taxonomy: a classification of levels of intellectual behavior, 6 December 2013.
In this study, I am looking at synthesizing a piece of writing using mainly my personal experience and originality of thought. I am also looking at analyzing a play to examine the analysis process. I believe that this study is significant because the results should explain why I prefer to write analytical essays over writing responses to creative writing prompts. My study aims to expand on what has been done by Perl and Berkenkotter by looking at how the skill that needs to be adopted – that is, either analysis or synthesis - in composing a certain type of text affects the writing process.

This study was conducted in two stages. The first stage revolved around studying myself writing an analytical response to a question about a play titled “An Inspector Calls,” by J.B. Priestly. I thoroughly enjoyed analyzing this magnificent play. The second study revolved around studying myself as I was writing a response to a creative writing prompt. Both of the prompts were chosen randomly to ensure fairness.

The writing process was recorded on a computer-recording device – a video recording was also captured. This was done to capture my facial expressions when I was away from the recording device. Over the course of this study, I used a log to write down my thoughts in order to keep a record of them. The information on the log was then transferred to the planning part of each piece.

Table 1: The different writing processes and their symbols.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Meaning</th>
<th>Symbol</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>$P_b$</td>
<td>Planning (before writing)</td>
<td>$W_p$</td>
<td>Writing (while Planning)</td>
</tr>
<tr>
<td>$R_b$</td>
<td>Rereading</td>
<td>$E_s$</td>
<td>Using external sources</td>
</tr>
<tr>
<td>$W_s$</td>
<td>Writing burst</td>
<td>$?_b$</td>
<td>Losing track/mind blank</td>
</tr>
</tbody>
</table>

During the writing process, I attempted to verbalize my thoughts as much as possible. I allowed myself thirty minutes per writing task. As usual, I made a rough plan on paper before beginning to write my pieces. Similar to Berkenkotter’s study, the writing process was conducted in an environment that is ‘naturalistic’ to me (220) – that is, in my room with all the electronic devices switched off except for my laptop. Immediately after I was done with each task, I wrote a reflection about the writing experience. The purpose of the reflection was to aid the analysis part of my study by providing areas to focus on in the writing process (see Appendix E). The recordings were then transcribed and a code was devised to identify patterns in each process to enable a comparison to be made (see Appendix G). The code devised broke the writing process into several processes including planning, editing, and revising. These processes were then broken down further to enable further examination of the collected data.

The writing prompts, written pieces, transcriptions and reflections can be found in the appendices. The code I devised was as follows:

Table 2: The writing processes, their symbol and frequency for the creative writing task.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Meaning</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>$P_p$</td>
<td>Planning (before writing)</td>
<td>24</td>
<td>32.88%</td>
</tr>
<tr>
<td>$W_p$</td>
<td>Writing (while Planning)</td>
<td>23</td>
<td>31.51%</td>
</tr>
<tr>
<td>$R_p$</td>
<td>Rereading</td>
<td>9</td>
<td>12.33%</td>
</tr>
<tr>
<td>$W_s$</td>
<td>Writing burst</td>
<td>2</td>
<td>2.74%</td>
</tr>
<tr>
<td>$?_p$</td>
<td>Losing track/mind blank</td>
<td>4</td>
<td>5.48%</td>
</tr>
<tr>
<td>$S_p$</td>
<td>A pause</td>
<td>1</td>
<td>1.37%</td>
</tr>
<tr>
<td>$E_p$</td>
<td>Editing</td>
<td>6</td>
<td>8.22%</td>
</tr>
<tr>
<td>$D_p$</td>
<td>Distracted</td>
<td>4</td>
<td>5.48%</td>
</tr>
<tr>
<td>$X_p$</td>
<td>Unsure about process</td>
<td>0</td>
<td>0.00%</td>
</tr>
<tr>
<td>$E_i$</td>
<td>Using external sources</td>
<td>0</td>
<td>0.00%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>73</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 3: The writing processes, their symbol and frequency for the analytical writing task.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Meaning</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>$P_p$</td>
<td>Planning (before writing)</td>
<td>20</td>
<td>28.57%</td>
</tr>
<tr>
<td>$W_p$</td>
<td>Writing (while planning)</td>
<td>11</td>
<td>15.71%</td>
</tr>
<tr>
<td>$R_p$</td>
<td>Rereading</td>
<td>3</td>
<td>4.29%</td>
</tr>
<tr>
<td>$W_s$</td>
<td>Writing burst</td>
<td>18</td>
<td>25.71%</td>
</tr>
<tr>
<td>$?_p$</td>
<td>Losing track/mind blank</td>
<td>1</td>
<td>1.43%</td>
</tr>
<tr>
<td>$S_p$</td>
<td>A pause</td>
<td>3</td>
<td>4.29%</td>
</tr>
<tr>
<td>$E_p$</td>
<td>Editing</td>
<td>3</td>
<td>4.29%</td>
</tr>
<tr>
<td>$D_p$</td>
<td>Distracted</td>
<td>5</td>
<td>7.14%</td>
</tr>
<tr>
<td>$X_p$</td>
<td>Unsure about process</td>
<td>0</td>
<td>0.00%</td>
</tr>
<tr>
<td>$E_i$</td>
<td>Using external sources</td>
<td>6</td>
<td>8.57%</td>
</tr>
</tbody>
</table>

In the creative writing task, I knew that planning my piece was very important, but I never realized that planning overall represented at least 60% of the writing process. This probably explains why I am not fond of creative writing prompts – most of my time was spent in brainstorming for relevant ideas. In this part, I was establishing a ‘platform’ to form my piece on top. Based on the results I obtained, it seems to me that planning is the most important process in synthesizing a creative piece of writing.

I was surprised to find out that planning my analytical piece represented about a 40% of the overall writing process, which is significantly less than the time, I spent planning my creative writing piece. As a writer, I spend more time marshaling my thoughts before and during...
the creative writing process. In other words, I put a lot of effort in planning a response to a creative writing prompt. When I was planning my response to the creative writing piece, I often found myself losing track of the task at hand. It is no wonder then that I used to dread creative writing back in high school: it requires the writer to show originality from scratch. At this point, I had issues in constructing my ‘writing platform.’ This explains why I started to mumble at this part of the recording (see appendix B). This suggests that synthesizing a creative piece of writing requires the writer to have a clear sense of direction – that is, the writer should have a general idea of the structure of the piece to be written. Having a general idea of the structure of the piece positively correlates with the frequency of the writing bursts recorded: in my analytical writing task – as I planned my response to the creative writing piece, I immediately formulated a structure for the analytical writing task somewhat straightforward.

As seen by my reflections in Appendix E, the research process did feel unnatural to me: although the study was carried out in a naturalistic environment, I was so focused in real life I don’t talk out loud when I am planning an essay because I get distracted easily – even by my own voice!

More studies of this sort need to be done to examine how freshman college students write. This will allow the writing habits of students to be examined – identifying their strengths and weaknesses in the process. I now know that constructing a plan takes a long time – it may even take up half of the entire writing process. This demonstrates that being distracted – in my case – is independent of the form of writing whether it was analysis or synthesis.

From the results, it can be concluded that analysis and synthesis are not totally opposites since some writing processes involved both in about the same proportion in both writing tasks; for example, the number of times I got distracted was similar. Nevertheless, this result cannot be generalized to every freshman composition writer. I had more practice at analyzing prose and poetry since I enjoyed writing about them. It is possible to say that writing analytically – in my case – means following a set of instructions as seen from my transcription – the first thing I did was plan the entire essay from start to finish. This made the analytical task somewhat straightforward.

Appendix G

The coding results:

For the creative writing task – the processes in order (from left to right)

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>( P_1 )</td>
<td>Planning (before writing)</td>
</tr>
<tr>
<td>( W_p )</td>
<td>Writing (while Planning)</td>
</tr>
<tr>
<td>( R_1 )</td>
<td>Rereading</td>
</tr>
<tr>
<td>?</td>
<td>Losing track/mind blank</td>
</tr>
</tbody>
</table>

For the analytical writing task:

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>( P_1 )</td>
<td>Planning (before writing)</td>
</tr>
<tr>
<td>( W_p )</td>
<td>Writing (while Planning)</td>
</tr>
<tr>
<td>( D_1 )</td>
<td>Distracted</td>
</tr>
<tr>
<td>?</td>
<td>Unsure about process</td>
</tr>
</tbody>
</table>

# Works Cited


# Biography

Rashid Al-Muhannadi is a freshman student at Texas A&M University at Qatar. Prior to joining Texas A&M in 2013, he was a student at Al-Khor International School. During his first semester at Texas A&M University at Qatar, he enrolled in College Composition. He wrote and submitted this paper as a part of his final portfolio.
From Where I Am?

By Salwan Abou Salem

Writer’s Reflection

This is a poem about my country. I am Palestinian, but I was never born there. I was born and raised in Lebanon, which led me to be sometimes confused about my identity. As I grew up, I started to understand what’s going on in this world and how the Palestinians suffer. However, we always stood on our feet and showed the world that we can still survive no matter how they tried to make our lives harder. We are able to wake up every day and work as other people and show some of them the light of hope and success. This poem describes the beauty of my country that I had never seen, but at least can feel.

I am from “The Promise Land”
I am from there-
Where the winds sing for the world
The song of freedom
I am from dignity and honor group

I am from there-
Where loyalty is in my blood
Where I learned to fight
With my only weapon: “Education”

I am from there-
The sun smiles at me asking:
“Can you continue your journey of life?”
I am from that mountain
Strong enough to survive the storms

I am from there-
From the optimistic country
Where hope we wish
Where smiles we give
I am from that land

I am from there
Where kids get killed
When the world stands silent
No words, no humanity,
Nothing at all

I’m from there-
Where we shout at the oppression
Raise our voices to the world
But no one responds
I am from there.

Biography

Salwan Abou Salem is Palestinian, born in Lebanon on 6 August of the year 1993. She entered Al Qualaa Secondary School in Saida, Lebanon, and graduated from there in three years. She loves sports in general and is a fan of Roger Federer. She has loved writing since she was a child.

Educational Values of Texas A&M University at Qatar Students: A Pilot Study

By Noor AlAkhwand

Writer’s Reflection

This piece is a report on a study I carried out to identify the values that Texas A&M University at Qatar students hold towards education. I have always been interested in learning more about what my fellow students think the purpose of their education is. The opportunity came for a research project for a technical writing course in Summer 2013; I conducted the study and submitted it for the course project.

Abstract

The purpose of this research project was to identify the values that undergraduate students at Texas A&M University at Qatar hold towards education. This is a pilot study for a longitudinal research project that will explore the change of students’ values over time. The research was done by surveying 35 students, asking about their opinions on the purpose of education and their motivation behind pursuing a university education. There was also a series of statements regarding educational scenarios presented to the students, and they were asked to rate their level of agreement with each. The majority of students were found to be neither grade-oriented nor learning-oriented, but neutral, based on survey questions that were modeled after a system developed by Eison. It was found that students hold an idealistic view of the purpose of education being gaining knowledge and learning. Realistically, they view their university education as means to receive their degree to lead to better job opportunities. This can be identified as a factor for low levels of student engagement and increased instances of academic dishonesty. The results of this study will be used to amend the survey to better serve its purpose for the longitudinal study.

Introduction

This research project explored students’ attitudes and beliefs towards education; it focused on undergraduate students at Texas A&M University at Qatar, an International Branch Campus (IBC) of Texas A&M University. The research question I sought to answer is as follows: What values do undergraduate students at Texas A&M University at Qatar hold towards education?

Significance

The results of the research can be beneficial to different stakeholders in the academic field, as outlined below.

First, the information could be beneficial to educators as they seek to find new ways to
improve their courses to benefit the students. Educators can use the values that students hold towards education to determine why students are not as involved in their studies as they could be; they could use the results to develop new instructional methodologies to increase student engagement.

Second, with the recent incidents of violating academic integrity values that have been discovered at Texas A&M University at Qatar, learning about students’ perceptions towards education could be an important step in identifying the core ideological beliefs that may contribute to violations of the Aggie Honor Code. Thus, the results of the research could help members of the Honor Council develop methods to overcome academic dishonesty.

**Background**

Students hold differing values towards education. Some students value education as a learning process to help them become more involved and engaged with the world they are living in. These students are generally considered to have high levels of student engagement (Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2008). According to Eison’s LOGO scale, the aforementioned students are learning-oriented (LO) while other students are grade-oriented (GO). The former focus more on the learning process and are intrinsically motivated, while the latter focus on the end results of testing and are extrinsically motivated (Pollio & Beck, 2000). If a student is grade-oriented, this means that as long as he/she receives a high grade at the end, there is not much focus on the material learned. If the student does not care about the process through which they receive their grades, this could lead to an institutional culture in which “the ends justify the means,” leading to issues such as academic dishonesty.

In a 2009 case study of engineering students from Research State, Masters University, and Specialty Tech regarding their ethical behavior, it was found that creating an institutional culture in which students believe that cheating will truly hinder their learning is more effective than creating measures to stop students from cheating (Harding, Carpenter, & Finelli, 2012). Thus, an institution must identify the factors for which its students violate their academic integrity codes, which can be found within the students’ attitudes towards learning and their motivations that lead them to pursue their education.

**Research Methodology**

To create an overview of the values that undergraduate students hold towards education, a survey (see Appendix) was given to 35 willing participants of the student body of Texas A&M University at Qatar. Students were recruited from the ENGL 210 class by offering extra credit as an incentive. Other students were recruited by simply being asked whether they were interested in filling out a survey at the Texas A&M University at Qatar student lounge. The survey covered the following points:

1. The students were asked, via an open-ended question, about what they think the purpose of education is. It was theorized that this would generate an idealistic answer of what education is meant to achieve.
2. An open-ended question addressed what motivates students in pursuing higher education. It was theorized that this would give more realistic and practical answers of what they think the purpose of education is.
3. A series of statements regarding education was presented, and the students were asked to indicate whether they agree or disagree on a 5-point Likert scale. If a student is grade-oriented, this means that as long as he/she receives a high grade at the end, there is not much focus on the material learned. If the student does not care about the process through which they receive their grades, this could lead to an institutional culture in which the ends justify the means,” leading to issues such as academic dishonesty.

In a 2009 case study of engineering students from Research State, Masters University, and Specialty Tech regarding their ethical behavior, it was found that creating an institutional culture in which students believe that cheating will truly hinder their learning is more effective than creating measures to stop students from cheating (Harding, Carpenter, & Finelli, 2012). Thus, an institution must identify the factors for which its students violate their academic integrity codes, which can be found within the students’ attitudes towards learning and their motivations that lead them to pursue their education.

Results and Discussion

I. General Views on Education

The answers to the open-ended questions, described in parts (1) and (2) in the Research Methodology section above, were used to create word clouds to observe any trends in the students’ responses. A process of eliminating unnecessary words and grouping similar words together was applied to word clouds. Figure 1 shows the word cloud generated for Question 1 of the survey, asking about the purpose of education.

![Figure 1](image)

Looking at the word cloud, it could be observed that learn, knowledge, understand, society, and job are the most prominent words. Thus, it seems that students’ idealistic answer of the purpose of education is generally related to the betterment of an individual and his/her society. This aided in coding the answers in order to create categories which students’ responses fell under. As can be seen in Figure 2, the most common response was that the purpose of education is to gain knowledge or to learn. As was observed in the word cloud, the majority of the responses are very idealistic and emphasize personal and societal development.

![Figure 2](image)
There is clearly a dominant word: degree. Thus, the greatest motivating factor for students is receiving their university degree. However, this itself can have several motivating factors behind it, both intrinsic and extrinsic. One can be intrinsically motivated to receive a university degree as it would lead to a personal sense of achievement, or extrinsically motivated if they want to receive a degree for economic factors or social pressures.

Categorizing students’ responses, as shown in Figure 4, gives further insight into the roots of this motivating factor.

Now it is clear that the number one motivating factor for students fits in the category of economic factors or the prospect of having job security. While the next top category is the vague, open-to-interpretation degree, next comes the category social factors, which included responses such as pleasing their parents and feeling socially pressured by society to pursue a higher education degree. The most common responses were all extrinsic motivating factors.

On the other end of the spectrum with intrinsic factors, only a few responses were documented fitting under the interest in major and personal growth and achievement categories. This gives more insight into the lack of motivation that has been observed in students at Texas A&M University at Qatar. These responses gave more realistic and practical answers to what students think the purpose of education is, as opposed to the idealistic responses of the first question.

II. LOGO-Inspired Questionnaire Responses

The responses for the LOGO-inspired questions were used to create a spectrum spanning from being learning-oriented to grade-oriented, as the LOGO scale categorizes students. A scoring system was devised as follows: questions in which agree meant that the student was learning-oriented contributed to a positive addition to the score, and questions in which agree meant that the student was grade-oriented contributed to a negative addition to the score. Thus, a student with the highest learning orientation would have a score of +20, and a student with the highest grade orientation would have a score of -20. Scores between -3 to +3 were interpreted to be neutral. Figure 5 shows the frequency of the students’ scores.

Through the responses, 17% of students were found to be grade-oriented, 52% neutral, and 31% learning-oriented, as shown in Figure 6. This was surprising, as I expected students to be far more grade-oriented than learning-oriented based on personal observations. This could be attributed to the respondents of the survey not being chosen through random sampling, as discussed in the Error Analysis section below. On average, the respondents scored 1.69 with a standard deviation of 4.76, in the neutral category. This supports the results of the majority of the student body, 52%, being categorized as neutral.
Error Analysis
One factor that can alter students’ responses is the timing at which they are filling out the survey. Students would likely be more learning-oriented at the beginning of the semester when they are under less pressure to perform well academically, and be more grade-oriented towards the end of the semester when final exams are approaching and students are struggling to meet deadlines (Eison, 1981). This could have affected the results for the pilot study as it was conducted on students when exams were approaching.

Another issue is that the pilot study was conducted during the summer semester when there were a lower number of students attending university. This resulted in an inaccurate representation of the student body, as freshmen and seniors were underrepresented, making up only 11% and 6% of the surveyed demographics respectively. Also, students were not selected through random sampling; on the contrary, students who filled out the survey were those who were more interested in the topic, which could have altered the results significantly.

A possible source of error is the students’ interpretation of the question due to its wording. For example, one of the survey questions asked students to indicate whether they agreed or disagreed on a 5 point Likert-scale on the following statement: “I like to keep my notes and textbooks so that I can go over them some time after the class is over.” I received a few questions regarding what I meant with that question, whether it meant after the lecture was over for the day or whether it meant after the course or the semester is over. This confusion may have caused the respondents to interpret the question differently and thus affect the survey results.

Conclusion
Undergraduate students at Texas A&M University at Qatar hold an idealistic view of the purpose of education, consisting of gaining knowledge and learning more about the world around them. Realistically, they view their university education as a means to receive their degree to lead to better job opportunities. This can be further investigated as a factor for low levels of student engagement and increased instances of academic dishonesty. Thus, educators could foster a culture in which learning is valued over grades to increase student engagement and values of academic integrity. This could be done by increasing the level of student involvement such that the learning process itself becomes a larger part of the student’s concern rather than simply being a receiver of information.

References

APPENDIX: Survey for undergraduate students at Texas A&M University at Qatar

What do YOU think of education?

This survey is intended to assess the values that undergraduate students at Texas A&M University at Qatar hold towards education. The information is to be gathered for class purposes only and full anonymity is to be maintained.

Please answer the following questions as honestly as possible; answer them according to your experiences at Texas A&M University at Qatar, not according to what you consider to be ideal conditions. Remember, there is no right or wrong answer!

Please check one option for each of the following:

<table>
<thead>
<tr>
<th>Current standing</th>
<th>Gender</th>
<th>Student status</th>
<th>Parents’ highest level of education</th>
</tr>
</thead>
<tbody>
<tr>
<td>o Freshman</td>
<td>o Male</td>
<td>o Local Student</td>
<td>o Less than high school</td>
</tr>
<tr>
<td>o Sophomore</td>
<td>o Female</td>
<td>o International Student</td>
<td>o High school</td>
</tr>
<tr>
<td>o Junior</td>
<td></td>
<td>o High school</td>
<td>o 2-year college degree</td>
</tr>
<tr>
<td>o Senior</td>
<td></td>
<td>o Bachelor’s degree</td>
<td>o Graduate degree</td>
</tr>
</tbody>
</table>

In your opinion, what is the purpose of education?

Using the following Likert scale, answer the questions below. Put a checkmark indicating the appropriate answer.

1= disagree 2= somewhat disagree 3= neutral 4= somewhat agree 5= agree

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>I think the main purpose of studying at university is to receive my degree.</td>
<td></td>
<td></td>
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<tr>
<td>I do not like learning material that will not help me in my future career.</td>
<td></td>
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<td></td>
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<tr>
<td>My decision to study engineering was influenced by my family members.</td>
<td></td>
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<tr>
<td>I dislike taking courses that are not directly related to my major.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am personally interested in my major.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I think education is a lifelong process.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am content with my educational experience when I can:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Get good grades on exams</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>- Explain the concepts to a struggling colleague</td>
<td></td>
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<td></td>
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<tr>
<td>- Solve problems on the material for homework assignments</td>
<td></td>
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<td></td>
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<tr>
<td>- Understand how different concepts are related</td>
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</tbody>
</table>
What motivates you the most in pursuing your university education?

The questions below have been amended from Eison’s LOGO questionnaire. Please answer them according to the following Likert scale.

1 = disagree  2 = somewhat disagree  3 = neutral  4 = somewhat agree  5 = agree

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>I would be content if I got a grade lower than I had aimed for if I learned a lot from the class.</td>
<td></td>
<td></td>
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<tr>
<td>I don’t think I would put in much effort in a class in which the professor guaranteed everyone an A automatically.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I like to keep my notes and textbooks so that I can go over them some time after the class is over.</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>I do not like classes in which the lecture covers a lot of material that is not going to be on the exam.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>I do not like classes that need a lot of memorization of facts even though it is easy to see what is required to get a good grade on the exam.</td>
<td></td>
<td></td>
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<tr>
<td>I think that if a class does not have quizzes or exams, I will not learn much.</td>
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<tr>
<td>I prefer professors who are tough as long as I can learn a lot of new material from them.</td>
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</tr>
<tr>
<td>I dislike questions that involve applying the material taught in class onto new situations.</td>
<td></td>
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</tr>
<tr>
<td>I think it’s more important to find out what grade I got on an exam rather than which questions I did incorrectly.</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>I dislike it when the lecture is basically the summary of the reading material.</td>
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<td></td>
<td></td>
<td></td>
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</tbody>
</table>

Thank you for your contribution!

**Biography**

Noor AlAkhawand is a sophomore at Texas A&M University at Qatar studying mechanical engineering. She is the co-founder of Aggies’ Novel Ideas, a book club on campus that holds regular discussions for its members. 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.
The New Life
By Fathima Faizeen

Writer’s Reflection

This paper was written for my first English assignment at Texas A&M University at Qatar. The original question was ‘Why am I here?’ and I was given the freedom to interpret ‘here.’ I chose the country I am currently residing in, Qatar, as ‘here.’ I wrote it as a narrative mainly because it is my favorite genre and also because it best suits my experience and helps readers understand and connect with it. This paper talks about how and why I moved from my home country (Sri Lanka) to Qatar. It explores the many challenges and rewards of such an experience. This paper has been improved since the first draft with the help of my professor. The changes I made taught me how affective it is to add more details and that in writing such a genre, there is no such thing as too many details. Overall I am very happy with the outcome of this piece.

I still remember that teary ride from my grandparents’ house to the airport. I was sitting in the window seat of the van next to my mother, looking out of the shutter at the beautiful scenery of lush green paddy fields. The thought of not seeing this beautiful landscape made a fresh tear roll down my face. Saying good-bye at the age of fourteen in the airport to my wonderful grandparents and my amazing aunty and uncle was even worse. The sobbing was uncontrollable when the plane took off from my beautiful island, Sri Lanka.

I was on that plane due to the situation in my country. The thirty-year civil war got worse, bombs blasting in unexpected locations mostly targeting the innocent children on their way to or going back home from school. Public transport was another major target. Parents feared for the safety of their children until they returned home. The situations at offices and work places got even worse. The war was greatly affecting the economy, which meant most people were made redundant as the companies could no longer afford them. This greatly affected my dad as he worked for a garment factory manufacturing clothes for major brands and shipping them overseas. This civil war was not one that was fought only on land; it was fought in the air and sea as well. This meant that ships were attacked and so the clothes were not able to be shipped off safely. This affected the company greatly. At this point, my dad had no other option but to look for employment in other countries, preferably the Middle East.

Dubai was his first priority as my aunty and her family lived there. We all preferred the Middle East mainly because it was close to home. The least expected offer was from Qatar, so my dad was delighted when he received it. Since he did not know much about Qatar nor the company, he decided to leave my mom, my younger brother and me back in Sri Lanka and go on his own. He absolutely loved Qatar, as he found it more relaxed than the Dubai life style. On a hot day in March 2008, less than three months after my dad left, he called us and told us to start packing as he was booking our tickets for the end of that month.

I was extremely reluctant to leave because I did not want to say good-bye to my friends or family. The rest of the family was devastated to be separated from us after fourteen years, but they knew that we had no other option. My friends were shocked and gave me a very teary good-bye party that I will never forget. I still have the many cards, gifts and my signed uniform filled with memories and messages that I often go through, especially the poem my friend wrote about me which includes my ‘ragged shoe lace,’ a sign that I was no longer going to be at school since I stopped washing my shoes knowing that I won’t be using them anymore. I loved and enjoyed my school and was not sure if I would like the new people and the new country. In fact, I was positive that I would hate our new lives and that it would be a big mistake. “Mom, how about I stay back with Appa and Mummy (grandpa and grandma) and you all can go to Qatar?” That suggestion was clearly not approved.

The first few months in the new country were difficult. Although the culture was similar, the language and the surrounding were different. It was worse because it was mid-term when we moved and all the schools were full. One school told us that we will have to wait for one more year and another said we can start in September. The wait until September was very long and extremely boring. We were at home, with no friends, nothing to do, and no extended family.

On a cold winter morning, I suddenly became aware of my surroundings. It was around four to five months after I joined my new school. I was sitting down with my friends and we were watching the guys playing football. We were having a good laugh while I explained the boy’s cricket match season back in Sri Lanka and the pranks they play during this season. I realized that I had made friends once again and they were from across the globe. This showed me that teenagers are teenagers, no matter where we originally came from. We all tend to think alike and have similar complaints and problems—the most famous one being how our parents don’t understand us. Who can forget the teenage love stories and all the related drama? This made my new life easier. The gradual change in lifestyle almost slipped my attention as I was getting settled and surprisingly enjoying myself once again.

Here I am now at Texas A&M in Qatar, having friends from across the globe and pursuing Petroleum Engineering, a field that does not exist back in Sri Lanka. The six-year journey from then to now has not been easy. Family continues to be missed, but now home is Qatar. What I used to consider a tragedy has turned out to be a blessing in disguise.
The Music of Silence

By Munazza Sayed

Writer’s Reflection

Pitch-blackness. Chirping crickets. An otherworldly silence. This is how the poem was inspired. I remember lying in bed, surrendering to the subsuming darkness and the quiet while struggling with sleep. I let my mind and soul relax, conscious of how rejuvenating it all felt – this much-deserved break from the hassles and glitches of everyday life. And I wanted to revel in this exceptional feeling of how rejuvenating it all felt – this much-deserved break from the hassles and glitches of everyday life. And I went looking for a paper and pen at 3 a.m., like I found myself wondering whether I should put in this surge of poetic inspiration for occupying me so and driving me out of bed, at a time when very few other things could have.

I hear the faint sound of a fire ‘larm, a returning neighbor opens the door. All, once again, is hushed and calm, save for a faraway muffled snore.

My ears listen to the nothingness.
While the ceiling – a pitch black chasm, stares back, mirroring the emptiness, And the night sky slips in a spasm.

It doesn’t frighten me, Oh, not at all
A strange solace I’ve come to find
In the music of the silence that creeps up the walls
And whispers this verse in my mind.

Everyone, but me, is sound asleep
In the dead of the night at the ceiling I stare
Watching silence upon the dark walls creep
Its boom fills the air.

There’s such pure silence, I’m taken aback
Nothing and no one stirs
Quiet – so quiet, and black – so black, like a dark painting under a curse.

But I like what I hear, I’m only surprised
I had never noticed before
Silence. It’s usually highly prized, the lonely heart’s one lure.

Biography

Munazza Sayed is an award-winning poetess, writer, artist, an aspiring engineer – and a very proud Aggie. Born in Mumbai in 1993, she moved to Muscat at five years of age, and presently associates the word ‘home’ with Oman. 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, given her penchant for science and mathematics. She believes that art and mathematics go hand-in-hand – each is a breathtakingly beautiful and exquisite medium for the expression of human intellect and emotion.

Fourth of September

By Nadila Salim

Writer’s Reflection

Three years ago, I wrote this paper because I knew it would help me calm down and knock my senses back into me. Usually when I am frustrated, sad or furious, I take it all out on my writing. Once I am done writing, I feel this sense of contentment and calmness which then enables me to ‘continue with my life.’ Writing is everything to me, and I started writing such stories when I was 11 years old. The audience for this piece of writing was technically myself. I am not a person who generally likes to share her work with the world, though many have urged me to do so. It just helps me see how far I have come in life since that day which I wrote it which seems like years ago. The only reason I shared this piece of writing was not to let down my awesome professor as she kept encouraging me to share my writing. I highly urge people to discover the world of writing as it can be something unique and calming at the same time.

The fourth of September 2011 is a day I will never forget. It was a day where I was going to have to grow up and become independent. No more mummy and daddy at my beck and call, no more housemaids cleaning up after me, no more aunties and uncles constantly showering me with gifts, there was no one but ME! Would I survive? This is a question I cannot answer yet. What does the future hold? I would eagerly love to know this, but unfortunately I cannot. I would have to see the path that life has chosen for me. The road I was walking on was mine and mine alone! I had the choice to make: either be strong and succeed, or be a coward and consider myself a failure throughout my life. If I chose option two, which is what my whole self is telling me to go for, how would I wake up each morning and face my parents knowing that I somehow betrayed them? Being as awesome as they are, I knew they would try to cover up my betrayal and be supportive of my decision. Would I be able to live with myself? That is a whole different story. “Miss Nadila Salim, you can do this!” I spoke to myself. “You can survive the four years without the pampering and the luxuries and graduate to become the best Chemical Engineer the world has ever had! You shall put a smile on your parents’ faces and they shall always be proud of having YOU as a daughter. YES YOU CAN AND YES YOU WILL!” Alas! I have forgotten to mention — this was the day where an only child had left her comfort zone and had been thrown out there into the world in pursuit of education. This was the day when I first stepped into Texas A&M at Qatar and left my loving family behind.

Walking through the huge brass doors that felt like they weighed a million tons, and just having said the final goodbye to my parents, I felt a tight knot building up in my throat. “I must not cry, I will not cry.” I tried to comfort myself, but to my dismay this was not working. I dashed into the first female bathroom that I could locate and spent a good 30 minutes just wailing and wailing! Would I make friends? Was Engineering what I really wanted? How would I survive with no one to cook for me? How would I survive without mummy and daddy? I could hear these questions ringing inside my head as if someone were shouting them out through a large microphone.

Shortly after I had calmed myself down, I saw a tiny, short girl (who looked to me like she was
As I sit here in my new apartment on my new bed, I still cannot unfold what the future has in store for me. But right here right now, I feel I chose the right path, and hope it continues to be the right path for a very long time...

As this difficult, confusing day continued, I found my worries and stress levels decreasing. I knew there was a reason I was here that day. Everything happens for a reason as they say. I kept bumping into all kinds of people who were just like me, some who came as far as from the USA! Then I thought, if these people are all smiling and cheerful, why am I crying? For heaven’s sake, the UAE is only a half-hour flight away. I could fly home just for the weekend if I wanted to. Thus my day continued, filled with activities and socializing and discovering Qatar!

Arriving at the Doha International airport, I gave them my passport. The security man waited for what it what this trip will bring to me. My biggest shock was actually when I arrived at the building and I wanted to ask about my apartment, while the security woman, sitting on the desk, just talked English in an accent I have never heard of. I entered my room, sat on my bed and opened my laptop. I cried whenever I remembered my mother’s face or even her voice. But after all that, there was a question that I should ask myself: “Why am I here?”

Why am I here? Why am I in Qatar? Why am I in Texas A&M University? Why? God may know the answer, but I also know it. Why am I in Qatar and not in Lebanon? Well, I wanted to continue my education in the American University of Beirut until I found out that I’m not in the right place for education and I don’t want to see the same people with same mentality and same culture. While I applied to Carleton University in Canada and Texas A&M University at Qatar, my decision was Qatar because I wanted financial aid to help my parents, while my father wanted me to go to Canada. I understood that he wanted a better life for me especially that I am Palestinian. I am Palestinian, who lived all my life in Lebanon and we, Palestinians, are still and will always be considered refugees. I knew that he chose Canada because he wanted me to get the Canadian Passport while I’m studying there at the university. I chose the other way, which will let me suffer as a Palestinian living in the Arab World. Why am I in Texas A&M University? Maybe I applied to it because it’s one of the top universities in the world, but also my reason was doing mechanical engineering and learning more about it. I love learning new ideas especially about engineering. I wanted to do something in my life, not just read a book. I wanted to get out of this book and apply what I have to change the world. Change is so important in life. To make a change in people and make a difference in their lives is not easy and that was my ambition. It was always my dream to help people in need and offer them what I have. I want to apply what I learn in

The Journey

By Salwan Abou Salem

Writer’s Reflection

When my professor entered the class and told us about this assignment. I was actually very excited. After the one semester I have spent in Qatar and in this university, I have learned a lot. Many friends you meet, many stories you hear, many things untold and many lessons learned, and beyond all these, you’ve got to ask yourself this question “Why Am I here?” Wherever you travel, you always have a goal in mind and you should always remind yourself of it. From time to time, you may fall off from this train, but you’ve got to come back and get on the train again. This piece of writing holds my goal when I first came here, and it also holds some moments that I like to recall. Having a goal in life is one way to keep you moving forward for something bigger to achieve, maybe a dream.

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This voice inside my head continued. I just stopped crying after an hour while sitting on my bed and thought about it. Is it life that forced me to be here? Is it my ambition? Is it my dream? Is it the voice inside me? This voice that’s always in my head saying I can do it. My dream is to be a mechanical engineer, while my ambition is to change and help people with the knowledge that I learned. I wanted to cross the borders and meet these new people from different cultures. I have never traveled before in my life, so Qatar was my first trip. Qatar will let me achieve what I want. Qatar was the destiny and the changing point. Yes, I am here to achieve it. I am here to surpass the challenges. I am here to meet new people and listen to their stories. I am here to learn from them. I am here to watch people from different countries: Pakistan, India, Qatar, American, Canada, Philippine, Libya, Nigeria...

I am here also to hold the flag of Palestine and prove it exists. Yes, I am here for many reasons. I am here to add new chapters to my book. Will Qatar be the ship that will help me continue my journey to achieve my dream and let it be true? God knows this answer, not me. However, I believe the answer is yes. I kept thinking while sitting on my laptop and checking my Facebook. This voice inside my head continued. I just couldn’t stop it and it’s about to be 12 at night. I need a boat to row at that border and it is Texas A&M University. Waves may arise and storms may come so that I have to do my best to survive and continue my journey of life. I have to keep my boat secured in order to fight the storm well and surpass it with the least injuries. Whenever I hear my father’s or mother’s voice, I remind myself of that question. My father used to always say to me, “Education is the only weapon you have to fight the world and oppression and no one can take it from you.” Since I was a kid, my parents focused on my education and always motivated me to learn and be knowledgeable. And my mother said to me once before I went to bed in the night just before I travel: “Be educated and work hard now and you will live relaxed forever.” Maybe tears come down when I feel I’m apart from them, but life needs some sacrifices that I have to accept. It’s the beauty of life. We shouldn’t expect from life to give us just happiness or else it would be a boring life. It needs some sort of excitement like conflicts and sadness.

I leaned back again on my bed recalling memories with friends and teachers. I woke up in the early morning on the next day and went out to the garden behind the dorms and I inhaled the fresh air. I saw people sitting on the bench and eating breakfast and talking. They were students like me. I wondered: “Why are they here?” May be it’s the same answer as mine, who knows. I figured out life teaches us a lot about ourselves and it expects from us the unexpected. Life never set exact rules to the game; the player must choose to play the way she wants. She may win and she may lose. In the end, a choice is taken, and she must live with the consequences.

I left them and walked towards my university while my brain is still not able to mute that voice. I saw the ship going towards me and whenever I doubt about it, I ask myself the same question: “Why am I here?” My tears, I guess, were tears of hope. Every ambitious person thinks of that hope to achieve her dream. Thinking of my decision now, I don’t regret it and I hope I never will. Every day I wake up and in the end of the day, I have a lesson to add into my life and a story to write about. Many stories are untold, and one day they me be written in one book named “The Journey”.

Biography
Salwan Abou Salem is Palestinian, born in Lebanon on 6 August of the year 1993. She entered Al Qulaaa Secondary School in Saida, Lebanon, and graduated from there in 3 years. She loves sports in general, and is a fan of Roger Federer. She has loved writing since she was a child.

Rhetorical Situations in Syllabi of Different Courses

Writer’s Reflection
My ability to write better and express my ideas has grown stronger each semester I stayed in college. Before that, I had hard times translating my thoughts and emotion into written words to form a coherent and well organized article. I remember in my English class at Texas A&M University at Qatar, when I was told more than once by my professor to redo my essays. This was to help me strengthen my writing and re-correct my mistakes. These are the things that I have worked on and improved over the past couple of semesters, and I feel that my work here shows this. The English classes that I took in the previous semesters have really helped me improve my writing performance, organize my ideas, and produce professional articles and papers. Now, I feel confident that I could write a paper about most anything and know how to cite and format it properly.

A new phase of my life started when I joined the student body of Texas A&M University. I left my high school memories behind and started my new life eagerly. I have always heard that university is much easier than high school because one can attend the classes optionally and do whatever he wants more freely. I was dreaming of four years full of pleasure and gratification.

My first day of classes started with something called a syllabus that our engineering professor (whom I will refer to as “Professor A”) distributed to us. I started reading the syllabus carefully and noticed a group of complex interrelated concepts. The date was given precisely for every lesson we would take and every chapter we would tackle. Every subject covered had a certain limit of hours to be taught and the expected outcome from each unit. I had never known that my curriculum would be in such detail. I had a thirst to know more about the syllabus and why the instructor gave such definite facts about the curriculum.

I asked a sophomore student, “Student A,” to clarify the purpose of giving such details in a syllabus. He said, “The syllabus is a copy of what professors are thinking. It’s the rhetorical situation which they imagine.” These words astonished me, so I started a deep search to understand the exact definition of a rhetorical situation.

After surfing the internet and searching in my English college books, Writing about Writing and A Little Argument, I reached an amazing result: “The rhetorical situation is an indeterminate context marked by troublesome disorder which the rhetor must structure so as to disclose and formulate problems” (Consingy NP). But how can I apply this concept to my given syllabus?

I started analyzing the syllabus to explore the meaning that our instructor’s words carry. I realized after reading thoroughly that the professor focuses on the importance of team work through giving the majority of the scores of the course to the projects accomplished by teams. The syllabus states that “Teams of students for all three projects will be chosen by the instructors” (“Professor A” ’s). There are three team work projects that are worth 50% of the final score. Individual projects are given less priority, since the final exam is done individually and worth 25% of the final grade.
Perhaps the professor wants us to realize that teamwork is of great importance in increasing the rate of success, especially for us as engineers since engineers from all majors should form one hand to have a successful project. However, what if one chooses his team from friends and close people? Will the desired results be achieved?

Those series of questions were rotating in my mind while I was reading the syllabus till a bold-typed sentence caught my attention: These teams will not be negotiable (“Professor A” 2). I quickly realized that the professor will choose the teams as she wants, and then, surely, the members will be of different cultural backgrounds. In this way, the student is obliged to work with different kinds of people and accept others. Then the teamwork will more likely bring its expected outcomes and results. Actually, the professor’s rhetorical design of her syllabus to express ideas drew my attention and made me go on and read syllabi of other courses. I wanted to do this because I wanted to explore more about rhetorical situations and their different cases.

I picked up the English course syllabus and started reading. I noticed that “Professor B's” major concentration is on the attendance in class and being there on time as scheduled, to the extent that the final grade of the course may be lowered by one letter grade. Furthermore, being late to class after five minutes of taking the attendance obliges you to write a memo attached by documentation for the reason of lateness. I believe that this focus on the attendance implies a rhetorical situation in which the professor wants to convince us that the content of the course is very important and needs continuous attendance to be understood, so that even the excused absences are not accepted after three or more days.

I then jumped to the Critical Thinking course syllabus and scanned it quickly. It was only two pages long. I found that the instructor, “Professor C,” left it up to students to freely choose to work individually or in groups on the final project, and that most of the activities will take place during the seminar meeting time. I realized that this course depends on the classwork more than the homework, because the professor aims through focusing on classwork to make us concentrate our effort in the classroom; “Most activities will take place during the seminar meeting time, and so attendance to all classes is required to complete them in a timely manner” (“Professor C” 2). This makes students feel free of the stress that a course might cause when continuous projects are periodically assigned.

Through a simple comparison between the three syllabi, we can notice the difference in the rhetorical situations imagined between professors and students. Both the English and Critical Thinking professors concentrated on the importance of attending classes, but each one had a different purpose. The English professor indicated that the course is very important, and the attendance is a major condition to pass the course and tackle the subjects in a correct manner. “Professor C,” on the other hand, had another purpose for concentrating on the attendance showing that all assignments should be done in class in order to lessen the stress of home duties.

When I started this assignment, I felt a little bit confused. How can a syllabus contain a rhetorical situation? I was thinking of the syllabus as an explicit schedule that we should always follow. I found that I was mistaken. Even the syllabus may contain a rhetorical situation, and this really depends on the design of the instructor in addressing this situation. The various methods of designing the syllabi and how instructors emphasize their main goals greatly affect the way they are received by the audience. Before conducting this research, I was confused how I could find rhetorical situation in the syllabus of a course. Now, I completely know the concept of rhetorical analysis, and I’m able to relate it easily not to syllabi only, but to every aspect of my life.

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Biography
Abdul Salam Mounir Abd, a Palestinian refugee, was born and raised in a traditional household in Baalbeck, Lebanon. He is currently a college student majoring in petroleum engineering at Texas A&M University at Qatar, class of 2016. From there, he hopes to be accepted into the MS program in petroleum engineering at TAMU-main campus. Later on, he hopes to work as a drilling engineer. Abdul Salam has always been very dedicated and hardworking when trying to achieve his goals. He does not let any obstacles get in his way; he preserves and keeps working towards his dreams. His drive, passion, and detail-oriented work finds a good outlet in college, and he hopes this will come across in his career life.
Qatarization

By Misam Ali Mehmoord Jaffer

Writer’s Reflection

This paper on Qatarization was written as part of an extra credit assignment for a politics class I took at Texas A&M University at Qatar back in Fall 2008. Part of the reason why students were encouraged to write this essay was to have more Aggies participate in the QTel Student Paper contest that year, and so we were allowed to submit the same essay as a contest entry. I was graduating within a year and finding a job was a high priority for me. With a lot of firms talking about Qatarization, there was much I could relate to on this topic and hence writing the essay felt very easy. I was (pleasantly) surprised to learn that my essay was short-listed by QTel (now known as Ooredoo) and that they wanted to meet the finalists before deciding on the final prize-winners. Writing this essay and presenting it was certainly a learning experience for me. It also gave me more perspective into this controversial-yet-essential topic. One crucial point favoring Qatarization that was pointed out to me by the panel of judges, and which I haven’t mentioned in the essay itself, was that if, God forbid, a calamity were to hit this country tomorrow, who would ensure public safety? Who would commit to serving Qatar through its worst? Yep, I too, had nodded my head in agreement.

According to the Qatarization website, the plan of strategic Qatarization went into effect in June 2000 under the leadership of H. H. Sheikh Hamad Bin Khalifa Al-Thani, Former Emir of the State of Qatar, and upon the directive from H. E. Abdullah Bin Hamad Al-Attiyah, Deputy Premier, Minister of Energy and Industry. Initially, the plan included companies in Qatar’s energy and industry sector and the target was to attain 50% quality Qatari workforce in these companies [1]. Qatar’s leadership was quick and sensible in realizing that resting the economy’s growth completely in the hands of foreign expertise is not the best way towards the country’s future. The government has thus put together two committees that deal with the recruitment, training and development of Qatari nationals into the energy and industry sector [1]. The government of Qatar has also taken positive steps in order to promote higher education among the youth of Qatar, who are instrumental in the implementation of Qatarization. Government companies like Qatar Petroleum, RasGas, Woqod, Qatar Fertilizer, Kahrama and a host of others offer Qatari nationals sponsorships and scholarships opportunities for higher education that also incorporate a career plan with them. Organizations like Qatar Foundation are playing an important role in improving levels of higher education among Qatari in various fields like engineering, medicine, business administration, politics and journalism.

Qatarization has definitely had a very positive impact on the employment rates of Qataris. Apart from local companies such as the ones mentioned above, multinational giants in the oil and energy sector like ExxonMobil, Shell, ConocoPhillips, Dolphin Energy and several others have also tied themselves with the program by allocating certain percentages of their workforce specifically to Qatari nationals.

Though Qatarization appears to be a positive step towards growth for Qatar from various aspects, it has also become one of the most controversial topics in the country. The official rhetoric of the program that states “Quality Qatarization” is often questioned. Do companies justifiably hire Qataris based on their level of education and suitability for the job, or just on the account of their nationality? What should be the minimum or maximum percentage of an organization’s workforce allocated to Qatari nationals? Questions like these and several others are difficult to answer, as there is no documented proof for such things. However, some ill effects of Qatarization can be statistically analyzed. One such effect is the termination of a substantial amount of non-Qatari workforce over the past few years. As reported in The Peninsula on 9th February 2006 [2], 764 expatriates lost their jobs during 2004-2005 as part of Qatarization drive. A Qatari workforce of 1,597 replaced these positions. This has caused a lot of tension among the expatriate community in Qatar most of whom work for companies that offer no form of job security. Qatarization may pose some other potential problem that might become evident in the coming years. As of yet, the government has not officially imposed any law requiring local and multinational institutions in Qatar to allocate a certain percentage of their workforce to Qatari nationals. However, it is believed that such a regulation might be imposed in the coming years. This can act as a detriment to several multinational companies who intend to start branch divisions in Qatar. Another concern regarding Qatarization is the common belief that Qatar is not yet ready for such a shift in its labor force. Although universities like Qatar University, Texas A&M University at Qatar, Carnegie Mellon University at Qatar, College of North Atlantic, Weill Cornell Medical College in Qatar and several others produce roughly about 400 - 500 Qatari graduates a year skilled in various engineering, science and business sectors, this body of Qatari graduates is not sufficient to meet the growing needs of skilled workforce in the local and multinational companies of Qatar. Hence, there is a strong reason to believe that a concept such as Qatarization cannot be efficiently implemented at the moment.

In this last section of my paper, I would like to discuss my own personal perception of Qatarization. I have graduated as a mechanical engineer from Texas A&M University at Qatar in 2010, after which I went to the United States of America to complete my Masters of Science in the same. I am now back in Qatar where my family has spent the last 25 years. I aspire to become employed here soon and want to raise my own family here as well. As a non-Qatari however, it is quite obvious that the whole concept of Qatarization doesn’t quite work to my benefit. To start with, I am going to have to compete against a host of other Qatari students holding the same degree I have from the same university. Most of them are already sponsored by oil companies and have a set career path for their future. With companies restricting the percentage of non-Qatari workforce, it is obviously going to become difficult for me to easily obtain employment in Qatar. I would have to be a lot more competitive and would have to prove on my resume that I am the best non-Qatari candidate for the job to which I am applying.

In my opinion, the concept of Qatarization is controversial and is very perspective dependent. From the point of view of Qatar’s human resource development, Qatarization appears to be a positive step towards improvement. It is a way of making Qatar independent in terms of skilled workforce. It also acts as a means of compelling the Qatari youth to come forward and take ownership of their country. Allocating workforce percentages in local and multinational companies to Qatari nationals is
a way of ensuring fresh Qatari graduates gainful employment in their country. And to some extent, promoting Qatarization is also a way for Qatar to keep its financial resources within the country by paying its own people rather than paying expatriates. On the other hand, from the perspective of the multinational faction in Qatar that dislikes and to some extent is against this concept, it is the cause of growing tension. Job security, in the recent years, has become one of the unstable topics in Qatar’s economy as most companies and local institutions in most sectors have no tenures. Another segment of people who would oppose Qatarization are graduates and non-Qatari skilled workforce who intend to work in Qatar but might be discouraged due to the growing Qatarization drive in the country. As a reaction to all these arguments, I believe Qatar should firmly go on with this concept as it works very much in its favor and in the favor of its people. However, the government should also make it mandatory for local and non-local companies to issue tenures to employees to give them some sort of job security. Qatarization is a positive solution towards Qatar’s growing need of skilled labor force. It should be propagated and enforced in such a way that in addition to providing benefits to the Qatari population, Qatar’s unique multinational community’s security needs and the aspirations of potential foreign workforce are also catered to.

References

Proposal for the Construction of Another Library at Texas A&M University at Qatar

By Tala Rifka

Writer’s Reflection

One of my assignments for my scientific and technical writing course was to write a proposal paper with a certain format as directed by the instructor. The topic, however, was chosen by me and was based on a struggle I face every day at Texas A&M University at Qatar. The library is too noisy for individual study, and there are very few spaces compared to the number of students, a number that is increasing every year. Therefore, I decided to write a proposal to the dean for building another library at Texas A&M University at Qatar. I pretended to be a mechanical engineering senior with many work experiences in order for the proposal to have a more profound effect on the dean. I had not written a paper of this sort before, but we learned about all the elements of an effective proposal in class beforehand. While writing this paper, I learned how to conduct surveys, how to set a schedule and a budget, and how to organize a proposal in general. It took over a week of work and countless hours to finish, but this proposal received good feedback from the instructor and my peers, and so I would like to share it here.

Summary

The purpose of this proposal is to provide all the goods and services needed to build another library at Texas A&M University at Qatar. This is because the current library has limited spaces for the students, and they are finding it difficult to find a space where they can study, read, or use the library facilities. In addition, some students are using the library to study as a group, which is making it really noisy for other students studying individually. As a result, I propose constructing another library for Texas A&M University at Qatar in the green spine area, which will be done by Qatar Building Company. This library will serve as a quiet place to study individually, while the current library will be used for group study. Thus, both libraries together will provide enough space to accommodate the growing number of students.

If this proposal were approved, the plan of work will be divided into 7 tasks: obtaining the permission of Qatar Foundation, forming a committee, taking the measurements of the land and working on the details with the company, performing a media campaign, building the library, purchasing the furniture and other supplies, and hosting a grand opening. In total, these tasks will take a little over a year to perform if all goes well. As for the budget, the total cost is estimated to be 1,636,000 QR divided into payments for Qatar Building Company, supplies for inspecting the land, supplies for the library once it is built, costs for the media campaign and the grand opening, plus salaries for the committee members and the researcher.

To introduce myself, I am Tala Rifka, a senior mechanical engineering major student at Texas A&M University at Qatar. I have shown academic excellence in all my years of study, and I am planning to graduate with an honors degree. I have performed two internships, one at Qatar Steel and the other at Qatar Building Company, and they both provided me with a wide range of experience and knowledge. I have also received the Dedicated Service award from the American Society of Mechanical Engineers (ASME) and the Student of the Year award last year at Texas A&M University at Qatar. Thus, I think I have the required experience and knowledge to run such a project.

Introduction

During my first two years of study at Texas A&M University at Qatar in 2010. After his undergraduate degree, he went to California to pursue a Master’s of Science in Mechanical Engineering at Stanford University. He is currently working with the Qatar Environment and Energy Research Institute where he contributes to the Desalination and Water Security group.

Biography

Misam Ali Mehmoond Jaffer is an Aggie who graduated as a mechanical engineer from Texas A&M University at Qatar. He is currently doing his second internship at Qatar Building Company where he contributes to the Desalination and Water Security group.
A&M University at Qatar, I was satisfied with the quality of the services the library offered me, and it was the place I went whenever I needed to study. However starting last year, I have noticed that the vacant places in the library have become limited, and students are having trouble finding a place. This problem has also elevated with time, as the number of students is increasing every year with nearly 550 students this semester according to the university’s official website. Currently, the library is almost always full unless it is early morning or late in the evening. In addition, due to the lack of proper group studying commons, some students study in groups in the library, making it extremely noisy as shown in figures 1 and 2. These are just a few examples of students and staff disrupting other students in the library. This factor hinders many students from studying in the library, including me, as it is really hard to concentrate in a noisy environment especially in the times of exams. In addition, according to Gordon-Hickey and Lemley (2012), “it has been demonstrated that the quality of the services the library offered me, and it was the place I went whenever I needed to study. However starting last year, I have noticed that the vacant places in the library have become limited, and students are having trouble finding a place. This problem has also elevated with time, as the number of students is increasing every year with nearly 550 students this semester according to the university’s official website. Currently, the library is almost always full unless it is early morning or late in the evening. In addition, due to the lack of proper group studying commons, some students study in groups in the library, making it extremely noisy as shown in figures 1 and 2. These are just a few examples of students and staff disrupting other students in the library. This factor hinders many students from studying in the library, including me, as it is really hard to concentrate in a noisy environment especially in the times of exams. In addition, according to Gordon-Hickey and Lemley (2012), “it has been demonstrated that overall stress levels increase and speed of task completion decreases while studying in noise.” A study performed by Peelle, Eason, Schmitter, Schwarzbauer, and Davis (2010) shows the effect of noise level on different parts of the human brain. The participants were six healthy people (3 male and 3 female) ages 20-26 who have no neurological or hearing problems. A set of 120 clear sentences which ranged from 1.14 to 3.58 seconds were shown to the participants, and a probe word was generated for each sentence in which half were related to the sentence and the other half was not. The participants were instructed to perform a behavioral task in response to each probe word by pressing a button to indicate if the probe word is related to the sentence or not. They repeated this procedure 4 times in different noise levels: quiet, sparse, standard, and matched standard, and this was done by increasing the scanner noise. The results obtained by Peelle et al. (2010) for the signal-to-noise ratio is shown below. It can be seen that the signal-to-noise ratio of the quiet environment is significantly higher than all other environments, which supports the fact that a quiet environment is needed for focus. Moreover, in order to find information that pertain to Texas A&M University at Qatar and its students specifically, I conducted research (personal communication, February 28, 2013) in which I personally asked students four questions about the issue and recorded their answers. 68 students participated in this research, which constitute about 11.82% of the university students. These students represent all majors, all classifications (freshmen through seniors), and students from both genders. The questions asked and the results obtained for each question are shown below.

Do you think the library is too noisy?


As seen above, 61 out of 68 students think there are currently limited spaces in the library, and 54 students think the library is too noisy. Thus, limited spaces and noise are issues for most students that use the library. In addition, 27 students believe that the library is very important for their studying and 31 students believe it is important. Therefore, finding a solution for this problem will help students to study more effectively and thus be better prepared to succeed in their courses. As a result, the benefits acquired by the university in the long run will surpass the costs.

As an intern in Qatar Building Company last summer, I had the chance to visit sites and see what building is all about. When I told them about the library problem at Texas A&M University at Qatar, they proposed the construction of a new library by their finest employees, starting whenever the university approves the construction. Therefore, as a solution for the library problem, I propose building another library in the green spine area opposing the research door of Texas A&M University at Qatar. This library will be a 1-story building so it does not obscure the engineering building, and it will not be bigger than the current library, but together they will provide enough space to accommodate students in the present time and the near future. In addition, the new library will be used solely for quiet individual study while the current one will be used for group study. The current library has two stories, and people pass through it to go from one side of the third floor to the other, and thus the noise cannot be reduced considerably. On the other hand, the new library will provide...
students with a place to concentrate on their studying, and students disrupting others will be asked to leave.

**Proposed Program**

1. Obtain the permission of Qatar Foundation to build a new library. Building the new library like building anything else has a legal aspect that needs to be considered. Since Qatar Foundation owns the land that we want to build the new library on, they must give us written permission first. Thus, I will contact the officials responsible for these issues to obtain the written permission.

2. Form a committee to work on the project. The project of building a new library is a big one and thus needs a committee to perform all the tasks that Qatar Building Company cannot do. The committee will be comprised of a civil engineer, an electrical engineer, an architect, a financial advisor and me. We will all work together in order to ensure that the building of the new library is done in the least amount of time and cost, and thus with utmost efficiency. In order to hire the members of the committee, the job descriptions will be advertised in the newspaper and online on a website, and the person with the best qualifications for each job will be chosen.

3. Take the measurements of the land where the new library will be built and supply the information to Qatar Building Company. After the committee is formed, the members will take all the measurements needed for the site of the construction. We will then work on the details of building the new library, each in our own areas of expertise, and then provide this information to Qatar Building Company. Later, we will discuss all the possibilities with the company in order to have the most efficient construction.

4. Perform a media campaign in Texas A&M University at Qatar about the new library. In order to inform students about the new library, a media campaign will be conducted at Texas A&M University at Qatar. Flyers will be placed on university walls where students can read them. I will also send an email to all students (undergraduate and graduate) in the university about the details of the new library. I will seek permission from personnel in order to conduct a presentation titled “Come Learn about the New Texas A&M University at Qatar Library” in one of the lecture halls of the university. This presentation will inform students about the location of the new library, the proposed design, the difference between the current library and the new one, and the advantages the new one will have. Lunch will also be served during this lecture.

5. Build the library. This task will be the lengthiest task of our project as building the library will be time-consuming especially with the high quality of the end product. Everything from site preparation, excavation, concreting, building the roof, installing electrical and plumbing wiring, waterproofing, practical completion and handover is performed in order to complete the building of the new library. The committee members will be supervising the company workers to make sure everything is done as they please.

6. Purchase the furniture and all the other supplies for the library. It is important that the new library be equipped with everything the students need as soon as the physical building of the library is done. Therefore, the architect will determine the furniture that will be suitable for the library, provided that it is good quality but not very costly at the same time. Moreover, the committee members will collaborate in order to buy and install the rest of the supplies including computers, printers, scanners, papers, etc. Some of the books found in the current library will be moved to the new library, and other books will be ordered from the main campus so as not to face shortage of books.

7. Host the grand opening of the new library. When all the previous tasks from advertising to building to buying the supplies are done, a grand opening of the library will take place. This will happen on a Thursday evening when most of the students are free before the weekend. During three hours (4-7 pm) the library will be open for all students to have a look. Short presentations will be conducted about the new library and librarians will be present to explain the new features. Snacks and drinks will be served. By completion of this task, the project will be done and students can start using the library starting the Sunday after the grand opening.

**Conclusion**

To conclude, I hope that you found my proposal feasible and worthy. The library will be built outside Texas A&M University at Qatar and thus the noise generated would not interfere with the learning process. It will also be built on vacant land and therefore will not use occupied spaces. If you decide to take the proposal under consideration, most students in university will be very pleased and find it useful for their education. As mentioned earlier, the building of the new library will enhance the performance of the students who need a quiet environment to study, helping them to score better on exams in the long run. Thus, there will be more students succeeding in their university education which makes this proposal beneficial for all.

If you have any questions or inquiries regarding the proposal please do not hesitate to contact me on my email.

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**Tasks**

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**Item**

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Solving the Issue of Lack and Deficiency of Study Areas at Texas A&M University at Qatar: A Recommendation Report

By Wajdi Ahmed

This paper was written as part of the technical writing class in which we had to propose a recommendation report that mimics a realistic situation in which we could report an issue to the dean of Texas A&M University at Qatar. Students have increasingly been complaining about the lack of study areas at the university. Even with the current library and study areas, an ideal study environment is not achieved due to several factors such as noise and availability of computers. Actual surveys and questionnaires were created and distributed among peers. Feedback was used to support the report and incorporated in suggestions for alternative compatible solutions.

This recommendation report provides possible technical solutions to the issue of lack and deficiency of study areas at Texas A&M University at Qatar. The office of building operations along with the department of student affairs, the library and student clubs were continuously asked and requested to further extend their efforts to find a solution to the issue as soon as possible. As part of the building operations management team, this report was prepared with the generous contributions of the students sharing their thoughts. The report suggests constructing a new separate building as a new or secondary library is the most suitable solution for the issue.

Keywords: Study environment, University students, Noise, Library, Student attitudes.

Introduction

On Friday, January 29th 2013, a representative group of the students at Texas A&M University at Qatar participated in a survey and a discussion session held at lecture hall 238. Around 200 students participated from all classifications and majors. The goal of the survey and discussion was to evaluate the extent of the issue of lack...
and deficiency of study areas at the university campus. With the growing number of students at Texas A&M University at Qatar and the addition of new research and academic programs, an increasing number of complaints have been received by the librarians, administrative student clubs, the students, and the department of building operations about the issue.

Currently, the university has three main locations for students to study. Along with the student lounge and the unsystematically positioned tables at certain places of the building, the library and the two open access computer labs are the three generally considered study place options for the student at Texas A&M University at Qatar. The largest and most important one is the university library. The library has 17 desktop computers, approximately 22 study tables and 3 group study rooms. The structure of the library is composed of two parts: the central square and the outer area. The central square is where the librarians’ front desk is located. The central square is structured of two floors, the ground floor and the mezzanine. The central square’s ground floor has all the library resources such as books, DVDs and journals. It only has 1 desktop computer and 2 study tables. The mezzanine floor has 3 large group study rooms. At 7 pm every day, the central square area is locked and librarians leave the university. Additionally, the central square area is locked during weekends and no library services can be used. This was discussed in the student discussion session and proved to be a problem as a large number of students tend to study in the library at night. When the central square area closes, it reduces the study area available and it prevents students from benefiting from resources and library services after 7 pm. The outer area of the library is made of one floor that has all the study cubicles, study tables and desktop computers. There are 16 cubicles with a desktop in each. The study cubicles that the library has are massive in size. The dimensions of each study cubicle are 1.5m x 2m. The size of the cubicles, along with the small overall size of the library, limits the capacity of the library considerably. The other major issue concerning the available study areas at the university campus is noise. The two open access computer labs, with 24 desktop computers each, are always full and noisy. No quietness rules or protocols are imposed in the computer labs or the library.

The purpose of the survey and the discussion session was to help answer the following questions:

- How often do students use the study areas on campus?
- Is there a serious issue of lack of study areas?
- What aspects of the current study areas can be fixed?
- What criteria should be considered in proposing a solution?

The most significant findings of the primary research were as follows:

- 44% of students use the library for studying every day, whereas 26% use it 2-3 days a week.
- 67% of students think there is a lack of study areas in the university
- 41% of students rated the library as very important for their studies, whereas 24% thought it was important. Only 9% thought it was not important for their studies.
- 78% of student said they wanted all study areas to be open after hours.
- 50 percent of students thought the noise at library and computer labs make them not suitable for studying
- Most students want to be next to resources such as books and professors when they study.

The purpose of this report as indicated in its title is to solve the issue of lack and deficiency of study areas at Texas A&M University at Qatar. Thus, after using the primary research results along with a secondary research on the topics of noise and study environment, three possible solutions were examined, discussed and compared and the most suitable one was recommended as a solution for the issue that this report tackles. Six standards were chosen as the criteria for evaluating the solutions. The criterions are cost, capability to solve noise issue, healthy study environment, time to finish, closeness to resources and availability of computers.

The first possible solution of those being compared in this recommendation report is constructing a second floor in the library and extending hours. The library hours and the small area of the mezzanine floor narrow the library’s capacity.

Rearranging and reorganizing the library and university rules is a second option that can solve the issue of lack of study space and noise in the few study areas available now. Texas A&M University at Qatar suffers a serious issue of noise in the study areas available at the campus and thus most of them do not study there.

The Recommended Solution

The most practical option would be building a separate new library building near or inside the university campus. Texas A&M University at Qatar has a lot of space around it that can be used to build an additional library or study rooms building. More study areas are needed in the building especially with the increasing number of both graduate and undergraduate students admitted to the university. The area needed to be added should be huge with the capacity of 150 students. This is the recommended solution by this recommendation report. This solution proved to be the most efficient out of the three possible solutions.

Methods

A research was conducted in the form of surveys filled by student participants. At the second week of the Spring 2013 semester, an email was sent through the Texas A&M University at Qatar webmail service asking for student volunteers to participate in a weekend discussion and fill out a survey on the issue of lack of study space at the university’s campus. Around 230 students replied but only the first 200 were chosen and sent confirmation emails with consideration of all classifications and majors. Students were asked to come to computer lecture hall 238 on Friday of the third week’s weekend. The schedule was for students to stay from 2 pm - 4 pm and lunch was served. The participants first were first asked to fill out short a survey on the topic. Then, an open discussion session was held with all the students sharing thoughts and ideas. The university side was represented by the building operations manager and assistant manager, the librarians and student body government’s advisor.

Moreover, a secondary research was conducted through the internet and the university library database. The focus of the secondary research was to enrich the criteria and method of finding the proper solution with more scientific and proven facts about study environment, noise and student performance. For instance, two of the important findings of this secondary research are:

- Many students, however, find that they must leave their room in order to study effectively, because their room equals a place to sleep and play (“Advising & Learning Assistance Center, Rensselaer Polytechnic Institute”).
- Background or low-level noise in the home, work or school often disrupts people’s concentration. According to the National Institute for Occupational Safety and Health, ambient noise also affects people’s health by increasing general stress levels and aggravating stress-related conditions such as high blood pressure, coronary disease, peptic ulcers and migraine headaches (Rugg and Andrews).

The criteria established by the research include six standards or features that were used to compare the three different suggested solutions. The criteria are cost, capability to solve noise issue, healthy study environment, time to finish, closeness to resources and availability of computers. These criteria were finalized considering the main factors concerning the university, the students and the environment.
The intended solution had to meet these criteria and be highly ranked in all of them. The criteria weight was assigned according to their importance. The cost was assigned as the criterion with the highest weight followed by both time to finish and the capability to solve noise problem. The two desired criterion were the availability of a computer at each desk and closeness to resources.

Results
According to the results obtained from the primary and the secondary researches, three possible solutions were concluded to be the most effective in terms of solving the issue of lack and deficiency of study areas at Texas A&M University at Qatar. The three solutions vary in scope and advantages and disadvantages.

The first possible solution of those being compared in this recommendation report is constructing a second floor in the library and extending hours. The Mezzanine floor is almost of no use to students as it only has 3 group study rooms that are generally reserved and occupied by 1-2 students. The library hours make it even worse as closing the central square area at 7 pm narrows the library more and lessens the area available for study. Therefore, constructing another library floor will double the capacity of the library adding more space study area. The hours are also to be extended until midnight which will allow the student to benefit from the library services and the resources.

Another very practical option would be building a separate new library building near or inside the university campus. Texas A&M University at Qatar has a lot of space around it that can be used to build an additional library or study rooms building. More study areas are needed in the building especially with the increasing number of both graduate and undergraduate students admitted to the university. The area needed to be added should be huge with the capacity of 150 students. Two of the possible locations for the new building are labeled in the figure below.

Conclusion
Considering the different aspects of the criteria established for evaluating the different solutions, each of the proposed solutions has its positives and negatives. Constructing a new building will solve all the arrangement and noise issue along with the addition of a very large space and more capacity for students with a new properly planned healthy study environment. However, this solution is costly and takes months to finish. The second option of rearranging and reorganizing the library and university rules has the advantage of keeping students close to resources and professors. It is also cheap and does not take time to accomplish. However, it lacks the potential to solve and eradicate the current noise issue with the same library structure. The number of accessible computers is still limited considering his option. Constructing a second floor and extending hours, as a third option, does keep students close to resources and professors and can be used for a new healthy-environment student atmosphere. However, it is costly and it does not completely solve the noise issue.

A criteria matrix, also known as the decision matrix, was created to analyze the three solutions and compare them (Figure 4). The six criterions established earlier as a result of the research were used with their assigned weights and each option gained a rating out of 10 in each criterion. The rating numbers are interpreted as 10 being the best and 1 being the worst. For instance, 8 in cost for option B means that this solution is cheap and very effective in this category and thus it is highly ranked. Additionally, 4 in “time to finish” for option C refers to it being not efficient in this category and that it will take time to be finished and thus it is not highly rated.

Figure 1: University Map

Figure 2

Figure 3

Figure 4

Rearranging and reorganizing the library and university rules is a third option that can solve the issue of lack of study space and noise in the few study areas available now. Texas A&M University at Qatar suffers a serious issue of noise in the study areas available at the campus and thus most of them do not study there. Imposing strict rules on noise and punishment for noisemakers is the first step. The second step is to rearrange the library by replacing the current cubicles that take a big space out of the building with smaller study cubicles or desks that are distributed properly on the corners and all over the library space. This solution, to a certain limit, solves the issue of study areas that the university has. Figures 2 and 3 below show suggested study tables that can replace the current cubicles and increase the capacity of students in the library.
According to the criteria matrix and the comparison between the three solutions, building a new separate library building is by far the best solution. Although this solution has disadvantages such as the cost and time, this solution will completely solve the issue of lack of study areas and the quality of study areas to be constructed. This solution won in the total scale by a big gap between it and the other two solutions.

**Recommendation**

Constructing a separate new library building near or inside the university campus is the recommended solution by this recommendation report. Texas A&M University at Qatar has a lot of space around it that can be used to build an additional library or study rooms building. This solution will completely solve the issue of lack of study areas and the quality of study environment. The noise issue will be completely eradicated and student will have much more options of good and healthy study space in the university.

**Works Cited**


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### Options and Scales

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<th>Rearrange and reorganize library and rules</th>
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**Current Global Impact and Future Potential of 3D Printing around the World, and Proposed Benefits in Qatar**

By Asadullah Farid

**Writer’s Reflection**

As part of an engineering course at Texas A&M University at Qatar, students are required to produce a technical objective or argumentative research paper based on contemporary issues in engineering. Although the immediate audience is usually confined to the professor, the paper is to be written in a manner that is comprehended easily by a person aware of basic technical and scientific knowledge. The process consisted of three parts: identifying and explaining the chosen topic in a memo, creating an outline for all sections within the paper, and then producing the final version of the paper. Familiarity with this structure, along with the research paper skills and techniques learned in my English class, helped make the process smooth and resulted in something that was interesting to read, yielding good and appreciative feedback from all those consulted.

**Abstract**

3D Printing is fast evolving into the next subtle technological revolution, having already been employed in applications ranging from hearing aids in medicine, to jet propulsion systems in aeronautics. Due to the unique layer-by-layer additive manufacturing process, decreasing material costs, and increasing output speed, this technology is expected to cause a sizable $500 billion effect on the world economy by 2025 (D’Aveni, 2013). Ultimately, this can point to a future where manufacturing capability is decentralized, highly energy and cost efficient due to lower material wastage, and capable to replace living human organs. Envisioning such a possibility leads to another regarding job creation in the market, specifically entailing in-depth knowledge of Computer-Aided Design (CAD) and 3D software. Qatar, however, can only benefit from these aspects if it commits to engineering education of its students, both at the high school and university level, and possibly beyond. Investment in applied 3D Printing research, such as organ printing, through Weill Cornell Medical College in Qatar (WCMCQ) and Sidra Medical and Research Center, will no doubt prove Qatar’s commitment to excellence in research on the regional and international stage.

**Keywords:** 3D, printing, future, research, economy

Over the centuries, the discovery and invention of new technologies and contraptions have almost always been driven by the ideas and visions of pioneers. In their minds, necessity was indeed the mother of invention; one could not exist without the other. So too is the case with a relatively unheard of contraption called a 3D printer. This technology graced the world first in the 1980s and 90s, around the time personal computers were beginning to be in vogue. Although the term 3D printing did not enter the layman’s vocabulary until much later, it has a surprising service history in various fields, ranging from medicine, aeronautics, automotive engineering, and military. Even here at Texas A&M University at Qatar the impact of this technology is visible as freshman engineering course ENGR112 briefly introduces students to 3D printing through a course project. This, however, is only the beginning. Its increasing development heralds a promising future, where energy efficient 3D manufacturing is literally in-house and accessible, with the potential to create leaps in science as well as contributions

**Biography**

Wajdi Ahmed is a junior at Texas A&M University at Qatar majoring in Chemical Engineering with minors in Chemistry and Mathematics. He was born and raised in Qatar but is originally from Sudan. He is involved in a research project with the purpose of converting natural gas into a synthetic, cleaner-burning alternative to the conventional jet fuel that would be more environmental friendly. He hopes to pursue a career in the future promising field of nanotechnology.

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to the job market. All these aspects line up symmetrically with Qatar’s National Vision 2030, and have the potential to boost the State’s reputation for research and excellence along with engineering education. To start off, the concept of 3D Printing must first be understood in and around itself.

3D Printing (3DP), technically called additive manufacturing (AM), was created around the idea of constructing a 3 dimensional object given a CAD design directly fed in from a computer. Software like SolidWorks, AutoCAD and Rhinoceros represent some of the precision 3D CAD programs for this purpose. Once sent to the printer, the printer breaks the design down to ‘slices’ or, to make an analogy, easily digestible bits, and begins the pre-build routine. A layer of powder is added to the build platform to allow easy removal of the parts after finishing. Once the routine is complete, the printer starts adding powder in layers, together with a binder to solidify the added powder, and any colors as read from the CAD file. This is performed for every ‘slice’ until the model is complete. The part is then held in curing powder while the remaining powder is recycled and removed from the build area for future use (ZCorp, 2009, S). The addition of extra strengthening resin during printing can also allow for greater strength and functionality of the printed part. A simplistic diagram for the procedure is given in Figure 1 below.

Even with the tedious speed of building layer upon layer of material from scratch, the 3DP process still takes much less time (given the same object) than traditional manufacturing techniques, partly due to the presence of 3 steps instead of 12. In addition, there is conservation of material and recycling for the next job, which leads to the process being highly economical for the producer. These aspects, however, can be attributed to more than just recycling.

Due to the recent price drops that have been observed in the main printing material, plastics, 3DP has seen an increase in demand over the last decade. Its market, although relatively small in comparison to the traditional manufacturing one, has nevertheless seen a growth of $2.2 billion in 2012, expected to increase up to $6 billion in 2017 (Anderson, 2013). As Figure 2 shows, the AM market has grown to an unprecedented level, largely resulting from the media hype it has received over the last several years, particularly in 2012. Not to mention movies like Jurassic Park 3, where a 3D printed larynx (voice-box) of a dinosaur was depicted and later used to communicate with Raptors.

With the current trend of AM, provided it doesn’t die out, one can comfortably expect to see 3D printers arriving in people’s homes by the end of 2020 or 2025. It is also worth mentioning that the trend of computer growth in the 80s and 90s was strikingly similar to the one displayed in Figure 2. From these favorable economic aspects, a multitude of applications and possibilities are achievable.

Take the future as painted by currently applied 3DP. With the help of the right developments, and continued extensive research, it will soon be possible to replicate live human organs ready for transplantation. Thankfully, this is not far off from where the technology is now; 3D tissue engineering, currently being researched by organ transplantation experts, prints cells onto a gel to assist in tissue formation (Mironov, Boland, Trusk, Forgacs and Markwald, 2003). Work is already underway on Moon exploration and habitation, a concept envisioned many years ago and yet to be seen in reality. Through the use of a novel 3DP technology, a D-shaped habitat designed to withstand harsh space conditions is being developed (Cesaretti, Dini, Kestelier, and Colla, 2013). Complement this with the recently successful NASA hot-fire tests of a 3D printed
rocket engine injector. The injector, produced at half the cost of a traditional one, not only survived the extreme conditions imposed on it, but passed with flying colors. One can now be assured that 3DP will extend its influence into space as well, probably sometime in the next couple of decades. Yet it is not only the high-end applications but the low profile ones as well that have adopted some form of 3DP, foremost among them being hearing aids. According to Sharma, some 10 million 3D printed hearing aids are in circulation worldwide since 2000 (Sharma, 2013). The ease of customization and time saving that 3DP has helped bring about in this industry is phenomenal. Not only that, but 3D printing is also proving its ability to integrate easily into today’s industries and workplaces. The effect is widespread; in China, Beijing Longyuan Automated Fabrication System uses laser sintering via 3D printing to create molds of treated foundry sand on the spot. In simpler words, car parts are made in a few weeks instead of over several months. In General Electric Aviation, the next-generation LEAP engine will employ 19 3D printed nozzles per engine, with 1700 engines to be produced per year (Economist Technology Quarterly, 2013). Nevertheless, 3DP is still relatively new in the world, and has yet to be developed into more energy efficient and sustainable forms.

The aspect of being more practical and economical can logically entail the question of energy and sustainability. Even for the most orthodox environmentalist, the potential of 3DP at reducing environmental impact against traditional methods is a strong argument. Kreiger and Pearce definitely think so, having followed 3D printed polymer products through an environmental life cycle analysis. From their results, displayed below in Figure 3, the current energy demand of making a variety of polymer products can be reduced by about 40 – 65%, in turn leading to much lower production emissions (Kreiger and Pearce, 2013). The blue bars indicate traditional energy consumption in manufacturing of polymers, whereas the green ones depict the consumption of 3DP from photovoltaic (PV) sources. It is interesting to note that Polyactic Acid’s (PLA) energy demand is less than that of Acrylonitrile Butadiene Styrene (ABS), 2 major product materials used in 3DP. As can be seen from the figure, the energy demand of conventional methods is almost always higher than PV sources for 3DP. This results primarily due to the recycling of the build material and the additive process as discussed previously. At this stage, 3DP has still a way to go before reaching optimal energy efficiency, a potential that can only be unlocked through the research efforts of engineers and personnel who use the technology.

The idea of creating a workforce that has at least a basic grasp of operating CAD software and computer programming (such as SolidWorks, AutoCAD, and MATLAB) is becoming imperative, given the current technological boom. This knowledge will in turn be beneficial for the vast majority of mechanical, manufacturing and design engineers in future positions requiring CAD and 3D printing skills, with a variety of materials based on specific applications. Engineers in research and development, for example, might need to prototype simulation models, both for display and functionality. The NASA engine example discussed previously deserves another honorary mention here. The action required to provide this knowledge will be through education of the upcoming workforce, something that the State of Qatar can achieve quite easily.

As part of Qatar’s vision 2030, 3D printing will contribute significantly towards the education of the WCMCQ campus in Education City. Provision of 3D printing facilities to medical students will help further the possibility of Qatar’s very own organ printing research center (possibly coordinated with Sidra Medical and Research Center). The advantage that current arts and engineering students gain due to the availability of 3DP is huge. Through this, art students conceptualize, develop and manufacture interior design and architecture. Engineers at Texas A&M University at Qatar developed aperture mechanisms involving 3D prototyping in Dr. Ozalp’s solar research at Sustainable Energy Research Laboratory (Abdulla, S., Zahreddine, H., El Zamli, M., Majid, F. A., Rizk, I., Yasser, A. H., and Ozalp, N, 2011). Time and capital both are saved and capitalized on by using a quick and efficient 3D printer. The same applies also in higher secondary schools, where the introduction of accessible 3D printing technologies will undoubtedly oversee enthusiasm from young students. Developing competitions, such as Texas A&M University at Qatar’s 3D Printing Competition 2013, will help reward, nurture and promote basic engineering and teamwork as well as creativity skills in mainly university and high school students. In addition, it will help propel Qatar onto the world stage with regards to 3D printing research and applications, something it has plentiful funds for, and whose rewards may be tremendous in the future.

Having journeyed through a diverse array of characteristics, it is evident that the foundation of 3DP has been laid already, based on the widespread impact it has had up till now, and the momentum it is gaining in all industries and fields. The fact that its growth trend is similar to that of personal computers is also comforting. With the force of technology behind it, and the increasing endorsements from many multinational companies, it is now no more a question of whether 3DP will become common-place, but rather more likely when it will do so.

References

I wrote this piece on a 17-hour flight to College Station. My inspiration for this piece was my recently developed love for dirt bikes and Roald Dahl’s short stories that end with very weird twists. I hope to have engaged my audience in understanding what it feels like to ride a dirt bike. At the same time, I hope to have slowly raised the suspense in the piece and surprised them with the unexpected nature of the ending.

Ahmed watched the sun’s rays glistening like bright diamonds as they hit the sea waves that crashed onto the shore. It was a fine afternoon. A very typical Qatari summer afternoon, the kind of afternoon when the wind blew gently enough to cause small folds in one’s shirt. Not too humid, nor too dry, just the perfect balance so that one would start sweating only after a significant amount of exertion. The air next to the sea smelt pleasant too. The particular spot that Ahmad had chosen to ride his dirt bike was far from the city. The dirt here was just the right composition. The dirt in Kuwait, where the dirt bike competitions are held, generally has a composition of a good amount of sand, about 20% water, and some stones and clay for increased traction, and the place that Ahmed had discovered in Lusail was pretty close in terms of the mud’s texture.

Ahmed unloaded his bike from the trailer onto the dirt region next to the beach and after checking the chains, kick started his engine. The sound of the engines revving perturbed the silence of the isolated spot. Birds flew from their nestling spaces, and a lone crab ran from the shore towards its hole nest. Ahmed adjusted his helmet and put one leg over the bike as he revved the engine and adjusted the clutch to move the bike into first gear. Ahmed gritted his teeth as the bike set in motion; the rear wheel began to spin furiously as the rotatory chains began to spin around the engine’s axis. With a jolt and a spray of dirt from the rear fender, Ahmed set off.

Ahmed moved to a lower gear as he approached a bend. He shifted his weight to the right side of the bike and slowed the throttle as he approached the turn. Halfway through the turn, he sharply twisted his handlebars to the right as he pressed on the gas. The sharp change in the bike’s trajectory resulted in a spray of mud from his rear wheel. Ahmed could feel the stones from the dirt hitting his leg during the turn. The acceleration achieved from the burst of gas at the right moment gave Ahmed just what he needed in making a sharp and effective turn. Leveling the bike, he quickly readjusted the clutch as he emerged from the turn picturing a crowd cheering on after witnessing the mud spray from his bike.

Feeling satisfied with his performance on his self-made track, Ahmed paused after a lap to examine his bike for any damage. He remembered a part of track that was particularly rough and had provided him the right traction to execute a particularly unique maneuver on a bend. Having completed his quick examination, he set off again on his bike towards that particular spot that was rougher than the rest of track. In his mind, Ahmed replayed the YouTube video he had just seen last night, where Ricky Ross performs a 360 just before advancing on a hill. He wondered if he could execute the same move given the traction of that part of the track. Having obtained a visual on the region in the track, Ahmed proceeded to rev his engine. As soon as he felt that the bike had made the

**A Rough Patch**

By Hamza Abdurrahman

**Writer’s Reflection**

Asad Farid is a junior in the Mechanical Engineering Department at Texas A&M University at Qatar. He was born in Karachi, Pakistan, but relocated thrice, from Karachi to Lahore, Islamabad, and back again. Coming from a military background, his childhood dream was to one day grace the skies as an Air Force fighter pilot. However, stubborn eyesight insisted on a set of spectacles as its consort. An avid enthusiast of the written word, Asad’s love of writing has often resulted in starting storyline pieces, yet they have sadly remained just beginnings due to lack of time. He resides in Doha, Qatar.

**Biography**


**Ahmed exhausted his bike from the trailer onto the dirt region next to the beach and after checking the chains, kick started his engine. The sound of the engines revving perturbed the silence of the isolated spot. Birds flew from their nestling spaces, and a lone crab ran from the shore towards its hole nest. Ahmed adjusted his helmet and put one leg over the bike as he...**
As Ahmed landed on the ground, he could feel a chill run down his spine as he realized that he had just done something really dangerous and reckless, yet he felt satisfied. However, the 360 that he had intended to do really came out as a 180. As in he only managed to do half the stunt.

Ahmed retraced his steps and wheeled his dirt bike back so that he could attempt that stunt again. Motivated by the fact that he had managed to jump into the air and land cleanly, Ahmed decided he would give it another shot. Ahmed revved up his engine once more and proceeded to do the 360 move again. This time Ahmed landed squarely yet he had only completed half the stunt again. Ahmed figured that if he could use more strength in twisting his torso, he could manage a 360. As he approached the rough region, Ahmed twisted his body again, but with a bit too much fervor. As the bike launched into the air, Ahmed knew he had lost control of it. His fingers soon made contact with a complete slender structure, something that felt suspiciously like a femur bone. As Ahmed continued digging, lying prone while bleeding out of both his legs, he pulled out another bone that looked like a tibia. Both bones were roughly the size of the human bone. With this discovery, the horror began to dawn upon Ahmed. This dirt track that he had laboriously discovered actually had this unique composition because of human remains that were underneath it. Aghast from his conclusion, Ahmed picked up his dirt bike and raced back to his trailer.

Ahmed watched the sun's rays glistening like bright diamonds as they hit the sea waves that crashed onto the shore. It was still a fine afternoon. A very typical Qatari summer afternoon, the kind of afternoon when the wind blew gently enough to cause small folds in one's shirt. Not too humid, nor too dry, just the perfect balance so that one would start sweating only after a significant amount of exertion. The air next to the sea smelt pleasant too. Ahmed's Jeep and trailer, however, were missing.

Biography

Hamza Abduurahman is a mechanical engineering junior born in India and raised in Jeddah and Dubai. Even though he originally wanted to major in journalism, somehow he found himself at A&M. Other than writing, he also likes football, boxing and socializing.

I Wish...

By Muhammad Bilal

Writer's Reflection

This piece was written as a response to the literacy narrative assignment given in my first year English class. I thought long and hard about what to write, but I was not able to find a topic. Then I thought to myself, "What is the biggest lesson that I have learned thus far?" The answer came quickly; it was the harsh reality of death. This writing is about the regret I felt after my grandfather passed away and how that event changed my life.

There are certain moments in one's life that have an everlasting impact: these moments change you forever; they settle down somewhere deep inside your brain and stay there for a long long time. Not to make it sound any more dramatic, simply put, these moments are lessons that you learn from life. I don't have to think a lot if I want to find the biggest and the most valuable lesson that I learnt. Five years ago, I was utterly illiterate in this certain topic.

It was like any other summer vacation. I travelled back to my home country of Pakistan, along with my mother and father and little brother. I was staying at my grandparents' house as always. Every one of these yearly trips was better than the previous one--spending time with my little cousins, going around here and there to my uncle's house, riding the old family motorbike (the new one was out of bounds for us "Learners," the old one was out of bounds for us "Learners," but the old one was still pretty cool and riding it was a hell of a lot of fun.)

The moment I used to get out of bed, I would have breakfast and head out of my grandparents' house. They would still be sleeping and when I would come back home, I would get busy with my little cousins. I remember my grandpa lying in his reclining chair, with his gray beard and a turban, trying to make out some English words on a pack of yoghurt (he never learned to read or write in English). "What are you up to son?" he called out softly in Urdu. I stopped and sat with him for like five minutes. I was in a hurry. I wanted to go get the motorbike before my cousin did. A few days passed by. I never spent time with him, although he was always there, in the same place, sitting, talking to my father and uncles. I remember the night he fell ill. I was still the same, I didn't feel much about it. I was laying in my room and the door was open, I could see my parents sitting with my Baba (that's what I used to call my grandpa). Mom was massaging his hands and I heard her saying that his blood pressure got really high, she was talking in a hushed tone. For a moment I became curious; it came to my mind, what if…

I fell asleep soon after and don't remember much. The morning however would be the start of one of the weirdest days of my life. My Baba was no better. They had to take him to the hospital. I ran out of the house again, as before. I came back at noon, tired and exhausted. Mom and Dad still hadn't returned from the hospital. I was with my cousin and I was crying. I got up, her hand on her mouth, crying. I realized something had happened and followed her. There were no shoes on my feet. She was standing outside the room, looking at me. "Baba," she said, and she couldn't say anything else. Tears. Just tears. Where are my tears? I thought I was a monster because I didn't have the same feelings as she did.

The day passed by, my parents came back, my dad crying like a little kid. It was the first time in my 13-year-old life that I saw him like that. I always thought my dad never cried or couldn't cry. It was scary seeing him like that. He hugged me and said the same words, “Your baba is gone.” I felt tears running down my cheeks. Not because of my baba, for I still didn't really absorb what had happened, but because of my dad, how could he cry?

In the next week or so, the whole house would become gloomy and sad. No one was talking, no smiles, just quiet faces. I was coming back
home after visiting my uncle’s house and my eyes fell on Baba’s reclining chair. It was empty. Where is he, I thought. That’s when it hit me for the first time. I wanted him to be there. I don’t know why, but I wanted it. I was rooted to the spot, looking at the wooden chair. I had a weird feeling, something so heavy inside of me. It went away soon though and I carried on. The same night, we were sitting at the dinner table and mom started talking about Baba. Her voice was cracking and tears filled her eyes. She was telling us how punctual he was and how angry he used to get when he wouldn’t get his meals on time. I was imagining him, I wanted to call him, I wanted to say Baba and feel his old, soft hand on my shoulders. But I was too late. He would never come back. That night when I went to bed, I couldn’t think of anything else but him. He was the only thing on my mind. What a great person he was. My eyes filled with tears, and I cried and cried. It felt nice. I knew that he meant something to me and that was satisfactory. I realized that I loved him and that I wasn’t a monster. I made a promise to myself that night. I would always live like him, and make him my role model. I also learned the value of the living, I understood the importance of life. I changed. I became mature. I remember watching an episode of Naruto in which they say that death makes you mature. They said the truth. That was five years ago, and still not a day passes by that doesn’t remind me of Baba. He lives in my heart, always teaching me to value my own life and the lives of the ones dear to me. It was ironic, learning about life from death. This lesson brought with it the greatest regret which will never let go of me. But it made me understand the value of life and the value of the ones dear to me. Sounds cliché, but you do realize the true value of something after it is gone. I will never ever ignore my older relatives again. In fact, now I spend hours talking to my grandma about her childhood and tease her with silly questions, such as, “How did you manage to live without electricity?” or “Tell me about your childhood? Were you naughty?” But still I wish Baba was still alive. I wish.

Where I’m from

By Pavithra Manghaipathy

Where I joined the arts and sciences,
Where I left behind a legacy.

I am from my self
The place is irrelevant
I am from my own and parents’ desires and aspirations.
I am from a place I want to go back to.

I am from chocolate pancakes
And marshmallows in the mornings,
From sneaking out to play soccer
With those twice my age and size.

I am from childhood bruises and cuts
And undying determination to have fun.
From Nintendo to PC games
And Friday morning cartoons.

I am from falling asleep on my mum’s lap
While watching Home Alone.
I am from not wanting to grow up
And stay young forever,
To growing up anyway.

I am from shopping for clothes
And trying to shake off the extra pounds.
From dancing till I could dance no more
To embracing the sciences.

I am from my dreams
Where I was once a poet
And another time an actress.
I am from my dreams
Where I made a difference,

Biography

Muhammad Bilal is a freshman in Mechanical Engineering. He originates from Pakistan but was brought up in Qatar.

Biography

Pavithra Manghaipathy has always been interested in words. As vague as that statement sounds, she feels like there is no better way to describe it. The power of a single phrase from an important person, the beauty a few words in a rhyming pattern can manifest into, the emotions that words can evoke have always had her flabbergasted. But she is a simple girl who enjoys the simple pleasures in life: reading, writing, listening to good music, long walks, watching sunsets and the endless list goes on and on. She has strong feelings towards protecting the environment and analyzing human psychology for she feels like the current generation can achieve so much more if they just learnt to read each other and communicate. She hopes to create that sort of society, one where lines of learning and communication are free and open so that peace and harmony can be ubiquitous.
Difficult Choices
الخيارات الصعبة

Writer’s Reflection
Life is but a journey that is made up of moments. These moments can break us or give us the will to continue. We all have moments of extreme weakness or strength, moments where we are truly happy, or completely miserable. In this stage of my journey, most of the moments I’ve experienced have left me in a state of despair. I continue to battle with my own mind and emotions, trying to change my outlook on life. I want to fuel the willpower that once kept me going. I want to experience the joy of the journey of life rather than focusing on its final destination. I wrote this poem to express my struggle to achieve this desire, or rather my struggle to achieve self-acceptance. Writing this poem let me both acknowledge and accept the existence of this struggle, which will help me resolve it and ultimately improve the quality of my journey.

Worries.
Terrors.
They consume me every night.
For I live a life of panic, anxiety, and fright.

Suffering.
Pain.
Too common they’ve become.
For I live a life of agony, longing to be numb.

Fatigue.
Exhaustion.
It’s all I feel these days.
For I live a life of chaos, so heavily it weighs.

I live a life, but do I live?
Am I truly alive?
Am I meant to drift along, only to survive?

Dreams.
Passion.
I’ve once had much more.
I need to live a life of hope, aspiration, and goals.

Happiness.
Excitement.
I’ve forgotten how they feel.
I need to live a life of bliss, enjoyment, and thrill.

Love.
Devotion.
These are things I lack,
I need to live a life of care, many friendships I must build back.

Where did my path diverge?
Where did my life go wrong?
Why can’t I see the brightness?
Is the light truly gone?

Is it the fire inside me,
slowly dying out?
How do I rekindle it if I am full of doubts?

Biography
Ayah Hamad is originally from Palestine, but was born and raised in Michigan. She is majoring in Mechanical Engineering and is set to graduate in 2017. Despite choosing a path in engineering, writing has always been one of her great passions and a vital part of who she is. It has helped her express her thoughts and emotions in a way that no other medium made possible. She is currently working on a fiction trilogy that she hopes to get published after graduation. When she isn’t writing or studying, she’s usually gaming, watching anime, exercising or fast asleep.
Learning How to Learn: Why Grades Aren’t the Bottom Line

By Maryam Al-Awadi

Writer’s Reflection

This paper was written for an English course in which we were asked to summarize and respond to an article written by Margaret Kantz. I believe the article, “Helping Students Use Textual Sources Effectively” contributed more to my writing process than it did to the content of the essay itself. It reshaped my approach to my summary and all subsequent writing assignments, the product of which has been better quality work and a less frustrating writing experience overall. I hope this paper inspires students to pick up a copy of the original article, as the scholastic benefits to be gained by a thorough understanding of it are immeasurable.

Okay, it’s okay, don’t panic. Just try to work out where you went wrong. You filled out the writing template, you mentioned your points in the order given, and your name and page number are in the header. Introduction? Check. Conclusion? Check. Why does it seem so lacking, though? These were the thoughts that raced through my head as I stared at the first draft of the definition paper I had to write in high school. The assignment seemed simple enough: define a literary term (mine happened to be “conflict”). I kept the story of Shirley’s research paper writing process, describing her areas of weakness and offering possible solutions to combat them. She compares Shirley to another student, Alice, who represents the ideal rhetorical reader (71). Alice’s understanding and application of rhetorical reading is much more developed than Shirley’s, and Alice helps to shed light on the causes of Shirley’s predicament. A third prominent figure in Kantz’s extended analogy is Dr. Boyer, Shirley’s English professor (69). Kantz’s solutions to helping Shirley conduct a more focused, deliberate research method involve suggestions wherein Dr. Boyer’s helping hand is almost crucial to Shirley’s success as a persuasive writer (77).

Kantz’s article is a critique and analysis of the problems students face in constructing original arguments for research papers. Kantz constructs a model of a typical university student named Shirley (69). She tells the story of Shirley’s research paper writing process, describing her areas of weakness and offering possible solutions to combat them. She compares Shirley to another student, Alice, who represents the ideal rhetorical reader (71). Alice’s understanding and application of rhetorical reading is much more developed than Shirley’s, and Alice helps to shed light on the causes of Shirley’s predicament. A third prominent figure in Kantz’s extended analogy is Dr. Boyer, Shirley’s English professor (69). Kantz’s solutions to helping Shirley conduct a more focused, deliberate research method involve suggestions wherein Dr. Boyer’s helping hand is almost crucial to Shirley’s success as a persuasive writer (77).

Kantz distinguishes between the qualities of research papers by describing two extremes: A writing-from-sources task can be as simple as collating a body of facts from a few short texts on a familiar topic into a new text that reproduces the structure, tone, and purpose of the originals, but it can also involve applying abstract concepts from one area to an original problem in a different area, a task that involves learning the relationships among materials as a paper is created that may refer to its sources without resembling them. (70)

The first type of paper described is a simple reorganization of facts collected from different sources (what I did for my first draft of my definition paper in high school), while the second requires a much more involved and proactive approach from the student. Kantz speculates that, understandably, a student would default to performing the tasks required for the first type of paper (72), and she gives three explanations as to why a student would favor the former method to the latter:

1. Students approach text as if it was meant to be a story (73). This limits the scope of the text to that of a narrative, and means discarding any relevant context beyond the story told.
2. Students consider their texts as though they represent a reliable source of knowledge, not understanding that “nonfiction texts exist as arguments in rhetorical contexts” (73). Students then compartmentalize any relevant context beyond the story told. Kantz develops a problem-solving technique to help students combat this linear approach to text. She relies on “Kinneavy’s triangular diagram of the rhetorical situation” (74), which suggests that there are three common characteristics found in every instance of communication:

These three characteristics involve the author (known as the Encoder), the audience (the Decoder), and the topic (Reality). How heavily each plays an influence in the text can greatly change its purpose. The examples Kantz gives
Kantz describes the rhetorical gap as “unsaid material that a reader must supply to infer from a text” (77). It provides a means through which students may conceptualize an argument by asking the appropriate questions that the gaps inspire. However, even with this heuristic in place, Kantz acknowledges that students may still find difficulty applying them to their research assignments. She writes, “Even when students read their sources rhetorically, they tend merely to report the results of this analysis in their essays. [This is probably due to] the product of years of exposure to pedagogical practices that enshrine the acquisition and expression of information without a context or purpose” (77). Kantz takes great care never to criticize the students for their underdeveloped rhetorical analysis skills, but rather sees it as evidence of their participation in an educational structure where students are systematically rewarded for the regurgitation of facts (73). It is no wonder, then, that students such as Shirley face great difficulty when asked to produce original content. They might suffer from a lack of confidence in their writing or in their ideas, and providing comprehensive feedback on consecutive drafts for an assignment would help guide them “to use what they can do easily as a bridge to what [professors] want them to learn to do” (81).

As a student, I feel as though, for the majority of my educational career, being able to recall facts has been prioritized over developing a genuine understanding of the materials taught. While my teachers made it their priority to ensure our understanding, the ways in which we were assessed subverted their efforts. The process-based assessment Kantz outlines as a possibility for grading work would not have fared well during my earlier years in school. I can vividly remember sitting down to do a history test in the sixth grade, staring blankly at a question that read “In what year did the Wright brothers take their first flight?” Not until early high school, taking my first Literature class, was I introduced to the concept of creating an original argument. Mrs. Claire, my teacher, said something that has stuck with me to this day: “You can make any argument you want, as long as you back it up with evidence.” We were studying Macbeth at the time, and that one statement encouraged a strong emotional connection with the play. To this day, it is still my favorite play, thanks to the way I have come to understand it as a result of that literature class. I felt as though I was putting my own personal experiences to use in a tangible way, as they helped me relate to and understand many of the characters in the play. I developed confidence in my analytical skills. But by that point, I had already had around ten years of schooling under my belt, so unlearning bad habits took time.

I spent many nights rewriting my definition essay. I did not know it at the time, but my writing tutor’s advice helped me actually interact with the multiple sources I was referring to in trying to define the word conflict. Rather than merely define the term, as was the case in my first draft, I tied in the many definitions together to support a personal point I was making on the relevance of conflict and its various meanings. What I ended up writing was a more involved essay than I could predict from the original prompt.

At twenty-two years old, I am older than the average freshman. I have had the time to assess and restructure my approach to learning. Had I come into university straight after high school, I believe I would have more closely resembled Shirley in my approach to research papers. I worry further that, even with Kantz’s structured approach to help students read rhetorically, I would have only applied it on the assumption that it would help me achieve a good grade. Kantz makes a strong claim for the role a teacher plays in shaping a student’s approach to learning. She states, “If we teach our Shirleys to see themselves as scholars who work to find answers to problem questions, and if we teach them to set reading and writing goals for themselves that will allow them to think constructively, we will be doing the most exciting work that teachers can do, nurturing creativity” (81). It is these creativity and problem-solving techniques that should be developed during school. It is not the facts that a student copies into their paper that will aide them throughout his or her life, as facts are constantly being updated and reworked. What needs to be developed are a student’s analytical reading skills, so that students can make use of new information in a way that is productive to their lives. Even if the end goal of a university degree is a well-paying job, with the way that industries are evolving, the specific facts learned throughout school may well become irrelevant within a decade after graduation. But if students use their time in university to hone their rhetorical reading skills, they will develop the cognitive skills they need to deal with the changing world.

Works Cited

Biography
Maryam Al-Awadi is a first year Electrical and Computer Engineering student who hopes to graduate in 2017. Her interests include baking, watching animated movies, and reading. She’s trying to learn programming in her free time. She spends some time on the weekends playing video games with her siblings and cousins.
Finding a Creative Middle Way for International Ethical Conflicts

By Moiz Bohra

Writer’s Reflection

This paper was written for my Engineering Ethics class as a response to five papers (referenced at the end) dealing with international ethical conflicts. As the world becomes more interconnected, professionals need to deal with the ethical challenges of culture, corruption, and communication while still effectively carrying out their jobs, and through this paper I propose a pragmatic solution to the challenge of an international ethical code. Through my journey of writing and researching, I underwent a great deal of introspective thinking and truly discovered my own ethical stance. The challenge of elucidating my arguments helped me frame my own ethical standards. The cornerstone of my ethical framework, I discovered, is practicality. No matter how philosophical one gets with their ethical theories, in order to apply them to real-world scenarios they need to be practical. My instructor found my paper thought-provoking, and we soon got into a long discussion about international ethical conflicts. Western perceptions of Asian and Middle Eastern culture, and the road to a common ethical standard, if any. These are some of the issues I have highlighted in my paper, and I hope you enjoy reading it.

On December 2, 1984, an accidental leak of poisonous gas from a Union Carbide factory in Bhopal, India, immediately killed seven thousand people and caused debilitating health effects in thousands more who suffer even today, twenty-five years since the disaster. The factory was plagued with problems due to cost cutting, poor maintenance, lack of worker training, and faulty equipment [1]. Various safety lapses had occurred in the years before 1984, but no remedial actions were taken at the corporate level. The poor regulatory framework in India made it easier for Union Carbide to operate plants at far below the standards being followed in the U.S., and even the deaths of thousands of people did little to influence corporate change at the global level. It is apparent that there were two separate ethical standards (or lack thereof) being followed at home and abroad. This incident highlights the need for a working international ethical model: one that is based on a creative middle way approach to provide practical guidance on ethical conflicts by a) highlighting common morality, b) accepting compromise between conflicting values, and c) understanding the context within which ethical dilemmas occur.

But why do we need an all-inclusive international model in the first place? There are two reasons for this. First, we live in a world where there is a broad spectrum of economic development, government regulation, cultural practices and popular aspirations. According to Charles Harris, a lower level of economic development coupled with lax regulation increases the overlap between the unethical and the legal [2]. Businesses can often make greater profits by dropping their ethical standards simply because no one is watching. Thus, an international ethical model is essential to keep malpractices in check even if they are legal. Second, global ethical conflicts cannot be solved by a single code of ethics that comes with its own inherent biases depending on where it was written. When applied to an international situation, a code could conflict with itself. For example, ritual bathing in the highly polluted Ganges could be prohibited (to improve public health), but such a law would be severely criticized for disrespecting deeply-rooted Hindu traditions, thus conflicting with a broad definition of public welfare as described by Harris [2]. Thus, there is a clear need for a practical, ‘creative middle way’ model for resolving international ethical conflicts: one that respects a common moral code, accepts compromise between conflicting values, and understands the context within which these challenges occur.

One of the areas where a common moral code is essential is in international manufacturing. Outsourcing production to developing countries often comes with the malpractices of child labor, low wages, and deplorable living conditions for unskilled workers. This was observed in a series of accidents at garment factories in Bangladesh in 2013. There is thus a need for a set of minimum requirements recognized by all societies worldwide that engineers must follow. Such ‘culture transcending guidelines’ [2] based on universal moral codes, religious ideologies (the Golden Rule) and international accords are a good method of finding common ground. Harris includes provisions against exploitation and bribery while advocating a respect for human rights, health, safety and the environment [2]. Also included are calls to respect a host country’s culture, history and background institutions. Of course these are only the minimum requirements that must be met, and engineers should strive to go beyond these guidelines whenever practicable. Since engineering decisions that abide by this moral framework can be said to be ethical in every international situation, a universally accepted moral code is a fundamental part of the ‘creative middle way’ approach as it sets the minimum standards which must be met when resolving ethical conflicts.

In his lecture on developing an international ethical framework, Dr. Andrej Zwitter advocated “virtue ethics,” arguing that the highest moral standards must be followed at all times and no compromises must be made [3]. While engineers would be able to meet all of their ethical obligations in an ideal world, values often conflict in reality, forcing us to find a compromise. This is often difficult because there is “no right or wrong answer” in ethics and no algorithm to reach a mutually beneficial solution [4]. Michael Davis recognizes that engineers cannot stick to “hard and fast rules” for ethical decision-making and argues that codes of ethics are not hard and fast because they are open to interpretation [5]. While I agree that engineers should have flexibility in interpretation, I believe that current ethical codes, due to their inherent biases, cannot form the basis of this interpretation. This is where a creative middle way can work better than a single code. By understanding that they may not be able to fulfill every ethical obligation, engineers must prioritize their values based on practicality and respect for the host culture.

A case in point is the practice of ‘wasta’, or favoritism, prevalent in Middle Eastern countries. Loewe et al. describe how wasta has negatively influenced Jordan’s productivity by creating an unfair business environment in the country [6]. It is a cultural phenomenon that pervades business, industry and the highest levels of government, thus making political reform almost impossible. Mohamed and Mohamad write about the societal influence of wasta in Egypt: that it creates frustration for those without it, and that most people still plan on using wasta if possible in the future [7]. Their solution of spreading public awareness about its negative effects, however, is weak. Those who have access to wasta will still use it. A creative middle solution would be one where the practice of wasta may be allowed to the extent that it does not negatively affect productivity or profit [2]. By tolerating the practices of the host country, a business can better fit into local culture and develop better ties with the community, thus benefiting the business and the community [2]. The business must, however, make a clear distinction between tolerating such practices and actively encouraging them. Wasta itself is a long-term social challenge. The younger
generation perhaps better understands the significance of a merit-based approach and the negative consequences of favoritism, thus, hopefully moving away from it. Perhaps there will never be a complete shift away from the wasta culture and in this case, engineers must look to compromise in order to retain their global business. This is the creative middle way.

The exact solution to each conflict depends on each individual situation, which brings us to the final cornerstone of the creative middle approach: context. The internationalization of ethics brings with it challenges for the engineers who have to abide by them. Davis argues that codes cannot be written as hard and fast rules with a clear list of priorities that even a computer could follow simply because it would be impossible to dream up every possible ethical conflict in our complex world. Davis highlights the role of interpretation of ethical codes by engineers, thus allowing them to resolve apparent internal conflicts for themselves [5]. Angela Saini, on the other hand, advocates the use of case studies as practical examples of ethical conflicts to guide engineers [4]. While they disagree about which method works best (codes versus case studies), they recognize the need for engineers to understand and interpret ethical guidelines in varying situations, i.e., the need for context. Saini also mentions the role of social scientists in understanding the socioeconomic factors that create certain unethical situations like bribery.

The citizens of Bhopal did not need Union Carbide to meet the highest ethical and moral standards. A basic, practical set of ethical guidelines would have been enough to stop cost cutting, poor maintenance and inadequate worker training. An ethical code based on common morality, albeit with some compromises to account for local challenges, could have saved seven thousand lives on that tragic day.

References

Biography
Moiz Bohra is a chemical engineering major from the Class of 2014 who hopes to pursue graduate studies starting Fall 2014. His hometown is Pune, India, and he is an avid reader of medieval fantasy, historical fiction and science fiction, along with wide-ranging non-fiction works as well.
Is “Justified Censorship” the Way Forward?

By Mohammed Jaffrin

**Writer’s Reflection**

Although censorship has been long prevalent in everyday life, as technology progresses, the cause and impacts of censorship varies from case to case. Censorship has been shown in a negative light, citing freedom of speech and freedom of expression. Although this may be true, in certain cases censorship is justified, hence the term justified censorship. This paper explores the cases in which this concept is in effect. It is interesting to note that I had started writing this paper in a stance opposing censorship as a whole. But, as I conducted further research, the scope of justified censorship became clearer and understood me to write in favor of it. As this is an issue that may affect all human beings, I attempted to use real-life examples to allow people to relate and understand my aim better.

According to the American Civil Liberties Union (ACLU), Censorship is “the suppression of words, images or ideas that are “offensive” and happens when “certain people succeed in imposing their personal, political, or moral values on others” (2006). On the contrary, censorship is also the key to ensure safety and security to the general public through all mediums of communication in this modern era. Over the past decade there have been major leaps in the improvement of communication between nations, governments, the general public and various other entities. These improvements and implementation of new technology sustain their own drawbacks. One key drawback that is important to us is the issue of safety and security when using all mediums of communication, which highlights the importance of monitored censorship. There is a large public consensus that censorship is a negative activity as it leads to uninformed and uneducated populations. But, in all these cases, the advantages of censorship are almost always ignored. As mentioned earlier, monitored censorship is the key to a safe and functioning environment. Therefore I strongly believe the content shared on such mediums must be appropriately monitored and censored by the government in a manner that does not completely obstruct the freedom of expression but ensures a safe functioning environment for the general public. In this essay, we’ll be mainly focusing on media censorship, internet censorship and censorship of phone conversations around the world and the extent to which “justified censorship” will benefit these fields.

Building on the idea of “justified censorship”, it is also immensely important that an expansive definition for “justified censorship” is accepted worldwide which is to be followed by all nations dealing with such issues. Illustrating and implementing such a definition would allow the governments to ensure that they are not obstructing the freedom of expression or privacy. Communally illustrating such an expansive definition would restrict the disagreements due to different point of views on privacy and freedom of expression from different nations. Therefore this could become the guidelines to follow when “justified censorship” is implemented.

Although censorship is a widely prevalent issue around the globe, there seems to be a trend regarding the popularity of censorship based on the position of the country on the world map. Studies conducted by Citizen Lab at the University of Toronto’s Munk School of Global Affairs, Harvard University’s Berkman Centre for Internet & Society and the SecDev Group in Ottawa shows that censorship is rampant in the Middle Eastern region which then spreads further right towards India and Japan (Rininsland, 2012). While these areas grabbed top spots for Censorship prevalence, countries such as the United States of America, United Kingdom, Australia etc. stood highlighted as nations which implement the least censorship on their citizens. It is also interesting to note that censorship is more prevalent in countries that are still ruled by monarchies or are in a state of changing from a monarchy to democracy (Rininsland, 2012). Censorship is usually used to simply stop potentially risky information surfacing to the public which may attract negative attention to people in power or even the government. Censorship and breaking down of communication on an international scale played a large role in the recent Arab Spring and various other conflicts which brought upon mass destruction of property and loss of life on these regions. Such an event should directly act as major deterrent of mass censorship.

The general public has the right to know about occurrences around them that directly or indirectly affect them. Therefore hiding this information or influencing it in a manner to cover up details would be taking away the privilege from the public. This would be in direct hindrance of various international laws that are in place to ensure the citizens of a nation receive the information that they own the right to. Such an international law scripted by the United Nations reads: “Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers” (United Nations, 1948).

As I believe monitored censorship is relevant and necessary in today’s society, it is a requirement to explore the advantages of such an action. In this modern era, large amounts of wrong or false information are broadcasted and shared around by the media regardless of it being intentional or not. A good example of this is the recent blunder by KTVU while reporting on Asiana Airlines crash which occurred on July 6th 2013, killing three people and critically injuring a lot more. While reporting on this crash, KTVU got caught in between a hoax and reported the crew of the airline as “Captain Sung Tong Wong, Wi Tu Low, Ho Lee Fck, and Band Ding Ow” (Deasy, 2013). Although hard to spot, when the names are read out loud, it sounds as “Captain Something Wrong, Way Too Low, and Holy ****”, which directly makes a mockery of an incident which took three lives and critically injured many other passengers. Broadcasting such information not only reduces KTVU’s crediblity, but also negatively affects the people impacted by this incident. Such broadcasting of false information may cause further mental and psychological trauma to the surviving passengers and relatives while showing off the insensitivity of the news organization. Although this may have been an unforeseen mistake on behalf of the news agency, the implementation of “justified censorship” would restrict this and remove the chances of this occurring again. In other cases, the broadcasting of false information may be in order to benefit the news agency directly or it might be due to influence from a third entity, such as the government or a person in power. As a third entity gets involved, the news that reaches the viewer is altered and results in the news agency not serving its purpose anymore, which is to keep the general public informed. Faulty information shared could range from weather alerts to reporting on major international events such as wars, conflicts, conferences etc. The large scope of the news highlights the importance of monitored censorship. By using monitored censorship, the government or a firm under the government may be allowed to filter out the false or influenced information and let the viewer’s attain the raw hard truth. If the firm implementing the monitored censoring follows the guidelines talked about in the introduction, it would ensure that freedom of expression is not obstructed while safety and security of the public can be preserved.
On the other hand, it can be argued that such monitoring could cause important information to be removed from news broadcasts due to misunderstandings or on purpose by the firms responsible for these acts. This may also cause devastating effects as, for example, weather alerts may be filtered out. Although this is a possibility, if the government of the country forces the firm to follow the strict rules to be scripted communally as mentioned in the second paragraph, the possibility of this would be much lower and therefore removes these drawbacks.

The internet is another major medium of communication in this generation, and therefore it is important for us to look into this phenomena and the extent of monitored censorship required. Huge amounts of data are transferred over the internet every day, which puts in perspective the scope of risk not only on a small community but on an international level. Previously when the monitoring of the internet had been brought up on international debates, the opposition has argued that considering the fact that the network is virtual and links all over the world, it can be extremely difficult and precarious to monitor. But there is a simple solution to this. If each nation was to monitor the incoming and outgoing internet traffic of their own nation, the larger picture of monitored censoring can be achieved. By each nation taking the responsibility for their own internet traffic, but following the expansive definition for justified censorship as mentioned in the introduction, we can create a much safer and secure community on the international level. Although this may seem like a tough objective, with the help of the United Nations and other international human rights groups, we can make this a reality to ensure the safety of our loved ones. This would further highlight the communal spirit between the nations and ensure a strong bond worldwide regarding censorship. When it comes down to the safety of our loved ones, we are the ones who should be pushing for the change, and the change will come in the form of “justified censorship.”

Every idea would have advantages and disadvantages, so let’s start off by looking at the advantages of such an action. By filtering internet traffic, we can once again restrict the transfer of faulty information, harmful content (viruses, malware, etc.), sharing of trade secrets, etc. The restriction of the internet would make the internet users’ lives much more private and reduce the risk of interacting on a global network. It is important to note that we are only “filtering” the internet content and not monitoring it. This would ensure that an internet user’s privacy is not lost as we will only be looking at specific data rather than all internet traffic. The wide scope of the internet allows people of various age groups to have easy access to a large variety of content. As this is the case, there is currently no age restriction to protect minors from potentially harmful or traumatic content. Therefore, by using “justified censorship” we can reduce the risk of this and create a safer environment for our younger brothers, sisters, daughters and sons to grow up in. As we can see here, implementing such an action would benefit not one generation, but generations to come after it, and that reflects the importance of such a system. Another huge advantage of such a system would be that it would enhance the factor of privacy of a user. In the case that the users information was to be hacked and stolen by another person, censorship could be used to stop the thief from the spreading the information. An example of such a case would be when an international network of activists named Anonymous hacked in to Bank of America servers. Once retrieving information from the group released financial information from many companies. Such acts can be prevented in the future using “justified censorship.” The safety of our finances which we entrust a bank with come into question after such incidents, and this further highlights the importance of “justified censorship.” Another advantage of “justified censorship” is the restriction on spreading bad propaganda against the government or a person in power as this could lead to large conflicts as seen in Egypt and the Arab Spring itself. This simply ends in blood baths and instability within nations; therefore, such a scene can be prevented by monitored censorship.

Opponents of such a great idea may claim that the monitoring of data would be an invasion of privacy of the public. But, if the only reason the data is monitored is to ensure the safety and security of this very public, it would be a widely accepted concept. Another drawback would be the costs to set up such a system, but when it comes to the wellbeing of the citizens of a nation, I believe the nation should prioritize funds for this need.

Another form of censorship prevalent around the world is the censoring or monitoring of phone conversations. This is the act of blocking or criminalizing conversations about controversial issues over the phone. The problem here is not the fact that it’s over the phone; it is based on the thought that the people are spreading bad propaganda and could possibly affect the government or the people in power in a negative manner. Therefore such conversations are restricted. This is a clear violation of the freedom of expression each human being is entitled to. Therefore such complete restriction and censorship must be removed and “justified censorship” must be implemented. The justified censorship must follow the guidelines talked about in the introduction and that way it will not violate any freedom of expression laws or privacy laws.

The advantages of justified censorship of phone conversations are large as it brings in the safety aspect. By monitoring and filtering out potentially harmful content, we would be able to track harmful information being shared and use it to avoid future conflicts. By monitoring conversations, we may come across conversations between criminals or even terrorists. Such conversations can be used to track them down and provide justice to the affected people. Therefore it is essential to the safety and wellbeing of a nation. Even if the prospects of coming across a conversation between terrorists is so, such an implication would mean it would make it difficult for such entities to communicate and therefore decrease the chances of any harm.

As any step towards the wellbeing of the human race, this too has its own drawbacks. As argued by many politicians in the past, monitoring phone conversations could be classified as invasion of privacy. Another disadvantage of such an act would be the decline of the telecommunication industries within a nation due to the distrust of their product by the consumers. This could possibly negatively affect not only the industry but the economy of the nation itself. Although this concept does have disadvantages, they will only kick in the case of the government overdoing or completely censoring phone conversations. By following the guidelines of “justified censorship,” we can avoid the negative aspects of this concept.

Throughout our lives we have been told to learn from mistakes and to change yourself in order to better your future compared to your past. After class tests, we look over the paper and attempt to understand the mistakes we made; after car accidents, we look at the causes and try our best to avoid them in the future; we learn from smokers not to smoke, and so on it goes. So, why aren’t we doing this in terms of threat to safety due to the improvement of communication? There have been so many cases in the past decade where lives have been lost, money has been lost, personal information has been publicized, and so on. Why haven’t we taken action yet? The answer is to simply commit to “justified censorship.” A stand out case as a result of the rapid progress of the internet communication was of a girl named Amanda Todd. According to several news reports, she was just a young girl who had remarried with split parents who enjoyed the ease and accessibility of the internet. At the time she lived with her Dad, she used the internet to meet strangers and make new friends until one of the strangers she met talked her into showing off her bare chest over video conversation. Following this event, she was blackmailed into putting on a show for the same stranger. Amanda did not have much of a choice other than to listen to the stranger as he threatened to expose Amanda, by publicizing her nude images to her friends at school. As time passed, Amanda’s nude images started circulating the internet at a rapid pace, plunging her into anxiety, depression and panic
disorder. Although Amanda and her mum moved from place to place trying to start over, the images followed her around and haunted her. The unfortunate fifteen-year-old soon became addicted to drugs and alcohol as an act to relieve herself, but the pictures and stories followed her around and resulting in her attempting suicide twice, only succeeding the second time (Szalavitz, 2012; Grenoble, 2012). The only reason we know about Amanda Todd’s story is because of her posting videos on YouTube explaining her story to act as a repellent for other girls who use the internet. We only know about Amanda’s story due to her taking the initiative. There may be millions of other girls around the world experiencing this traumatic experience right now who choose to keep quiet. The life of a fifteen-year-old teenager could have been saved if “justified censorship” had been implemented which would have restricted her from sharing such images with strangers. This story simply enhances the importance of such a concept. The scariest part of this story is that this could happen to any of us, people we care about, people we love.

In conclusion, justified censorship is an essential requirement in this modern era where the mediums of communication are growing ever so rapidly. The ease and improvement of such technology easily attracts a variety of age groups of people from all over the world. "Justified censorship" provides scope which varies from protecting minors from inappropriate content to protecting countries from terrorist threats and so on. The large scope of this concept emphasizes the importance of it in our lives. Although major censorship would bring destruction and chaos to a region, we are able to implement “justified censorship” which will monitor data only to ensure safety and security of the general population. It is important for us to use this concept in internet, phone and media censorship in order to maintain a constant monitoring of data worldwide. Therefore it is of utmost importance for us to implement “justified censorship” and commit to it in order to save lives and ensure the wellbeing of the human race.

References

The Relationship between Knowledge and Application of the Engineering Code of Ethics
By Wajdi Ahmed

Writer’s Reflection
As it might not be apparent to most people, Engineering is one of many fields that necessitate well rounded and ethical practitioners. A decision to make a design or to approve a process, even if it is really profitable, might cause damage to others’ lives or properties or it could violate the law. Hence, engineering societies created the Engineering Code of Ethics which serves as the blueprint of ethical conduct for engineers. I wrote this paper as part of an assignment to discuss engineering codes of ethics, incorporating several papers that assess the code of ethics via several viewpoints. Indeed, while writing this paper, I have learned a lot about the engineering profession from a humane and professional point of view that theories and technical courses do not touch upon. In this paper I thoroughly investigate and discuss how knowledge of the code of ethics and its application are related. Is knowledge of the code enough for right conduct? Are there other factors that contribute to the engineer’s conduct?

Dr. Norm Lewis, a retired professor of history at the University of Washington, decided to confess at the age of 83 that when he was taking the final exam as a doctoral candidate in 1968, he excused himself to go to the bathroom and cheated by looking at his notes [1]. Certainly as a 51-year-old graduate student, Dr. Norm did not lack knowledge about academic integrity rules and ethical codes. Yet, his knowledge did not stop him from cheating. Although Dr. Norm’s example is not within an engineering context, his example is relevant to the topic of engineering codes of ethics. In the engineering profession, codes of ethics serve as an essential guideline of conduct. Not only do they provide general application and technical guidelines, but they serve as ethical blueprints for the engineers to build their ethical character and decisions upon. Engineering codes of ethics, however, are continuously being criticized as relatively deficient or incomplete. These claims are results of seen shortages in the ethics and conduct of those individuals to which the codes serve as the superior guide, the engineers. If provisions are clear, these shortages and misconducts should not be blamed on the codes but on the engineer. Especially when the knowledge and awareness exists in the engineer’s mind. On the other hand, the knowledge might help in cases where those shortages are due to misinterpretation or misunderstanding. This paper argues that knowledge enhances interpretation of engineering codes of ethics but not necessarily application of these professional codes. To comprehensively fulfill the purpose of the paper, aspects of knowledge, language and political environment are to be deliberated.

There is a close correlation between knowledge and proper understanding. Value of knowledge, understanding and interpretation are the three characteristics describing knowledge. Indeed, knowledge is invaluable. It gives the mind its value. Without knowledge, the mind lacks the tools, the experiences and the references that guide the understanding. Kofi Annan, the seventh Secretary-General of the United Nations, said, “Knowledge is power. Information is liberating. Education is the premise of progress, in every society, in every family” [2]. It is particularly important in this highly advanced and technological era we are living in. Countries investing more in knowledge and education

Biography
Mohammed Jaffrin is a mechanical engineering freshman interested in space exploration and the immensely large number of opportunities the dark abyss known as space holds for us. Having grown up in the Middle East, the number of opportunities he has received in the stream of space exploration has been very limited. He joined A/E/M in the hopes of expanding his knowledge on this topic and working in this industry in the future.

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are superior to those that do not when both have the same resources. In the context of engineering, it is arguable that engineering and energy companies constitute a big portion of countries’ economies. So engineering education is central in this era. But, is it all about technical knowledge? Should engineers be only educated on how to make a process work or create a design? The answer is no. Through the rise of ethical issues and dilemmas, it is an obligation to educate engineers even further. Engineers, for the most part, lack the proper education about engineering codes, ethical parameters and profession ethical considerations. Now, the call for higher ethical standards internationally is on the rise.

So if that extra knowledge is achieved, all engineers will adhere and all issues are solved? Not necessarily. In addition to having the knowledge, the engineer must understand and properly interpret the code of ethics [3]. Knowledge equips the engineer with the proper tools to adequately interpret the engineering codes of ethics. Davis argues that “interpretation is central” [3] in the codes of ethics. Since this is the case, without widening the scope of engineers by teaching them aspects of other forms of knowledge such as philosophy, social sciences and, essentially ethics, inexperienced engineers are born rather than well-rounded engineers that serve the profession as honorably as possible. Engineers sufficiently educated with ethics, social sciences and professional codes will have a better understanding, and thus, a better interpretation of engineering codes of ethics.

Although, as argued above, knowledge is principally significant for proper interpretation, it shows no clear correlation with proper application and conduct. In the majority of the cases mentioned in Harris et al. [1] and discussed in class, the issue was not in the lack of knowledge but rather how to act properly in accordance with ethical codes. Moreover, according to Mohamed and Mohamad [4], even educated individuals might perceive a non-ethical issue such as wasta as normal based on their culture and society. Critics might argue that, according to this argument, knowledge is useless because it will not forbid engineers from acting contrary to the code of ethics. That might be true from a theoretical perspective since several elements can be identified as reasons for improper conduct even in the presence of the proper knowledge and interpretation. Personal ethical character and culture are examples of these reasons. However, I argue that in the cases involving misinterpretation and misunderstanding, which also constitutes a considerable portion of ethical issues, knowledge will help. On the other hand, in cases where the proper understanding is achieved, it is still likely in many cases for the engineer to act unethically because the codes of engineering ethics serve as a group of moral guidelines rather than legal rules. This proves that even if the proper interpretation is achieved, the proper conduct can be avoided with no harm or penalty. Hence, knowledge affects the level of interpretation, but proper conduct depends on the person and several other factors.

The language of the code also plays a vital role in its application. Language here does not mean whether it is Chinese or English but rather refers to the wording of the canons, rules and guides of the engineering code of ethics. Three main factors are related to this section of the paper, structure, clarity and meaning. The proper choice of words and structure leads to a relatively clear and an indisputable meaning of a provision. Although it is impossible to produce a linguistic piece understood exactly by all human minds, it could be reduced to a minimum. This is what Davis argued, “We cannot control how our words will (or should) be understood. All linguistic expression is (somewhat) indeterminate, that is, open to more than one way of being made more determinate” [3]. He also points out that, “Martin . . . seems to have identified three distinct failings of codes, that is, indeterminacy, vagueness, and lack of clear priorities when duties conflict. None of these failings is a rarity, he says. Even a fully justified code will include ‘numerous areas’ exhibiting each of these failings” [3].

Clarity in the engineering code of ethics refers to the ability of a provision to convey the same conclusion to all engineers that read it. According to Davis, “By clear I mean that others will have to agree that the provision means what I want it to mean. The interpretation I do not like will be ruled out. Those who would interpret it differently are likely to respond, ‘Yes, let’s clarify it, but our way, not yours. In the end, we leave the provision as it is, hoping for greater consensus later’” [3]. By refuting the myth that codes of engineering ethics are too vague to provide much guidance, he clarified that codes are not vague. Similar to my assumption that the application of the code is affected by aspects of the language, such as clarity, Davis [3] discussed vagueness of the codes and how that could influence the decision of an engineer.

Additionally, meaning is another aspect that falls under the influence of language. According to Saini [5], vocabulary can be different among social scientists and engineers causing confusion. Additionally, this is also relevant to the research done by Mohamed and Mohamad [4]. The meaning of wasta in Egypt might not correspond to the exact same meaning and significances in Qatar. Thus, internationalizing a code that addresses wasta might not fulfill its purpose without adequately defining terms within each context. Therefore, even with knowledge of provisions and what they state, structure, clarity and meaning influence the decision of an engineer. Although critics might argue, it is noticeable that when cases reach courts, there is always room to argue against clarity and meaning of codes.

Finally, the political environment affects the application of code of ethics in several ways. For instance, in the Arab world particularly, the issue of wasta, which is defined as the intervention of one party in a favor of a client to gain privileges through a third party, is a vital one. It plays a huge role in hiring and promotion decisions in Arab organizations. The reason behind such demeanor to be rooted within the Arab organization is its political status. According to Mohamed and Mohamad, “In the political environment of many Arab countries after independence, wasta was used by some Arab rulers to enhance their grip on authority” [4]. These political factors built power by gaining norms within the society. At places where superior political statuses exist with higher equality and impartiality, conduct according to the codes of ethics improves. Engineers and organizations under these systems play a fair game with equal opportunity for all which in return translates into a higher level of discipline, and thus, eagerness from the job seeker to behave ethically and professionally in order to be competitive in the job market. In this case, knowledge and understanding of the code matter as they serve as a means for employers or society to assess behavior. Coming back to the Arab world, on the other hand, even for the most educated, disciplined and honorable engineers such unethical acts might still be somewhat necessary. Although these individuals most likely understand and interpret the codes of engineering ethics and issues related to favoritism just as well as others, it does not change the application.

The socioeconomic dynamic of a society, as part of its political environment, is effective in altering conduct. Mohamed and Mohamad [4] found that opinions of educated individuals on an ethical issue like wasta vary according to financial status. According to Loewe et al., “...since the success of an entrepreneur depends much more on his wasta than on his competitiveness, people tend to neglect investment in productive assets and new business ideas” [6]. Moreover, structure of organizations and the distribution of responsibility are equally important. Engineers are usually less interested and less educated in organizations where they serve as a pure technical server. A lot of the small companies that are only concerned with financial reward fall into the trap of making ethical mistakes. It is of no wonder that such companies end up in that situation because it is usually due to domination of power and responsibility with the employee left as a loyal server rather than a partner in the building process. Critics might argue that the political environment does not affect the application
of the code of engineering ethics but rather directs it to a certain interest. This control and government of the profession produce ethical conflicts. Parts of the code of ethics could be compromised for a certain purpose, and thus, the engineer, even with the proper knowledge about codes of ethics, might be forced to act contrary to his knowledge. Therefore, political and organizational environments affect the conduct of engineers even with the presence of knowledge.

In summary, several factors affect the application of the engineering code of ethics. Although theoretically, knowledge of the code sounds like the only thing needed to apply the code properly, it is much more complicated than that. Aspects of language, knowledge and political environment influence the decision of an engineer. Therefore, knowledge alone might help the understanding but does not necessarily enhance its application. As Albert Einstein said, “Knowledge of what is does not open the door directly to what should be” [7].

Works Cited

Against Criminalizing Religious Offenses: Analysis of the Possible Challenges and Complexity of Implementation of Laws Using SMART Criteria

By Hanaa Loutfy

Writer’s Reflection

Sometimes, it isn’t an easy task to write in favor of a topic that you personally don’t fully support. However, such tasks could be a key to personal progress as they allow you to adapt to situations that may conflict with your nature. When writing about a controversial topic such as this one, being assertive and confident in your writing is a key to producing a successful argumentative piece. In fact, this applies to any argumentative writing, as your aim is to convince your audience. I have written this research paper for my English course during my freshman year. My professor proposed “religion defamation” as a debate topic for the class. The class was split into two groups, one against establishing laws against religious defamation and one in favor of establishing these laws. I was chosen to write against establishing laws criminalizing religious offenses. We had a heated debate in class after completing our papers. Before writing this paper, I was convinced that laws should have been implemented to prevent religious defamation. However, after doing some research, I came to realize that my previous opinions weren’t entirely correct since I developed a better understanding of the topic and its limitations.

The SMART criteria were created by Ian Malloy and funded by NASA. The concept of writing SMART goals is essential for accomplishing most goals, thus using these criteria would provide guidance and direction towards whether the implementation of laws is an effective solution. However, there is no apparent consensus about what the five keywords represent; nonetheless, the typically accepted values are the following: A Specific goal is unambiguous and should clearly define what you’re going to do. This is why a clear understanding of “what is expected, why is it important, who’s involved, where is it going and when is it happening and what attributes are important” should be obtained. For a Measurable goal, concrete criteria must be established “for measuring progress toward the attainment” of the goal. Additionally, an Attainable goal should be defined well enough and established within a timeframe, and thus has to be Time-bound. Relevant objectives must represent effective

For over a decade, religious defamation has been a very controversial topic in the United Nations ever since the Organization of Islamic Cooperation (OIC) introduced it. In 2005, a Danish Newspaper published cartoons depicting pictures of Prophet Mohammed, which were considered extremely offensive by Muslims worldwide. The consequence of publishing these cartoons had been truly terrible; there were many riots throughout the world and people were killed. According to an estimate, 139 people died due to the publication of these Danish Cartoons (Post 72). Moreover, recently violent protests were sparked by outrage over a film published in the U.S. which had insulted Prophet Mohammed. Although the sentiments or motives behind these riots could be understood, the implementation of laws against religious offense would be extremely difficult if not impossible. The negative impact an offence holds upon people cannot be questioned; however, criminalizing religious offense is definitely not an effective solution. To prove this, I will evaluate the effectiveness of implementing laws using the SMART criteria. Is the implementation of blasphemy laws Specific, Measurable, Attainable, Relevant and Time-bound?

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solutions toward which people are willing to accept. If a similar goal was accomplished in the past, the goal is more likely to be relevant ("Creating S.M.A.R.T. Goals").

To begin with, implementing a law against religious offence is not a S.M.A.R.T target because it is hard to achieve a Specific and Measurable framework for it. According to Peter Jones, there are plenty of instances where people might take offence based on religion and so it becomes very difficult to define what a religious offence is (76-89). Is the offence reasonable? Is it possible to tell whether the offence caused to a person is as serious as it was made to look? Were the offender's intentions to offend that person? Who is going to be the decision-maker on deciding what religious offence is and what the punishment is? As seen, this target's criteria are unsettled and ambiguous, and thus its implementation will be difficult.

Establishing a law on the basis of people’s emotions is unjustifiable and definitely not attainable. This is because the degree of offence caused is different from one individual to another. In addition, agreeing on a definition for religious offence is very complex, because there is a lack of clarity and the topic is debatable. For instance, according to Jones, many of us would say “I find x offensive” rather than “x offends me” (80). In other words, religious offence is commonly expressed as an objective matter; however, in fact it is a subjective phenomenon. There are many scenarios in which offences may be taken for example, due to ignorance and lack of knowledge, incorrect ideas about a religion or a faith might be expressed. People of that religion will very likely perceive such statements as an offence. Sometimes, when a person of a different religion conducts an act that is deemed wrong by religion x, followers of religion x will perceive that conduct as an offence. So, should that person’s conduct be constrained because it caused them to experience resentment or offence? Furthermore, imagine this scenario: the adherents of faith A have been accustomed to criticisms and attacks upon their beliefs; they become in some measure less affected by them over time. However, the adherents of faith B were not. Now, if these two faiths were attacked in equivalent ways, adherents of faith B are expected to become more upset and to protest more than those of faith A. "Does that provide good reason for giving the adherents of faith B greater protection than those of faith A?" (Jones 85). Moreover, there are many forms of acts that could be deemed offensive. An offence may not necessarily be in the form of speech; it could be the body language or a facial gesture that offends you. Therefore, setting boundaries of what offence is or is not is problematic because every individual’s view of what is offensive is different than that of others.

Promoting the obligation to enforce laws against defamation of religions is not relevant. Even though these laws are thought to be necessary to prevent incitement to discrimination, violence, and as well to protect freedom of religion, enforcing them is not the only solution to the problem. Rather than immediately starting to enforce laws, there are other pacific and lenient solutions to be tested. According to Eric Barendt, “The principal ground of objection to the new offence of incitement to religious hatred was that it would stifle criticism of religious belief and practices” (42). So, instead of stifling discussion and debate by banning any speech pertaining to other beliefs, why don’t we spread awareness of the importance of respecting each other’s beliefs? Why don’t we unite all nations on the basis of respect rather than promoting intolerance by providing an environment in which freedom of expression, thought and religion are restricted? Why do we create such fear of potential threats as empowering majorities against minorities and government against individuals? Additionally, spreading accurate knowledge about other religions and beliefs and learning how to tolerate offence are possible solutions that will have greater positive impact on people.

Criminalizing religious offence is clearly not a S.M.A.R.T objective because it is not Time-bound. Therefore, it is highly pointless to implement laws against hate speech based on religion. There are over 4300 different faiths (Juan). Due to the existence of these diverse and conflicting belief systems, it is hard to recognize what offends other beliefs. This makes it very challenging to reach consensus; it could possibly take years and years just to agree on an acceptable definition of religious offence and to implement a law. Therefore, this law should not even be pursued or considered.

More importantly, the OIC has been proposing resolutions to the UN regarding banning religious defamation and discrimination based on religion since 1999 (Goodenough). A new resolution was put forward every year and it was turned down several times. How do you expect blasphemy laws to be considered when people’s perspective of the issue remains unchanged until today? According to a widely known quote by Albert Einstein, “Insanity is doing the same thing over and over again and expecting different results.”

According to a recent news article, Qatar contemplates it will take four years to define and outlaw domestic abuse (Kharti). Then, how can we possibly obtain a strong understanding of what “religious offence” is and how to criminalize it, if an issue as clear as domestic abuse takes four years to implement laws against? Although, it could be argued that just because something is complex and challenging does not mean it cannot be done. What this counterargument fails to put into consideration is that this issue of domestic abuse is a local problem. And within a country like Qatar, people’s culture does not greatly differ. Therefore, a public acceptance of these laws is likely to occur. Nevertheless, in the case of implementing an international law such as banning religious offence, the task will be perplexing because there are many cultures and diverse ideologies that govern people’s judgment worldwide; public acceptance may not be achieved at all. There are 193 members of the United Nations and 4300 different faiths, how do you expect all these to achieve consensus on a law that is so controversial, a law that restricts democracy and freedoms of speech?

In any case, the execution of this law is hindered because there are pre-existing laws that will go against it. Some countries already have similar laws in place that prohibit injuring religious sentiments or insulting religious figures or leaders. An international law might contradict existing local laws. There are existing blasphemy laws in the US, UK, Germany, Australia, Pakistan, etc. The severity of the punishment differs from each country to another. For example, in Pakistan, offenders may be severely sentenced to death. According to a news article, recently an 11-year-old Christian Pakistani girl faced death penalty under Pakistan’s blasphemy laws, after she was accused of deliberately burning the Qur’an (Boone). However, in UK, the offender is only subject to a fine and few years of imprisonment (Priestley). In addition, some acts are considered offensive in Pakistan but are not in the UK. For instance, blasphemy laws do not apply to media, specifically stage productions and broadcasts. As, according to an article, charges against the BBC were rejected by a court, after the BBC broadcasted a show that was considered offensive by a Christian group (“Springer Opera”). Whereas, Pakistan monitors the media, including the Internet, to make sure they comply with the country’s blasphemy laws. In 2010, Pakistan blocked access to multiple websites “for hosting content that the authorities considered offensive to Muslims” (“Pakistan to Monitor Google”).

Opposition from pro-democracy groups is expected if implementation of laws is considered because there is a conflict between these laws and the prevalent definition of democracy. According to Robert Post, “any distinct restraint on majority power, such as a principle of freedom of speech, is by its nature anti-democratic” (74). In addition, for obvious reasons, civil rights activists and human rights groups will protest against it and oppose it, because implementing such laws is a major violation of the “freedom of expression” pre-existing laws and human rights.

Above all, if someone had committed religious offence against another who lives in a different country, will that person be extradited to that country for trial? Or, will his trial be held in his own country? Moreover, according to whose law will trial be executed? This matter is likely to create complications between countries. And
This existing law makes the extradition cases extremely difficult goal due to the diverse implementation may appear to have solved problems, it results in more critical issues. As an example, take the quarrel over the extradition of the Egyptian tycoon, Hussein Salem, to Egypt. According to a news article "Spanish Court Suspends Hussein Salem’s Extradition" to Egypt for trial, Salem avoided trial for his crimes in Egypt by fleeing to Spain. He would not face persecution because Spain surrenders its citizens only in two cases. First, if the offender received the citizenship of a country where he committed the offence first. Second, that person’s trial must be fairly held in the workplace, Continue to Rise." DohaNews. N.p., 27 Nov. 2012. Web. 4 Dec. 2012.

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"Suppose you are on a journey, you lost your compass and map, and you have no clear direction or a guide. Is it wise to continue on that journey? Likewise, pursuing the introduction of a law that will have no support from most of the world nations should be abandoned. Even though an agreement could be achieved and countries may be committed on paper, it is most likely they will not be able to fulfill their commitment due to pre-existing laws that will act against blasphemy laws. Perhaps, these laws might even cause diplomatic divisions rather than uniting nations. Every time they will come to implement the law, they will face internal disputes, such as protests by civil rights and pro-democracy groups.

In conclusion, to achieve consensus among various different countries of the world is an extremely difficult goal due to the diverse ideologies and cultures. Implementing blasphemy laws or criminalizing religious offended is not a SMART target, although its implementation may appear to have solved problems, it results in more critical issues. As an example, take the quarrel over the extradition of the Egyptian tycoon, Hussein Salem, to Egypt for trial, Salem avoided trial for his crimes in Egypt by fleeing to Spain. He would not face persecution because Spain surrenders its citizens only in two cases. First, if the offender received the citizenship of a country where he committed the offence first. Second, that person’s trial must be fairly held in the workplace, Continue to Rise." DohaNews. N.p., 27 Nov. 2012. Web. 4 Dec. 2012.

If no solution is found, it may lead to diplomatic roils thus worsening relationships between countries. And since, many countries refuse to extradite their citizens outside their borders, it is very difficult to execute an individual for insulting someone’s religion in another country.

Some might argue that extradition is possible to implement the law, they will face internal disputes, such as protests by civil rights and pro-democracy groups.

Through the Rabbit Hole

By Anonymous

The Mad Hatter has gone rogue: he is conspiring with the Queen of Hearts to destroy my beloved Wonderland. It is up to me, finally in possession of the Jabberwocky’s staff, to stop them both and return Wonderland to its state of unearthly splendor. Scared? Who, me? What should be the fear? I am not Alice; I simply maneuver her using a PlayStation controller. In fact, the times I spent in summer on the living room couch avenging the death of my dear White Rabbit were some of the most serene and calming moments of my life (not an easy fact to admit to considering I was already 21 years old at the time). This would come as a surprise to anyone walking by, such as my sister, who always caught me seething at the television screen, hurling every profanity I could think of at Tweedle Dee and Tweedle Dum as, despite their sizes, they proved to be some of the hardest characters to beat. But, appearances aside, I relished playing that game as a chance to clear my mind. When I turned the PlayStation on, all that worried me was whether or not I could make it to the next checkpoint without dying. Any source of anxiety was drowned out by the Cheshire Cat’s musings as I travelled through a newly sinister Wonderland, ravaged at the hands of the Queen of Hearts. I do not play video games much anymore. However, looking back at my memories of playing “American McGee’s Alice,” even in those moments I can now see the beginnings of my metamorphosis into the person I am today.

Currently, I am pursuing a Bachelor’s degree in Electrical and Computer Engineering at Texas A&M in Qatar. Part of the reason I chose to pursue this degree was because of the projected high demand for engineers in Qatar, especially with the Qatar Vision project on the horizon, but I also chose it because of its strong basis in mathematics and science. On the days where I would like nothing more than to go to bed to escape my waking life, the ‘hard science’ courses serve as a distraction. When I am asked a question by my textbook, or on a homework assignment, there are only a limited number of answers that would be correct, and I go about finding and employing whatever method is best to reach one. It is more difficult for me to approach the more creative courses. For instance, when I am asked to write a paper, it requires much more introspection than I feel I can handle most of the time. I can read and attempt an analysis of the source material just fine, but when it comes to producing original work, it feels much more like an opportunity for my thoughts to run away to a place I would rather they did not go. However, by repeatedly exposing myself to uncomfortable situations such as these, I believe my drive to complete an assignment will overpower whatever negativity I feel while getting it done.

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Another reason I chose to pursue a university degree was because I needed to commit myself to something that would benefit me in the long run. This, in combination with how I hoped the courses would serve me as a distraction, I believed could be a way to project my distress into a productive avenue. I remember when I told my mother that I was accepted into Texas A&M. I received the call on a Wednesday afternoon. I was absent mindedly staring out the window when my phone rang, and I recognized the number as belonging to the Texas A&M admissions office. I was elated when Mr. Mohammed of the Admissions department told me that I was accepted, but as soon as I hung up I felt a sense of dread. Pursuing a university degree is exciting, but what would I have to give up?

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But I had bitten the bullet, I had committed to the four years I needed to earn a bachelor’s degree. Before I could let myself change my mind, I grabbed the acceptance letter and went downstairs. She looked nervous on the living room couch when I asked her if I could talk to her in private, but her face softened and the creases on her forehead disappeared as she read the first few lines of the letter. She smiled at me and told me she was proud. My mother then asked me if I was sure it was what I wanted to do; was I content with engineering? I told her that it was all I wanted to do. In truth, however, I lied. I knew that if I did not have people in my life that depended on me and my wellbeing, namely my brothers, there would be no question about it: I would devote all my time to my eating disorder. I knew that if I did not give myself the chance to heal. My eating disorder is too big of an issue for me to tackle all at once, but, much like how I approached the Mad Hatter’s attack on Wonderland, my only focus is making it to the next checkpoint while keeping my head up. I am trying to do it incrementally.

I know I will not always have school to keep me safe, but right now that does not matter. It is only one stepping stone of many I will encounter in my life. I do know, however, that I will never do my future experiences any justice if I do not give myself the chance to heal. My eating disorder is not merely replace those things. Before I had let it take everything away, it had become so infused in every part of my life, that falling grades and deteriorating friendships seemed normal. I could not see that it was what poisoned these aspects of my life, and that it was not the saving grace (or, namely, the distraction) I thought I needed to deal with them.

Every attempt at recovery I had made before never stuck. At the first stressful situation I faced, I would plunge back into my self-destructive habits. This brought on more stress, and I continued feeding into this closed loop, not knowing that I was digging the same hole I was so desperate to climb out of. If I were to now recall my thought processes at the time, I would just shake my head. It would seem so obvious to someone on the outside that an eating disorder does not help anything. It was not something I could see or understand in the midst of it, but an eating disorder has the capacity to keep from me who I have the potential to be. By committing myself to university, and taking my degree seriously, I know that every relapse into my eating disordered behaviors detracts from what I could accomplish academically. It did not happen suddenly, and I am not all the way there yet, but gradually I started to divert my focus to schoolwork where I would normally turn to, or away from, food. The temptation is still there, but, with my time at Texas A&M, I have slowly built up my resilience to tackling it. The time intervals between each slip up grow longer, and every occurrence of a relapse is murkier than the last when weighed against what I have to lose.

Do I forgive myself?

Do I forgive myself?

Do I forgive myself?

Do I forgive myself?

Do I forgive myself?

Do I forgive myself?

Do I forgive myself?

Do I forgive myself?

Do I forgive myself?

Do I forgive myself?

Do I forgive myself?
For giving in to all the temptations
For awakening the weak, fearful child within me
For letting that child be a vulnerable excuse to hate myself
For giving myself up to him, meekly, without defense

Do I forgive myself?
A question I neglected for an eternity
A question I ask myself in reality and dreams
A question I finally have the answer for

Do I forgive myself?
Yes I do . . .
For being a human
For surviving the life of injustice
For keeping my faith in god
For not giving up to the painful longing for love

I do forgive myself . . .
For having the courage to try and loose
For having the will to face myself in the mirror
And for mastering the art of life: “Patience”

I do forgive myself, and always will.

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**Biography**

Ahmad AlRechid is a sophomore student at Texas A&M University-Qatar, majoring in Chemical Engineering. Ahmad was born in Aleppo, Syria. He moved to Qatar when he was 10 years old. He considers Qatar to be his second home. Ahmad graduated from Omar Bin Al-Khattab Scientific School and then immediately joined Texas A&M University at Qatar. Despite the fact he is perusing an engineering degree, Ahmad is passionate about reading and writing, and he is planning to start working on his own book when he graduates from university.
Wings of Wanderlust
By Jack Reid

Writer’s Reflection
Growing up in an ethnically homogenous, suburban environment left me somewhat starved culturally. I read fiction voraciously as a form of escapism and exploration, always wanting to visit these places found in books. This desire was an expression of my perhaps overly curious, though scientifically focused, mind. I never wrote fiction until middle school when I met the girl who would become my best friend. She is a talented poet and writer who shared her early drafts and unfinished work with me. Reading her work inspired and taught me how to express my own desires and emotions through poetry. I never shared them with anyone but her, I do not believe, and most of them are terrible quality, to be frank. This one was of the halfway decent pieces or so I like. Where have I been? Where am I going, what am I doing? What is the reason that I have stretched out my own desires and emotions through poetry. I never drafted and unfinished work with me. Reading her poems, however, is still a powerful motivator for me and an important reason why I am studying abroad in Qatar this semester and in Spain this summer.

Flying, soaring, seeing all there is to see. The world curves before me, the sun rises above me. Where am I going, what am I doing? I am going to the green hill, the flowing river. I am going everywhere and nowhere. I am going to the green hill, the flowing river.

Everywhere that I can see. And that’s why I am going just past that horizon, no further. Unless another place calls out to me. After all, curiosity has possessed these wings of mine. And this curiosity’s thirst can never be slaked. It tells me, we aren’t going far. Sometimes I think it means it too. But with another flap of my wings I see another clearing, another forest.

Will I ever stop? Will I ever slow? Will I ever be done? I hope not, for if I ever stop these wings might just keep going. If I slow I risk being left behind, the wave I am riding having swept past me. If I am done what will I do? Where would I go? I imagine that I would walk. I would go just past that rock, just over that mountain. Curiosity is a cruel master, and should I lose my wings, it will set my feet to walking.

Biography
Jack Reid ’15, is a junior mechanical engineering and philosophy student from Austin, Texas, currently studying abroad at Texas A&M University at Qatar. In addition to his research work, he is a member of the weekly microbiology news program Invisible Jungle, a local project lead for Engineer Without Borders, and practices a form of martial arts called Aikido. Upon completion of his undergraduate career, Jack plans to attend graduate school with a technical focus. After a Master’s degree in technical research, he intends to pursue a PhD, but, as a junior, he hasn’t narrowed down the remainder of his future plans.

Paris, Je T’Aime
By Moiz Bohra

Writer’s Reflection
Last summer, I spent a week in Paris for the Air Liquide Summer School Program. I used almost all of my free time exploring this fabulous city: taking in the sights, sounds and smells as I walked through breezy, shaded streets under a gentle summer sun. Even the air in Paris seems romantic, and I soon fell in love with the city. When I got back home, this inspired me to write a travel piece that was more than just a description of the places and the food: it was a story of love at first sight. I posted this work on Facebook at first, but decided to publish it here as well. Paris is a wonderful city, rich in history, art, and culture, and through this piece I would like to inspire you, the reader, to visit the City of Light.

I came to Paris with the anticipation of a romantic experience. And how could I not—with books, films, TV shows all plotting together to turn my perception of this city into a vision of finding love against the backdrop of the City of Light? Somehow, my awareness of my fantasized perceptions made me want to run away from that view and experience the city for what it was: a cultural, historical, gastronomic and architectural haven, stripping off all romanticized notions.

But as the airport taxi ambled over the Seine across one of the countless bridges towards Invalides, and as the bright sunlight washed over the boats moored on the riverbank, as green trees met the crisp breeze not yet bogged down by the summer heat, as the iconic masterpiece by Eiffel pierced the blue sky, I wanted to give in to romance.

I held on, however, and that evening, with renewed vigor, I walked across the Pont Alexandre the Third. The late afternoon sun glinted off the beautiful golden statues adorning each of the bridge’s four pillars. Continuing my walk, I turned left onto Champs Elysees where the world’s richest shopped at the world’s most luxurious stores. At least the Bistro Romain was more within my wallet’s reach, and I decided on a four-cheese spaghetti while soaking in the afternoon sun.

When I looked up, there she was. A few strands of her straight brown hair had decided to trouble her by periodically journeying in front of her sunlit face. And she would put them back in place with a quick movement of her fingers to reveal her piercing blue eyes once again. Sitting across the café, she responded to a joke her friend might have made with laughter that almost reached my ears. There was a moment when her eyes met mine, and she returned my smile with a lovely one of her own. But then it was time for her to leave, leaving me in the noisy solitude of being alone in the middle of the busiest sidewalk in the city. Would she come again? Would she return my smile if I met her at another time? This city, in spite of all of my efforts so far, was making me fall in love.
Paris was full of big and small places to visit. One evening I ventured to the outer courtyard of the Louvre museum. I walked through the Tuileries Garden with its exquisitely manicured lawns shrouded by tall trees, flowers of all hues slightly past their springtime bloom, and the numerous marble sculptures that adorned the gravel walkways. The garden was bustling with people: couples enjoying a romantic moment under the trees, parents keeping an eye on their toddlers’ antics, tourists enjoying a moment’s rest in front of the octagonal pond, and families picnicking on the grass. I wondered if I would catch a glimpse of the girl from the bistro again.

To appreciate the contemporary beauty of the Louvre’s glass pyramid, one must walk across a hedged roundabout that seems quite inconspicuous. The underside of this roundabout, however, is the upside-down glass pyramid made famous by Dan Brown’s Da Vinci Code as the symbol of Mary Magdalene, hovering above her supposed tomb. At last she rests ‘neath starry skies, Brown wrote. And it was this starry skies that were waiting to greet me as I reached the great glass pyramid at dusk. This glass tribute to the ancient structures of Egypt is constructed with geometric precision that only enhances its beauty and is reflected in the pool that surrounds it on three sides. I walked around the pyramid, knowing that in one of the now silent galleries under my feet sat some of the world’s most precious works of art, including the most famous Da Vinci work with a smile that soon had me on the dance floor. As I walked back under the bright Louvre Carousel arcing over the city, I wondered if I would ever be able to forget her smile.

Parisian food surprised me. A tiny French restaurant off the Rue St. Dominique, not too far from the Eiffel Tower, could serve the world’s best duck and the world’s worst vegetarian pasta—albeit with a friendly smile. I ate the pasta anyway, knowing that dessert would more than compensate and it didn’t disappoint. Far from it, actually. A devilish chocolate fondant cake surrounded by caramel sauce, oozing liquid chocolate when cut into, gives a whole new meaning to the term sweetheart. On another occasion, dessert was in the form of a delectable caramel cake drizzled with salted caramel. And every morning, at breakfast, I would indulge in a chocolate croissant and some Nutella-filled crepes. Any remaining doubts about my love for this city were washed over by the sugary goodness. I also became painfully aware that I would never be able to find a Qatari or Indian croissant that matched its Parisian counterpart. Perhaps this would be another reason for me to return to this city.

I wandered around the Eiffel Tower one evening, amused by the long line of tourists wanting to be hauled up the side in a metal box. I had been up there five years ago and was half-wondering if I should join the queue—perhaps I would see something different, or maybe even catch a glimpse of that girl in the bistro? That silly thought cleared quickly enough, and I ambled back to my hotel along the picturesque Seine. The sun had set an hour earlier and the skies were a shade of purple. The lights from the riverbank cafes and the bridges themselves played onto the surface of the water: greens, blues, and yellows mixed in with the purple reflections of the sky. The soft waves were abruptly broken by the passing of a cruise boat as it added its own lights to the ever changing reflections on the water’s surface. When I had almost reached the hotel, I turned around at 11.02 p.m. to look back at the Tower as it put on its own sparkling light show for the first five minutes of each hour. This city was so much more than what I had thought.

Soon it was my last night in Paris. I slept after an early dinner, to rise at 12.30 AM to enjoy my last night with the city kicking off another weekend. Every now and then, the Theater de Champs Elysees opens up its stage to the Parisian public by converting it into a dance floor and bringing in DJs. The mood that night was an unfamiliar genre of music called electro-swing. The DJ duo of Bart & Baker, in old-style suits with coat tails, bow ties and top hats, were spinning swing music of the 1940s with more recognizable electronic rhythms to create music that soon had me on the dance floor.

And as I was moving to a remix of “I Follow Rivers,” I saw her again. She was with two of her friends, dancing to the rhythm. Even with the dim lighting of the dance floor, I was sure it was her. Her brown hair was tied back so as to not disturb her as she danced. I moved towards her group and managed to meet her gaze. Did she recognize me here, in a setting in complete contrast to the sunny bistro on the Champs Elysees? There might have been a hint of a smile, or perhaps I imagined it. But this would be my last memory of her.

This time around, I had to leave before her. And as I walked back to the hotel in the early hours of the morning, I looked back at my week in Paris. From the rush-hour subway rides to the serene walks along the river, from the beautiful churches built in previous centuries to the grand monuments of the modern era, from the dreaded vegetarian pastas to the rows of colorful macaroons and breathtaking desserts, from the scent of the flowers in the Tuileries gardens to the warm smell of freshly-baked baguettes in the roadside bakeries, I had fallen in love with the city. I knew I would be back again—to explore unseen parts of the city and perhaps catch another glimpse of that girl in the bistro. Paris, je t’aime.

Biography

Moiz Bohra is a chemical engineering major from the Class of 2014 who hopes to pursue graduate studies starting Fall 2014. His hometown is Pune, India, and he is an avid reader of medieval fantasy, historical fiction and science fiction, along with wide-ranging non-fiction works as well.
Born to Read

By Pavithra Manghaipathy

Writer’s Reflection

This was the first paper we had to submit for the Fall 2012 first year English course. Initially this was a very confusing piece, my first ever paper on such a vague topic. It felt as though I had been taken to the middle of a lake and tossed into it. But thanks to the guidance of my teacher, I swam back up to the surface and back to the shore. Till this day I am extremely proud of this particular piece, the journey that is associated with the writing process, and even the self-discovery associated with it that made it something very personal. The fact that this piece has given me the courage to share this makes me proud.

I sat on the edge of the lake and stared at the hills all around me. I leaned against a dying tree and slid down to the cold floor. The winter breeze of Lake District, England cut through my throat but I was there. I sat where William Wordsworth once sat and I was reading his poems where he wrote them. I read aloud to a friendly little Scottish terrier and stayed there until the sun set. As far as I can remember, I’ve always loved to read. Here’s my story.

Until now, I never realized the role reading played in my childhood. To me, reading was always there. I was told that my dad read to me in the hospital when I was just a few hours ago. His choice of reading material was Tintin in America. From what I remember, ever since I could talk, I would get extremely excited during bedtime because my parents would read to me. I would stay up in my white and pink jumper and listen wide-eyed as my mum or dad read out a story to me. I would peep in and pretend like I was reading the words too because I already knew what the story was. When we would go to India to visit my grandparents, I would be brought closer to reading. My granddad was a former government employee and he had his own little library at home, I would see him reading his old yellow paged books about taxes or something as I sat with my Where’s Waldo? book in his study. My grandma too was into reading. She would translate English books into local languages for hours together. It’s safe to say that I grew up in a family where reading was just a family tradition.

I was never forced to read. It just felt right for me. Even after a tiring dance lesson, I would shower, finish my homework and curl up with a book to read. As time flew by, the fairytales morphed into novels. Authors from J.K. Rowling to Alastair McLean to Dan Brown to Bill Bryson and many more, I couldn’t go two days without reading something. But as time became a constraint, I no longer had time to read big fat novels so I settled for magazines instead. These would be mostly scientific ones but with the occasional Marvel Comic in between when I needed a time out.

As for my motivation; well I had loads. Mostly my friends though. I grew up in a community where everyone was at least a year older. My closest friend who was almost like a brother to me would make it a point to brag about how much he could read when he was three. I would try to show him up at two as I would hold a picture book up and pretend to read. But now he doesn’t like to read and says that its “boring” and a “waste of time.” I, on the other hand, have grown more attached to reading.

Reading has also been my best tool for making friends. Whenever I found someone who had read the same book as me, we would start talking about it and build our friendship through our common interest. I still remember that in Pre-K I was the only person who had read the Where’s Waldo? books but after a month or so I meet someone who had read that book. Even today, 14 years later, we are in different countries but we still keep in touch and are best friends. Being liberal arts major, she seems to have made it a point to update a list of “To Read” books for me almost every other week. She says that she wants to continue discussing books with me and we still do. Not as often as before, but still.

Reading has created a strong bond between us. When we were little, we would read to escape into new worlds, now we read to understand the real world. We’ve grown as readers together as we went from Where’s Waldo? to Wings of Fire.

All in all, my journey with reading so far has been spectacular. Reading has shaped me into the person I am today. Thanks to reading, I now view my life as a book. Each day is a new chapter and every character I meet, will play some role in the future. I have learnt to read people, signs, and patterns (maybe it’s all those mystery novels like Sherlock Holmes). Now, as to whether or not I have control over is book is a different issue. In order to stay away from the complex details that go around in my head, I would say that I feel like I exert a certain amount of control in writing my own story.

Reading is everything to me. I can’t imagine a single day going without reading. I can’t imagine breakfast without reading off the cereal box nor can I imagine talking to my friends or family without once mentioning a book or two. As I think back to the past and see myself in old photographs sitting on the floor in front of a book I was definitely too young to read, and as chat with my friend about the new book based movie, I can say that reading is a part of me now.

I am confident that I really was born to read.

Biography

Pavithra Manghaipathy has always been interested in words. As vague as that statement sounds, she feels like there is no better way to describe it. The power of a single phrase from an important person, the beauty a few words in a rhyming pattern can manifest into, the emotions that words can evoked have always had her flabbergasted. But she is a simple girl who enjoys the simple pleasures in life, reading, writing, listening to good music, long walks, watching sunsets and the endless list goes on and on.

She has strong feelings towards protecting the environment and analyzing human psychology for she feels like we as the current generation can achieve so much more if we just learnt to read each other and communicate. She hopes to create that sort of society, one where lines of learning and communication and free and open so that peace and harmony can be ubiquitous.
Learning to “Two-Step” in Spring Break

By Rizan Baig

The frost starts to creep up on the window as he looks out. The crystals freeze into clusters as the time passes by. It has been ten hours. Cooped up between the wall and an overly large gentleman, he tries to find peace. He looks out and sees a blanket of clouds covering everything. The glare of the sun blinds him: a real life shimmering lens flare. He closes the shutter and looks inside. It takes him a minute before his eyes adjust. It’s dark: all the lights have been turned off. Snuggling into his blanket, he tries to keep warm and catch some sleep, but he can’t. He feels uneasy.

This is the first time he is travelling alone. Leaving his family behind, all the people he loves. Here he is, thousands of miles away from them, feeling alone. His neighbor on the plane is an old Egyptian man in a brown jacket and suit. There is a cloying smell that emanates from him, of cigarettes and sweet perfume. His talk is incessant, looping around his life, his problems, and his job, but he fails to spark interest in the boy, who puts his headphones on. Turns up the volume as high as it will go.

He hasn’t been to the United States of America, Benjamin Franklin, the bald eagle, a hundred dollar bill crisp in hand, Uncle Sam and IHOP. He has so many expectations, so many things to try out, to get, to experience. The excitement alone keeps him awake throughout the flight. The loneliness feels like fingers of ice around his heart, closing in. He is animated and he is nostalgic. Six hours to go till his feet touch a new land.

He lies back, wedging his neck in a hard crook of the seat, trying to find Morpheus. He sleeps. The plane begins its descent; the sight of the wings slicing through grey white clouds marvels him. He can see shirred treetops, and glassy blue lakes staring upwards like eyes, all watching the plane descend. There are square cut backyards, and rectangular houses, arranged in rows and columns. So much planning, and it all makes sense. Everyone must have a distinct bordered plot of land.

Almost there. The greenery below him: he sees trees and grass, and so much more. More shades of green than he has ever seen in his life. It is all so different.

And then, touchdown. The wheels make contact with the tarmac, and he’s jolted into full wakefulness.

There is a scent he can’t recognize. Oaky and mossy; it smells like a forest. There are century old trees with overhanging branches and leaves with frozen water pooled in them. Wild grass has crept onto the pavement, flirting with his shoes as he walks on by. He sees flowers, and birds. White flowers and black birds, layered thickly upon the trees. Squirrels flick their noses at him from afar, skittering along the road. They told him Texas wouldn’t be green. He can’t imagine how it could get any greener. His own country home would be vast. Everything is vast. There are six lane highways, enormous trucks, Coca-Cola cups as big as his arm, giant cheeseburgers, and tall sky rises. The sheer amount of space astounds him. It is stretching, expansive, and seems endless. Back home, every square inch of land has buildings, or artificial grass.

This is Texas A&M’s main campus. The town of College Station, population 300,000. And still so much space. He has all this space and only seven days.

A week flies by in a glimpse of an eye.

Then he stands in a long queue, ready to board the plane back home, and to the people he’s left behind. He thinks about the past week, the experiences he’s had, and the people and places he’s seen. The midnight walks he took seemed like fantasy now; the blaring airport lights are eating at his memories. He rode a horse for the first time, sang along to country music, felt warm Southern hospitality in minus five-degree temperatures, and attended a real life rodeo. And there was the two-step dance. Two steps to the left, one to the right, and repeat. Over and over till the awkward shuffling changed to a fluid movement and the painful winces became synchronized paces.

It became familiar, all of it. He hopes he’ll come back here someday, with all the people he loves. He’ll show them around, and make new memories. This time, they’ll be complete.

“Passport and tickets please!” A heavily accented voice jars him out of his reverie. A tall, olive skinned, uniformed Hispanic man asks him for his documents. He hands over his papers, smiling lightly, suddenly aching to get back home.

“Have a safe flight. Hope to see you soon.”

“You definitely will.”

One last exchange in Texas, and he walks over to the aircraft.

Fourteen hours till he reaches home. Fourteen hours until he settles into the infinite rush hour that will be classes, and exams, and homework. He’s missed it. He’s missed his friends, and – even though he doesn’t believe it – his family. And now, take off. The plane starts to ascend slowly, gathering speed, eager to touch down again. The past week starts to flash in his mind, and he sits back content, because he knows it was a great week.

Biography

Rizan Baig is a nineteen-year-old junior studying chemical engineering. He was born in Qatar and has lived here all his life. His father is Pakistani while his mother is Lebanese. He has a younger brother Hussam, 15, who plans on joining the mechanical engineering program at Texas A&M University at Qatar. He loves to play football, swim and run.
Engineering Ethics from Classroom to Work:
Gaps in Transition and How They Can Be Filled

By Fatima Ahmed Raja

Writer's Reflection

This essay attempts to understand why, if any, gaps exist between the professional code of ethics, its teaching at educational institutions, and its application in engineering practice specific to technology development.

Engineering code of ethics shows a general direction toward ethically ‘good’ engineering practice; however, it is insufficient in insinuating ‘excellence’ in any engineer’s performance. The science behind engineering ethics is a relatively new study that has grown in complexity and use over the last few decades. Yet the application of its teachings in the work force continues to be ranked unsatisfactory by many critics. This essay will attempt to understand why, if any, gaps exist between the professional code of ethics, its teaching at educational institutions, and its application in engineering practice specific to technology development. First, a brief history on the teaching of ethics in undergraduate engineering programs will be introduced with a focus on American engineering curricula. In addition to this, the importance of ethics in engineering practice will be discussed in detail, followed by an in-depth analysis of the engineering code of ethics within the framework of formal and informal guidelines. Lastly, a structure for the ‘correct’ application of ethical standards, in lieu of critically acclaimed contemporary models of ethical practice in engineering settings, will be proposed.

Ethical behavior has been a vital part of technological activity since the dawn of time; however, it was not until about 1975 that engineering ethics began to be recognized as an independent academic discipline (Stephan 8). Efforts made to change this trend were made as early as 1940. However, since the attempt was “internalist” in nature, it required additional political, cultural and environmental motivation (the Vietnam War and the environmental protection movement, respectively) to make it readily acceptable and part of the engineering norm, both in education and work practice. Schneider et al. elaborate on these motivations and account for the 1950s, 60s and 70s as the decades when American engineers started participating in international development projects that were part of the U.S. foreign policies at the time (44). However, they argue that these practices were never “scaled up to make inroads in U.S. engineering education or in the mainstream professional conduct of engineers, until now” (44). Therefore, one may safely say that the present engineering curricula is more inclusive of the study of ethics than ever before. However, the application of ethical principles at the work place continues to be criticized as unsatisfactory and “slow” by many critics (Oram). It could be argued that the reason behind the long time and struggle it took to spread the doctrine of “ethical” principles in engineering practice was the equally slow progression it made in the academic curricula of engineering education. Oram supports this argument with statistical data obtained from 254 institutions offering an undergraduate engineering program in the United States (as listed in the 1996-1997 American Society for Engineering Education (ASEE) Directory of Undergraduate Engineering). The data showed that an astounding 68.1% of students graduated from schools in 1996-97 with no ethics-related requirement in their curricula (Oram). These statistics may seem uncommonly disappointing at first. However, when we look at them under the prudential light of historic happenings alluded to earlier in the essay, the fact that less than a decade later engineering ethics became a respected academic discipline in its own right in almost all undergraduate engineering educational institutions is remarkable.

While it took considerable time and effort for the study of ethics to become an integral part of the engineering curriculum, the application of its principles in the work force took even longer. The development, implementation, and operation of new technologies for their “failure to address social factors, especially ethical issues and sustainability” (Oram) are often regarded as valid arguments. With growing awareness of the non-renewable resources and the increasing power environmental protection agencies enjoy today, I disagree with Oram’s allegation of negligence on the part of contemporary producers. I agree that “we need to educate future technologists, to enable them to integrate an ethical dimension into their work” (32); however, to state that today’s producers “fail” to address social factors that mitigate ethical issues, as Oram’s argument implies, is an overstatement. Nevertheless, there does seem an unquestionable need for reliable tools that can help countries, companies, and individuals make ‘ethically viable’ decisions. Oram proposes a solution in the form of the ‘cultural-negotiated ethical triangle,’ which will be discussed in detail later on in the essay.

So far we have dealt with the subject of engineering ethics in education and work practice from an internal viewpoint: measuring its importance against pre-determined notions of modern “ethical” work requirements. It is, therefore, important that we pause and step back to access why, if at all, is it necessary for engineers to incorporate an element of service or “help,” as Schneider et al. insist on calling it, in their practice? Stephan warns us that the lack of formal instruction in engineering ethics will, almost irrevocably, result in graduates falling into “wrongdoings, not out of evil will or malicious intent” but rather out of ignorance and “microscopic vision.” Stephan here makes a distinction between “wrongdoings” and “ignorance.” He understands that the study of ethics will not necessarily equip the engineer with knowledge and intuition to distinguish “right” from “wrong.” Rather, it will instill in them the legal, professional and moral responsibilities. He implies that it is not in the nature of an engineer to be corrupt, unprofessional or even criminal-like, but their mere inability to form an ethical opinion due to a lack of education in engineering ethics. Stephan reiterates this assumption:

In recent years ethics educators have found that the case-study approach to engineering ethics introduces students to the complexities and ambiguities of real-world ethical problems in an effective and memorable way…Once they have wrestled with a few of these issues in the classroom, they often acquire a new kind of awareness of the ethical implications of technical work. (11)

The inclusion of case studies and films such as Gilbane Gold, Henry’s Daughters, Ethicana, etc., present real life scenarios to engineering students in a ‘safe’ learning environment. The decision these students make upon deep reflection are expected to be “ethically relevant” (van Gorp and van de Poel) in life. A good engineering ethics education at undergraduate level will equip the student with many, if not all, professional and personal responsibilities as an engineer: self-interest, fear, self-deception, microscopic vision, antagonism toward outside regulation, “groupthink,” etc. Additionally, it will familiarize them with the professional code of ethics for their specific discipline, an aspect uncovered by any other part of their curricula. For instance, the Engineering Ethics course at Texas A&M University at Qatar takes a categorical approach to ethical problem solving, suggesting law as a good starting point for ethical decision making. When law fails to provide an ethically viable answer, it suggests evaluating the situation using formal and informal guidelines, for example, the Golden...
Rule and the Mom-test, respectively (Harris et al.). While the learning of these principles underline some of the well-understood demons of professional practice, such as bribery and breaching of confidentiality, no coursework is sufficient in anticipating the complications real-life situations may present to the graduating engineer.

The continuous development of technologies and their application make the job of contemporary engineers hard as they try to apply old rules on new situations. “Our concern here is that in reading some recent works related to applied ethics and technology, we find a belief that current applied ethics is somehow far from understanding the new problems introduced by the latest technologies” (Munoz). The emergence of new areas of knowledge, such as biotechnology, nanotechnology, artificial intelligence, and information technologies require that a more recent version of Gert’s 10 guidelines (van Gorp and van de Poel 56) or more detailed code of ethics be devised for ‘excellent’ engineering practice. The problem is more urgent for this generation since freshly graduated engineers are expected to look for and retain employment during a recession. This added economic pressure requires recognition in contemporary engineering ethics curricula and case studies.

To claim that malpractice, corruption or ill judgments on the part of an engineer can be eradicated from contemporary engineering practice by simply incorporating ethics-related coursework now seems like an exaggeration. Most engineers involved in the design and development processes face ethical dilemmas that are not as conflictive or extreme in nature as exemplified above. In fact, van Gorp and van de Poel elaborate on the more prevalent, slightly under-rated, but equally important, ethical dilemmas related to the engineering design process. They discuss the innumerable decisions engineers are expected to make while formulating design requirements for a product or service and deciding on tradeoffs. While an engineer may seek to apply Bernard Gert’s 10 moral rules (56) while deciding on the design aspect of the freight ferry; for example, the Herald of Free Enterprise (van Gorp and van de Poel). One cannot be too quick to notice that the 10 moral rules Gert proposes were insufficient in correcting the human error that lead to the 1987 ship accident. During the formulation of criteria and requirements of the design, the engineer-designers accepted to trade off the economic requirements of the manufacturer to safety requirements of the ship. Additionally, one cannot hold the designers of the firm legally accountable for this oversight because the International Maritime Organization’s (IMO) safety regulations did not require implementation of safety elements that would avoid capsizing of roll-on/roll-off ships, thereby making the effort voluntary for manufacturers. Then there is the additional complication of countries that chose not to abide by IMO’s safety regulations, making safety an entirely self-driven and expensive motivation for ship manufacturers.

When law and company norms allow for easy ways out, the engineer must then act as a moral agent who performs his duty in light of the law followed by formal and informal ethical guidelines. While the engineer may choose to take the well-established Anthropocentric, Biocentric or Ecocentric approaches to solving an ethical issue, such as the freight ferry accident discussed above, other models of ethical behavior have been proposed in contemporary literature. One major issue in today’s globalized business settings is conflicting interests based on cultural differences. Oram’s “culturally negotiated ethical triangle” model allows stakeholders from different economic, cultural and political backgrounds to communicate their “own perception of the weight of the ethical dimension of the issue” (Oram). Her model intends to resolve cross-culture ethical questions related to the impact of a business, product or individual on the general public. Additionally, authors such as van Gorp and van de Poel focus on the ethical considerations specific to formulation of design requirements and determination of design tradeoffs in engineering practice that, if followed, would allow engineers to perform their job “excellently” (van Gorp and van de Poel).

Works Cited

Biography
Fatima Ahmed Raja is a third culture kid, born in Pakistan and raised in the small but diverse land of Qatar. Home is a relative term for her, not unlike many other young adults of a similar upbringing. Fatima started her tertiary education in the field of Medicine. Fate, however, had her route engraved in the study of chemical engineering-which she thoroughly enjoys and intends to continue paving a career in upon graduating from Texas A&M University. Her reading interests are vast and literary inspirations many, however she is an unabashed Jane Austen fan. As a third generation engineer in her family, she is intrigued by the gender-related bias that exists in the social and professional circles of this part of the world.
Researching a Discourse Community

By Hassan al-Mazrooei & Pavithra Manghaipathy

Writer’s Reflection

The main objective of our completed study was to research a community of students who took part in a service trip to Uganda in fall of 2011 from Texas A&M University at Qatar. The research was conducted to understand the fundamentals and aspects of a discourse community based on the models of writing scholars such as Ann M. Johns. These models investigated the goals, lexis, literacy and cost of affiliation of a discourse community in order to answer the original research question: what makes this community respectable? By answering this question, we hope not only to emphasize the members’ respectability, but also to motivate others to become part of service learning communities. The methodology of the research included conducting interviews and gathering artifacts such as journal entries, blog posts, and photographs in order to analyze the information. The community was concluded to be respectable not only because of what it brought to the less fortunate communities of Uganda, but also because of what it brought to the participants’ own communities back at Qatar: moral teachings, a modest outlook, and inspiration to become giving individuals. This study is significant because it establishes service learning trips as discourse communities united by a common goal to help the less fortunate. This research is important to people in the field of engineering because it can drive them to innovate efficient technology to help the poor.

Every one once in a while at Texas A&M in Qatar, a small group of students volunteer to travel together to a chosen country in need to assist its people in issues concerning health, safety, resources and education. This study is about the discourse community of students who have gone on service trips. Service trips are short trips where the members of the trips offer services contributing to education, food and water supply, labor, making of shelter and raising awareness. The particular community of students that we are investigating includes current students at Texas A&M University at Qatar. These students have travelled to Uganda together where they have agreed to offer community service to the people of the country. These students agreed to share their interesting stories and adventures with us through means of an interview and the sharing of artifacts such as blog posts etc. We have chosen this particular community because both of us are interested in participating in such activities and are increasingly fascinated in such activities and are increasingly fascinated in what these students bring to the communities in need and back to their own communities as well.

We are using concepts discussed by scholars from the textbook Writing about Writing to help guide us through this project such as the ideas introduced to us by Ann M. Johns’ “Discourse Communities and Communities of Practice: Membership, Conflict, and Diversity” in which she discusses the basis of a discourse community. She explains that “communities of practice are seen as complex collections of individuals who share genres, language, values, concepts and “ways of being” (Geertz, 1983), often distinct from those held by other communities.” (500). These different elements of a community of practice helped us to identify the important aspects that we need to explore in our own chosen community. We also chose this particular type of community because we have noticed there is a lack of research on individuals, especially in the age group we are investigating, who do voluntary work. Most communities discussed in Writing about Writing are social, academic and political communities. The question that we are aiming to answer about this community is this: what makes this community respectable?

We believe that this study is important because finding out what makes the community respectable can drive students to join the community and spread good will across countries in need. This study can also be used to prepare new members of the community for what is to come when they venture out into the unfamiliar.

Methodology:

To answer our original research question, we first had to identify the goals, lexis, literacy and cost of affiliation of the community that these students were a part of. The first step was to gather research material; data and artifacts to analyze. One of the students, M, took part in the service trip to Uganda and agreed to a personal interview. We used concepts discussed in Ann M. Johns’ article in Writing about Writing to compile an effective list of twenty four questions to help us determine how our chosen community relates to the fundamentals of a “community of practice” discussed by Ann M. Johns those being genres, language, values and concepts (500). Our interview questions were categorized according to difficulty and the interview commenced with the least difficult ice breaking questions, and moved on to the harder and more thought provoking questions. The questions that were asked with their answers transcribed can be found in the appendices at the end of the study. Additionally, another student who was voluntarily responsible (to the directors of the trip) of documenting the whole experience has agreed to share his extensive records of the events that took place, the processes he underwent during their trip and his personal thoughts and reflections on the country and its people and the effect their work is having on not only the charity, but on themselves as well. This lengthy document is almost 12,000 words long and considering the actual scale of this research, there is no way that everything can be analyzed, therefore due to this particular constraint only the basics that can be learned from this artifact will be taken into consideration.

Results:

Goals

M explained in the interview that there are several goals shared between the members of this community, those being: help with labor, promote education by teaching the children of Uganda, step out of our own comfort zones to evolve as individuals and help Ugandan women, especially mothers and through that, make them feel empowered. M also explained that selfless service is an integral part of what she is, “an Aggie” and joining this service trip is a way of reminding herself of her core values that she has accumulated throughout her life.

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Lexis
In terms of lexis, M explained that there were certain idioms that were used throughout the trip that they picked up from the Ugandan people, such as "shake shake the mango tree" and "lovely, lovely and nice." M explained that these terms were used whenever something positive happened during the trip. "Embuzi" was also used to refer to goats. Additionally, the blogger explained that the Ugandan children referred to all members of the community as "muzungu" which translated to "white people." However, it was discovered in the blog that the community members shared a certain code word that wasn’t so positive. The Blogger stated "I can tell you that FML turned out to be the muzungu which translated to "white people." Was found to be the closing sentence of many journal entries in which the blogger vented his feelings. (1)

Literacy
In this particular case, while the members did have to learn to read the locals, they had to have a certain amount of expertise in other areas as well. They needed to understand the demographics of the location (the people’s level of education, their incomes and their financial and social states) in order to assess the needs of the people while at the same time observe and read the way the environment would affect their experiences. Additionally, they had to learn how to read the groups internal dynamics. This was especially necessary so that the group would be able to emotionally keep it together and as M puts it, to “find comfort in each other” during rough times.

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Most of the members have admitted to initially being scared of the outcomes of the trip. The numerous vaccinations and the current socio-political situation made one particular member, who wishes to remain anonymous, feel like he “might never come back”. Furthermore, one of the biggest costs of affiliation was the poor living conditions these members had to endure. The blogger stated “I was worried about everything, from food to diseases to where will we sleep. Safety was an issue here. We had to take malaria pills and shots for typhoid and yellow fever.” (1) The blogger continues to express his concerns for the wellbeing of the community by saying “We saw the dirty side of everyone, and we realized that this trip will not be free of problems.” (27). Throughout the trip, every member would oscillate between positive and negative emotions and extremely sensitive issues were brought forward. One incident described in the blog was a boisterous quarrel that took place in an evening after a long day of labor, in which severe heated arguments rose about religion. The blogger explained that this internal conflict resulted in the members “offending other members” and expresses the degree of chaos by stating that “things got really ugly… it was crazy!” (46) On a more serious note, M stated in the personal interview that “We were exposed to a lot of diseases and two students ended up with malaria” and members of the community had emotional breakdowns because they couldn’t bear the living conditions anymore. M even points out that one girl was so severely troubled that she broke down “crying like a baby” (11). M stated that the group eventually learned to read their surroundings (which entails to a certain attaining of a new literacy to overcome difficulties) and adapted to the environmental issues and local attitudes.

Summary
M explains that being part of this community is a life changing experience. When asked “did you ever feel the slightest regret for joining the community?” M replied “no, I would do it again if given the opportunity.” Despite the major difficulties that the members of the community had to face, at the end of their long and cathartic trip, they all came back to their home communities with a deeper understanding of the level of poverty and the lack of education in countries like Uganda, which they shared (with us) in hopes of inspiring other people to one day become a part of this community and evolve in the same way that they did. It was determined that there is a great cost of affiliation associated with this community, in fact; it is what distinguishes it from other communities. The many sacrifices that the members of the community have to make are what define the importance and respectability of the community which ties together with our original research question. They want to raise awareness of the issues faced in Uganda without any personal gain involved whatsoever. M clarifies that “There are no materialistic advantages; it’s purely a sense of satisfaction at having done something good.” To the members of the community, their purpose is all about touching the lives of other less fortunate people and embracing the many ties that bind us together from completely different ends of the world in a selfless and sacrificial manner and we believe that this is what makes the community respectable. M finally explains that she was certain she has made a positive difference by seeing the joy in the kids’ faces.
The Insurrectionist’s Incense

By Muhammad Ghufran Rafique

Writer’s Reflection

This paper was written for my United States History class in response to the following prompt: “Why does Paine think Britain should not rule America? Why does Paine believe independence could be achieved?” Although this was my first analytical paper on a historical text, I was able to draw on my experiences related to debating and argumentative writing to identify the fundamental premises that Thomas Paine employed as the basis of his pamphlet. Analysis of a historical text, however, particularly one as highly opinionated as Paine’s pamphlet, is never a straightforward task. Paine claimed in the pamphlet’s foreword that he had constructed his arguments purely from logic, ensuring they were devoid of bias. A glimpse at Paine’s life in England, however, revealed that the Crown’s policies were likely to be anathema to him in any case since they had had a deeply personal impact on his early life and career, and a negative one at that. It was important to take this vital snippet of information into consideration when parsing the pamphlet since it allowed for the author’s ‘logical’ arguments to be put into perspective. More explicitly, however, it was the archaic English in which the pamphlet was written which required meticulous attention from me as a reader when working on the paper. This attention to detail was crucial in order to ensure that I understood the author’s ideas coherently.

Paine’s initial criticism of British rule focuses on the form of government in England, to which the colonies too are subjected. He attacks the English constitution, calling it overly intricate, self-contradictory and too antiquated to fulfill its purpose, and exposing the citizens to despotism – both aristocratic and monarchical – with the republican element being present therein only in name. He refutes the idea that this constitution allows the Crown, the Parliament and the people to exercise checks on each other because he believes that the power of the Crown is, axiomatically, absolute.

The author goes on to decry the monarchy as not just a violation of the fundamental law of nature that all men are born equal but also as unholy, and supports this with Biblical examples. The institution of monarchy, he argues, also breeds the evil of hereditary succession which, by assigning an absolute position of leadership as a birthright, throttles true meritocratic (in this case, elected) representation.

According to Paine, this combination of the English constitution and monarchy undermines ‘the design and end of government, viz. freedom and security’ (Paine 11). America, he believes, does not wish for such a tyrannical government. Paine gives further arguments against British rule. He refutes the notion that America’s future success is dependent on the continuation of British legislative fetters. This control, instead of affording the colonies protection, he feels, embroils them in unnecessary conflicts with nations such as France and Spain, with whom Britain, and not America, has any quarrel, and also damages America’s trade with European countries. By arguing that ‘Europe, and not England, is the parent country of America’

Biography

Hassan al-Mazrooei is a sophomore student at Texas A&M University at Qatar, majoring in Chemical Engineering. Hassan was born and raised in Doha, Qatar and graduated from Al-Jazeera Academy in 2012. From an early age, Hassan demonstrated a strong passion for science and knew early on that his future was in engineering.

Pavithra Manghaipathy has always been interested in words. As vague as that statement sounds, she feels like there is no better way to describe it. The power of a single phrase from an important person, the beauty a few words in a rhyming pattern can manifest into, the emotions that words can evoke have always had her flabbergasted. But she is a simple girl who enjoys the simple pleasures in life, reading, writing, listening to good music, long walks, watching sunsets and the endless list goes on and on. She has strong feelings towards protecting the environment and analyzing human psychology for she feels like we as the current generation can achieve so much more if we just learnt to read each other and communicate. She hopes to create that sort of society, one where lines of learning and communication and free and open so that peace and harmony can be ubiquitous.
The Englishman asserts that Britain’s governance of America would lack efficacy because of the intricacy of continental affairs as well as British ignorance towards them. Added to this is the problem of logistically administering a group of colonies from a few thousand miles away, and the absolute absurdity in ‘supposing a continent to be perpetually governed by an island.’ (Paine 43).

Paine posits that independence can be achieved simply because it is inevitable, because it is a just cause. ‘The cause of America is in a great measure the cause of all mankind.’ (Paine 4). He feels there is sufficient unity amongst the colonists, and their numbers adequate enough to sustain that unity and in perfect proportion to their territorial holdings to allow for a sound defense against the British. He goes on to expound on the abundance of resources endemically available to America: human resolve and courage, love for liberty, and the ability ‘to form the noblest, purest constitution on the face of the earth’ (Paine 85), as well as the capacity to sustain itself in the areas of commerce and defense, in times of peace and war. In this regard, he discusses two examples, the raising of a maritime force and the settling of debts through the use of the land abundantly available to Americans.

Additionally, Paine considers any further connection with Britain to be fraught with wretchedness, wherein no assistance from any nation is likely. Independence is, thus, Paine’s recommended panacea for American grievances.

Ten-feet Tall Man, Twelve-feet Tall Girl

By Roda Al-Hor

Writer’s Reflection

My first-year English class was my first experience of creative writing ever. Since high school, all I was taught was to write in a specific way according to specific standards that I cannot break, or else I will be considered a bad writer. The way I used to see writing was completely different than what I see now. I used to think writing was boring and senseless. If all the students will write according to the specific set of standards, then, we will all be the same! But anyways, this continued until the Academic Bridge Program (ABP), and by cross-registration, I had a chance to see writing from a different perspective. A perspective that made me fall in love with writing.

In my first-year English course, I was able to explore this world of freedom, where I can set my own rules. With the guidance of my professor, I was allowed to break “the standards of writing” just in a way that didn’t hurt English, because I didn’t think it fits me, or my writing style. In this course I learned that no standards can limit us. Our only limitation is ourselves when we choose to follow others even though we disagree. Finally, I was able to write in my own style, and to write using the way that suits me. No standards, no limitations!

These are my last couple of days in France, and I have no idea how they are going to be.

This whole trip started when my government selected a number of different people with specific academic standards to study French. At the beginning, we studied French for a whole month back at my home country, Qatar. After finishing that course in Qatar, the program continues in France. And here we are. My fellows and I are living the experience with two adults as advisors. One of them is the principal of the school where we used to study, and the second is the vice principal of that school. Throughout the month, we gained the trust of our advisors, convincing them that we are responsible and capable of handling ourselves. After this trust was gained, my friends and I were allowed to go on our own to any near place we wanted. And now, because it is a typical day, we go shopping as we used to everyday. Because of the many times that we visited these shops, we have nothing to buy! The underground supermarket was the only place that we visit every day. We never get out of it with empty hands.

It is an ordinary day that is closing to its end. The sun is orange, fading bit by bit, settling behind the historic lighthouse of Entrée Vieux with that spectacular touch of red and pink in the sky. The lighthouses are the same as I left them earlier this afternoon. But this time, the sun has moved to the left a little bit, taking place above the strait and between the two light houses. We need some drinks and snacks for tonight from the supermarket, so we decide to go there.

At the supermarket, my friends and I find some coke and potato chips, and now we are

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Biography

Muhammad Ghufran Rafique is a chemical engineering freshman at TAMU-Q. His interests include astronomy, debating, esoteric humor, and perfectionism. He believes in the power of the ‘Triple-C Triumvirate’: chocolate, coffee and cashews, and hopes to be able to synthesize caffeine in the laboratory in the near future.

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You’re actually cute!” My look said it all. After the man is doing weird gestures with his hands. I was hardly breathing, feeling like someone was strangling me! But, I remembered to stare back at him. “You’re not a monster!” I thought. I sat still. Not a single sound of a laugh was coming from the people in the place. Two ran all the way to the parking lot and hid behind a car. One girl stood on the bench screaming. ‘Three girls started running following the walking path. I did not realize what was going on until I saw the dog chasing one of the girls around the bench. The girl and the dog were running in circles around that screaming girl. Our advisors were getting our lunch out of the baskets, but they stood there watching when the dog started running around the place. I was sitting on the grass with some of the fellows laughing hysterically, but the next thing I knew, the dog was in front of me! Face to face, eye to eye, and look verses look! One of my advisors was approximately four meters to my left. She advised me not to move. But even if I wanted to, I couldn’t. “That dog is gonna get me anyways!” I thought. I sat still. Not a single breath or move. He stared at me for seconds, but for me, it felt more like years that refused to pass. I was hardly breathing, feeling like someone was strangling me! But, I remembered to stare back at him. “You’re not a monster!” I thought. “You’re actually cute!” My look said it all. After that look, he simply left!

Maryam interrupts those memories grumbling something I do not understand, gestures you do not get, and you are only thirteen, how would you feel? Scared? Terrified? Wanting to cry? Like a heart attack is coming soon? I feel them all right now! Should I run? Should I shout? Or should I just give him my purse? I turn to my left to find my friend Aisha in the same position as I am. Scared and horrified. “I’m gonna run,” Aisha whispers.

“No! Do not move. If you run, he will get you,” I whisper in reply.

“But Maryam ran as soon as she saw him,” she whispers back.

“What?” I exclaim while turning to her. I am still looking back at the man, trying to understand some of the things he is saying. I have to say something. I have to! I tell myself. “Go!” I yell. I turn left and look at Aisha’s place. She is NOT there!! She has left me all by myself.

You have to do something Roda. This guy is gonna kill you in his first chance, I told myself.

“I said GO!!” I yell again with a straight left hand pointing to the nearest exit, while hearing the laughter of a French couple waiting behind me. I sharpen my looks with frustrated eyes and angry eyebrows.

The man is staring at me in a kind of surprise. His eyebrows came together above his widely open blue eyes. His hands are parallel to his body, and his head is sloped. He murmurs something, but it’s too low to be heard. He is turning to his right. He is simply leaving! Finally, WHEW, I can breathe again. Is it that simple? Just to yell at people so they’ll mind their own business? Wow!

I still remember that day. How can I forget it anyways?

Each time I remember how weak my French is, I remember this incident. Because every time I realize that cultural literacy does affect people in one way or another. It either affects us in a positive way, or the other way around. For me, it was this situation I’ve been through.

This situation made me a better person. I never thought that I could stand as a bigger, taller, and stronger person than I am, and defend myself. I never knew that I could be more confident than I was. Because of that incident, because of that cultural literacy conflict, I am today I better person that I used to be. I am a more confident, social, and outgoing human being. Because of that situation I am not afraid of travelling alone anymore.

When I ask my mom to travel to Europe in the summer, she refuses, arguing that my father has to work in summer. When I tell her that we do not need a man with us, she gives the real reason behind her rejection. She is scared to be in a new place without any man to protect her. I smile, remembering that incident and how it sharpened my personality to be much more confident than my mom. A situation can change a life; so does literacy.

Biography

Roda Ibrahim Al-Hor was a student at the Academic Bridge Program (ABP) but had a cross-registration class with Texas A&M in the second semester of ABP. This piece was written for an English class at Texas A&M Qatar during her time at ABP. She is currently a freshman at Carnegie Mellon Qatar where she studies Information Systems.
Silent Reflections at Dawn

By Sathiasegkaran Muthumanickam

Writer’s Reflection

In this piece, I explained the bonding between me and nature. Every person has a history of being in solitude, when they put themselves into a state of deep thinking about what is happening or has happened to them. As I was in a soundless mind, I reflected and compared myself with nature. I contemplated the acts of a few humans who are greedy and evil, who try to demolish every part of nature for their own benefits, who do not care about the danger that might jeopardize them in future. I then reflected on myself as a person who was surrounded by families and friends who supported me in every possible way. Even though the future might seem grim at times, if there is a person who loves you and holds you up, nothing is impossible to achieve for what you desire.

Nature lies before me,
Charged with the grandeur of God,
Chirping sparrow and red Maple leaves
swirled in the wind
Mirrored water that reflects my frown,
Butterflies flying to settle on,
I’m sitting on the cliff watching the dawn,
The peace of solitude taken me in,
Into a deep thought I could not run

Oh Earth!
Blessed for one, despairing for another,
lust, drugs, and power,
Polluted mind of us,
With greedy lust our mouths do foam,
With evil hopes our eyes do gleam,
With plagues our death makes haste,
That’s not enough we humans scream,

Plotting your death is what we seek,
Weeping my tears when I see you flee

Who am I?
Surrounded by the sins of men, I was born in
the month of July,
As a blossom “Sakura” flower, my mom smiled,
The smile of hope and faith to a future guy,
Blessed with love by people I’ve compiled,
Washed all my sins in a fly

I stand up, gaze at the sky,
The one I love mirrored as a blink of an eye,
Forgetting sorrow and hope lost in vain,
I step forward even its grim,
It’s just the beginning of my glory,
Death isn’t the end of my story

Biography

Sathiasegkaran Muthumanickam grew up in Penang, Malaysia. He is currently studying for a Petroleum Engineering degree in Texas A&M University at Qatar and previously completed a Mechanical Engineering degree at the University of Bradford, where he graduated in May 2012.
Pursuing Time
By Rida Ahmad

Writer’s Reflection
This poem was initially written for myself as a leisurely activity. My major of engineering often consumes my mind and energy to the extent that I lose sight of the minute details which, if noticed, would provide a better perspective. If there is one thing I have learned through the process of writing this poem it is this: there is beauty in simplicity and simplicity is everywhere; we just have to be willing to see it. We have allowed certain milestones to not only define but to act as prerequisites of our happiness. I wrote this poem to serve as a reminder that being aware of the opportunity and blessing present in every passing moment is the only requirement that I should adhere to. It is my hope that through this poem I can continue to inspire myself and others to not be so easily consumed, but instead, to consume. We have five senses and a world untouched. Time is the last thing we should be pursuing.

A painter once idolized, was criticized for not understanding moments, that each is much like the next and not one has precedence over another. A lot like humans. Time runs in wet sneakers. Each interval of our lives is measured by the damp print she leaves on the deserted pavement. You and I, we know she’ll tire out. Yet we devote ourselves to counting and waiting for her trail to end. In the meantime: We become students, we pray for employment, for a spouse, for immortality, and much like the painter once idolized, we forget to notice that the boy in the front row wrote the name “Maryam” on the first line of his lecture notes. Why did he scratch it out soon afterwards?

We forget to wonder if the girl sitting in lab clicking her heels repeatedly is trying desperately to find a way to go home.

What is home for her?

We forget to see the smile on a boy’s face as he sits on an empty table tucked into the arms of a book.

Whose words are comforting him?

We all have our predictions for the end of the world, for the day Time stops running and turns to us and says “This life, it has been a blessing each moment has waited to be kissed by your senses. Have you not fallen in love?”

And it will be on this day that those bearing the mark of having been in love will smile, prepared to lie eternally under all they have seen and heard and wondered and loved.

And those who haven’t will search through their paintings and photographs wondering how they forgot to see what it is to be alive.

Biography
Rida Ahmad is an electrical engineering major from the class of 2016 who enjoys reading and (occasionally) writing for leisure. When it comes to poetry, she tends to absorb and regurgitate most of what she reads. Thus, often times what she produces contains elements from writers such as Margaret Atwood, Andrea Gibson, Buddy Wakefield and Sylvia Plath. She has come to the unfortunate conclusion that her writing is best when there is something troubling going on in her life. She wrote this poem as an attempt to prove otherwise.
My Relationship with Writing

By Monib Ashraf

Writer’s Reflection

This was the first piece of writing I did in my first-year English class. The teacher asked us to describe our relationship with writing, and I used my skills from high school for this piece. And lo, it made the cut for Best Writing, and not the later ones. That doesn’t bode very well for what I learned in class! This piece was written for fun - to start off my journal on a light note and to make it interesting, so anyone who picked it would want to continue reading. Later writing got more technical. But these later pieces lacked the heart and soul of a free student, bringing creativity and art to make serious tasks look effortless. That said, my attitude towards writing changed as I became much more sincere and interested as the first semester went on. But this is how it all began.

I would describe my relationship with writing as bittersweet at first. While writing can be a fun way to access the far corners of my mind, I am often in want of words—a constant reminder that I need to work on my vocabulary, which I never do.

But the hard part aside, writing is a great way of expressing myself fully and completely, and if I get good at it, depending upon the audience, writing could be a sure and easy way to make money.

Then comes the problematic question of why I write. I am not a natural writer. I wasn’t born with a notepad and pen in my hands and would rather restrain myself from the above mentioned than play with them. But alas, it was burdened upon me by the likes of parents, peers and institutions. So most of my writing takes place when I’m forced to. Like right now!

I have received all kinds of feedback on my writing, but most of this feedback was about font, content and length. Teachers didn’t like my font, professors loathed the inappropriate content, and my peers would rather I wrote less. But once I get going, I don’t want to stop. And once I’m done, I feel a great deal of satisfaction. But then there are other ways of gaining satisfaction like playing sports with friends or riding a bike.

But I digress. Writing for me has been like a trolley rolling down a slope. I need a push—and on the way down, depending upon the grease I have given the wheels of the trolley (my skills), the trip can be smooth or rough. But I make it down quickly once I’m pushed, and I keep going until I run out of slope or fall into a crater. Then I stop, dust myself off, and go do something I like.

Biography

Monib Ashraf has written mostly for English classes at school, but it has become a regular pastime for him once college started. He thinks it is a fantastic way of expressing oneself - something that he highly regards and can also be used as an outlet of humor, frustration, or to present brilliant ideas for the future generations. His other interests/obligations of course are science and math, though they quickly become tedious once forced upon himself. Anyone who is a science student will agree with him in silence. In leisure time, he likes running, tennis, art and spending time with friends or family. He can best describe himself as a student of life looking to achieve new and meaningful goals. But most importantly, doing it in a fun way.

Silence

By Jack Reid

Soft light pervaded the room, but nothing could be heard. Pacing was seen in the room, but nothing could be heard.

Silence pervaded, dominated, catalyzed. Silence called and, tentatively, a thought spilled into the room. It began to grow, and turn, and morph. Soon another joined it in the quiet, seeping from the pacing. These bits of ideas scrutinized the flaws and beauties in one another and worked together towards perfection, towards clarity. More quickly now, a third and fourth entered the room, latching on to the core of a flawless idea before them. Suddenly thoughts were spilling into the room.

They raced about, all seeking their perfect niche. The mental energy first simmered, then boiled for the first time. As the thoughts were shoving, competing, comparing, striving, and perfecting on their way to become the truth. This raucousness grew, and swelled; it tore at the pacing, and stretched Silence with its vividness and intensity.

Silence attempted to regain its seat of power to no avail. The calm of the room had been broken; Silence could not soothe it. As the fabric holding Silence, the room, and the thoughts began to tear with silent shouts, a thunderclap was felt, a pulse of light seen. The foundations of the once peaceful shelter shook.

And peaceful it was once more. At the commanding quake, all the thoughts stilled. All the thoughts quieted. All the thoughts watched. One of the thoughts sang. One thought, an amalgamation of so many others, exuded light, and all the others fled from it, recognizing their falsehood.

Solitary confinement is considered a harsh...
punishment indeed. Due to the silence, those who are imprisoned can easily lose their mental equilibrium when forced to coexist with their own thoughts. After all, many who are incarcerated have struggles within themselves, and being required to face this internal struggle head on in the silence of solitary confinement can be painful, if not downright crushing.

Alternately, monasteries are an excellent example of the creative aspect of silence. Locked within their own minds, monks of myriad religions can seek spiritual perfection, unhampered by the distracting sounds of the world. There they have little need of self-discipline in their focus because all other foci have been removed.

So where is this lamplight room? Within my mind, within everyone’s minds when silence fills the air. Why lamp lit? True silence removes all distractions and illusions. Bright light demands notice, darkness hides secrets. The soft glow of a lamp allows truth to be seen without calling undue attention to it.

The passage ends with an altered version of 1 Kings 19:11-12. Why replace every occurrence of the word “Lord” with “truth”? Well, one might answer, “What is God but Truth?”

A Daunting Challenge

By Asadullah Farid

Writer’s Reflection

Like many other standardized questionnaires, the application for the Aggie Service Learning Experience (ASLE) 2012 required applicants to describe one of the most difficult challenges they had faced and overcome. The audience could then have been anyone from a college student to a professor or student affairs personnel. While writing, it is imperative to understand that creating something pleasantly unexpected is one of the most powerful ways to hook the attention of the reader, a now-familiar practice which I managed to put into letters after a bit of a brainstorm. Elements of descriptive writing, one of my most cherished regions in literature, were easy to produce and use extensively. The final product was something that many people and peers appreciated and engaged with wholeheartedly, and it also contributed to my selection in the service learning group.

As a budding freshman here at Texas A&M University at Qatar, I find it very tempting to devote this piece of writing to the challenges of university life as I have experienced them firsthand. It is probably what is expected from a first year student in college. That, however, is something almost everyone faces, and truth be told, it is not exactly what comes to my mind when envisioning challenges. What does come to mind is in fact the befuddling, mind-boggling danger of getting my fingers chopped increased sharply, suggesting I should never mistake its usefulness for loyalty. Its snide hints were well heeded, I should say. I hurried to chop the garlic as I repeatedly lifted it and brought it down innumerable mistakes to follow, I then began the odious task of chopping onions, taking care to mimic my mother’s deft knife movements as perfectly as I could (unfortunately more daft then deft). The onions seemed to strongly resent this attack, though, causing a comical runny nose and an unending river of tears, when the only reason for me to be unhappy was to not be cozily playing my video game at that moment. With my eyes blurred from the tears, the danger of getting my fingers chopped increased manifold. The knife glinted at me malevolently as I repeatedly lifted it and brought it down sharply, suggesting I should never mistake its usefulness for loyalty. Its snide hints were well heeded, I should say. I hurried to chop the garlic and ginger pieces and the tomatoes, silently praying for the time when kitchen robots would be created. Tomatoes, garlic and ginger generally present very less resistance. No tears, no overflowing nose, no sharp bits flying off to say that every person has strengths and weaknesses; strengths to be honed further, and weaknesses to be removed. Despite the fiendishly tricky process it would turn out to be, cooking had always held a certain appeal for me, further augmented by the way my mother made it look so childishly easy. There was also the mysterious link between well-cooked food and happy visitors, well worth investigating if I were to please my future wife in times of hostility (something I’m sure male readers will agree with).

I had taken the liberty of noting the recipe while watching my mother make qeema, and so I quickly proceeded to gather all required vegetables and spices one Saturday morning. In doing so, I realized that I had missed the very first and basic step: leaving the meat in a bowl of water to thaw. Correcting the first of innumerable mistakes to follow, I then began the odious task of chopping onions, taking care to mimic my mother’s deft knife movements as perfectly as I could (unfortunately more daft then deft). The onions seemed to strongly resent this attack, though, causing a comical runny nose and an unending river of tears, when the only reason for me to be unhappy was to not be cozily playing my video game at that moment. With my eyes blurred from the tears, the danger of getting my fingers chopped increased manifold. The knife glinted at me malevolently as I repeatedly lifted it and brought it down sharply, suggesting I should never mistake its usefulness for loyalty. Its snide hints were well heeded, I should say. I hurried to chop the garlic and ginger pieces and the tomatoes, silently praying for the time when kitchen robots would be created. Tomatoes, garlic and ginger generally present very less resistance. No tears, no overflowing nose, no sharp bits flying off

Biography

Jack Reid ’15, is a junior mechanical engineering and philosophy student from Austin, Texas, currently studying abroad at Texas A&M University at Qatar. In addition to his research work, he is a member of the weekly microbiology news program Invisible Jungle, a local project lead for Engineers without Borders, and practices a form of martial arts called Aikido. Upon completion of his undergraduate career, Jack plans to attend graduate school with a technical focus. After a Master’s degree in technical research, he intends to pursue a PhD, but, as a junior, he hasn’t narrowed down the remainder of his future plans.
when cut. Since it was me holding the knife, though, it was characteristically difficult to cut them down properly. Sometimes it was the unbeatably squeamish nature of the tomatoes giving way far too easily, sometimes it was the ginger that stubbornly refused to be cut. Next in line came perhaps the one ingredient that I detest most in cooking, and yet, ironically, is essential for every dish to be made: oil. It is too unnatural, the deceiving golden brown texture of this liquid, the light weight, and its smooth flow. Only when one spills some on his hands does he realize the fits of irritation that oil can cause. Even when left alone, it somehow manages to find its way onto your skin. I will never be able to bring myself around that all-too-slippery, irremovable liquid that latches on to the skin gleefully. Thankfully some vigorous rinsing with soap (after having poured it into the cooking pot of course) minimized its effects.

At long last, the meat was on its way to being properly cooked, with just a few more flavorings that I happened to remember just in the nick of time. I pondered over the thought as to why every infinitesimal thing had to be added in miniscule amounts requiring microscopic vision and then timed properly. To add all things lump summed together and blast them with oven fire, would be a much more convenient method, no? Then again, it was me in the kitchen, not Colonel Sanders, and I have had as much experience with sizzling dishes as Gandhi had with guns. My troubles had not yet ended, for even after adding water and placing the pot’s lid on it, the intuitive timer had to be started yet again. Every ten minutes or so, the lid had to be lifted, every infinitesimal thing had to be added in line came perhaps the one ingredient that I detest most in cooking, and yet, ironically, is essential for every dish to be made: oil. It is too unnatural, the deceiving golden brown texture of this liquid, the light weight, and its smooth flow. Only when one spills some on his hands does he realize the fits of irritation that oil can cause. Even when left alone, it somehow manages to find its way onto your skin. I will never be able to bring myself around that all-too-slippery, irremovable liquid that latches on to the skin gleefully. Thankfully some vigorous rinsing with soap (after having poured it into the cooking pot of course) minimized its effects.

By my own standards it was food for kings. By my father’s, it was food for my father as he would have liked it to be: lean, not too much oil, not too much salt, and a balance of spices. I congratulated myself for this victory, trying not to think of beginners luck. Cooking may not be my thing, but learning it has no doubt taught me a whole host of things, from the gazillion things to be multi-tasked, to the importance of patience and presence of mind, and also, how to make any guest feel at home. I can only hope that the next challenge in line is as constructive.

Biography
Asad Farid is currently, like many other students, a junior in the Mechanical Engineering Department at Texas A&M University at Qatar. He was born in Karachi, Pakistan, but relocated thrice, from Karachi to Lahore, Islamabad, and back again. Coming from a military background, his childhood dream was to one day grace the skies as an Air Force fighter pilot. However, stubborn eyesight insisted on a set of spectacles as its consort. An avid enthusiast of the written word, Asad’s love of writing has often resulted in starting storyline pieces, yet they have sadly remained just beginnings due to lack of time. He resides in Doha, Qatar.

Versatile Engineers of the Future

By Morcos Morad Saad Metry

Writer’s Reflection

A heated discussion usually arises when the topic of STEM (Science Technology Engineering Mathematics) vs. STEAM (Science Technology Engineering Arts Mathematics) is brought up. How can liberal arts benefit engineers? This paper looks into the debate from an engineering point of view by relying on real examples and the engineering code of ethics. Perhaps engineers need to know more than engineering; they need to know how to approach and convince the public to meet their ethical and professional obligations. This paper argues that engineers need to become more versatile in order to meet the demands of engineering today and in the future. Engineers need to understand associated economic and market forces, put societal norms into perspective, have the right motivations to solve community dilemmas and their associated moral residue, and keep up with globalization. Moreover, engineering organizations like the IEEE and ASME need to organize monthly lecture series and call for international conferences that discuss the relevance of liberal arts in the advancement of the engineering field.

According to a quote by Bill Gates, the founder of Microsoft, “we should reduce our investment in the liberal arts because liberal arts degrees don’t correlate well with job creation” [1]. In his approach to education, Gates visualizes engineering and technology as the main direction where investment should go. Contrary to Gates, Steve Jobs, the founder of Apple, said, when launching the new iPad 2, “It’s in Apple’s DNA that technology alone is not enough—it’s technology married with liberal arts, married with the humanities, that yields us the result that makes our heart sing, and nowhere is that more true than in these post-PC devices” (Wadhwa, 2011). Looking at these two views on education, one wonders whose approach correlates best with an engineer’s ethical responsibility. In his article, Moriarty explains three types of ethics for three types of engineering, and he says that the traditional engineering was concerned about knowing how (Moriarty, 2001). The modernist is more concerned about knowing what. However, focal engineers of the future will need to answer questions of knowing why (Moriarty, 2001). Engineers will no longer be asked if they can tackle a challenge or not, they will be asked why they should or should not solve it. This means that engineers will need to understand the impacts of their designs on the people and the environment to design a useful product. According to the National Society of Professional Engineers’ (NSPE) Code of Ethics, engineers have a professional obligation to strive to serve the public interest and “to protect the environment for future generations” (National Society of Professional Engineers, 2007). However, to achieve these professional obligations, engineers need to know more than engineering, they need to know how to approach and convince the public. On that matter, Jobs said, “Good engineering is important, but that what matters the most is good design” (Wadhwa, 2011). An average person will not favor an engineered product based on its technical complexity, but rather on its user friendliness, environmental impact, and financial worth. This paper argues that engineers need to become more versatile in order to meet the demands of engineering today and in the future. During the design phase, engineers need to understand associated economic and market forces, put...
societal norms into perspective, have the right motivations to solve community dilemmas and their associated moral residue, and keep up with globalization (Van den Hoven, Lokhorst, & Van de Poel, May 2011).

Economic and market forces shape the types of products to be designed to a great extent; therefore, a versatile engineer should understand these forces. Technological advancements and the availability of simulation and design software have allowed a boom in engineering design. However, only few designs succeed when implemented in real life. The community may need a product, and the engineer may do a great job designing its technology, but the product can still be unsuccessful in the market due to lack of marketing or incorrect pricing. In the early 1980s, Apple released the first portable device that had a Graphical User Interface (GUI) and called it Apple Lisa (Apple, inc, 2007). Lisa was aimed at the corporate sector with its cutting edge features like the protected memory which was only implemented in 2001 in other competitors’ devices (Apple, inc, 2007). However, the product failed in the market due to its extremely high price tag of $9995 when compared to other computing products at that time, and the Lisa project was terminated (Community of tech enthusiasts, 2013). Apple could have surveyed the intended customers for the price they would be willing to pay for a certain category of features and then designed accordingly. Some may argue that it is the company’s role to market the product built by the engineer; however, it is still the role of the engineer to know the key features of a product that are worth spending money on during the design phase. Hence, engineers with economics and marketing backgrounds are at a better advantage in design than those with a background limited to technical engineering.

Many universities have started some initiatives by offering Engineering Economy in their degree plan (Blank & Tarquin, 2008). In such courses, future engineers learn about calculating the future value of money and the different interest rates (Blank & Tarquin, 2008). However, engineering economics changes with time, and graduates are likely to forget or lose interest in such information by the time they enter the market. Therefore, this paper recommends engineering organizations, like the Institute of Electrical and Electronics Engineering (IEEE) and American Society of Mechanical Engineers (ASME), to incorporate updates on economic and market statistics with engineering technical advancements. In addition, engineering organizations should encourage more publications that specifically focus on the significance of engineering economics in the field.

A versatile engineer is a member of society who interacts in it and puts its societal norms in perspective when designing a product. Vesilind [8] describes societal impact under two main categories: societal norms and law. Societal norms on one hand are comprised of manners and morals. Manners are the “social graces employed to make our interaction with each other more pleasant,” morals are defined by “truth, honesty and loyalty” [8]. Finally, law enforces the moral values that are “especially important” [8]. An engineer as a member of the society should comply with its societal norms. In his book, Mix It Up, Grazian defines the interaction theory as “An emphasis on how popular culture is created, diffused and consumed as an outcome of social interactions experienced among small groups of individuals” (Grazian, 2010). This means that an individual only learns societal norms based on his interaction with society (Grazian, 2010). Why well-exercised engineering designs can be a big influence on society, the success of their influence is largely dependent on the micro-level processes, of interaction between the engineer and society itself, in accepting or rejecting an engineering breakthrough. Hence, for an engineer to know what to design, he needs to be familiar with the society and its norms and beliefs.

Versatile engineers have the right motivations to serve their community by solving its dilemmas and their associated moral residue (Vesilind, 1999). Engineers of the future need to define their motivations in driving their future and the future of their generation. Schneider et al. ask the question: are engineers there to help (Schneider, Lucena, & Leydens, 2009)? To answer this question, one needs to draw the line in defining the word help. According to many people, help could be seen as something useful and productive to the society. However, Schneider et al. may disagree by saying that the intentions behind helping are what matter, not the help itself (Schneider, Lucena, & Leydens, 2009). If the strong are helping the weak just because they are viewed as weak and inferior, is it really considered moral? Some may say “come to look, come to climb our mountains, to enjoy our flowers. Come to study but do not come to help” (Schneider, Lucena, & Leydens, 2009). Therefore, the context requires a new word that conveys a more powerful and moral meaning than the word “help”, which is the word “serve”. If an engineer is to serve the community, he does not see the community in need of his service but rather that he has a need to serve the community. Hence, motivations do matter when talking about how the engineer engineers. A successful engineer does not only know the needs of his community and meet them, but a successful engineer interacts with people’s emotions, grievances and tears before considering initial designs. Van den Hoven et al. argue that ethics should no longer stand in the way of engineering, but rather engineering can be a great tool to solve ethical problems (Van den Hoven, Lokhorst, & Van de Poel, May 2011). They described ethical dilemmas through which a person is confronted with choosing between one option and another but not both (Van den Hoven, Lokhorst, & Van de Poel, May 2011). Engineering comes into play to solve moral residue, which is the anxiety associated with taking a decision in an ethical dilemma and not the other (Van den Hoven, Lokhorst, & Van de Poel, May 2011). Hence, an engineer’s motivation to design is to serve the community by using engineering to solve its moral dilemmas, by understanding its needs and interacting with society to design the most suited product that meets their needs.

The current globalization of business all over the world and the rise of multi-national companies make engineers no longer able to operate solely within their own societies, but they need to understand more about other cultures. Different countries may have different political systems that affect each branch of a multi-national business. Different societies may have different norms and expectations regarding the engineering practice in general. Therefore, engineers need to be familiar with international politics and with cultural variations. In fact, engineers need to be able to interact with peers from different ethnicities, and this requires engineers to broaden their minds by learning about international cultures and norms.

Some may argue that engineering is already established as a profession and that less should be invested on liberal arts as Gates said (Wadhwa, 2011). However, an engineering curriculum that focuses on conceptual learning and ethics can no longer be compatible with the present and future time (Moriarty, 2001). Therefore, engineers need to compensate for these shortages through three main approaches. First, enforce certain credit hours of social science and humanities electives in all engineering universities with a particular focus on sociology of cultures, psychology, and arts. Second, publish more peer-reviewed papers that link engineering practice to humanities and social sciences. Finally, engineering organizations like the IEEE and ASME need to organize monthly lecture series and call for international conferences that discuss the relevance of liberal arts in the advancement of the engineering field.

Engineers on the verge of a new post-modern era need to consider the versatility of their knowledge. According to Moriarty, in order to be considered focal engineers, engineers need to be able to understand the reasons of engineering to cope with the post-modernist era (Moriarty, 2001). Engineering can no longer be solely focused on technology and science as Gates may suggest (Wadhwa, 2011). Conversely, “technology married with liberal arts, married with the humanities” is what produces a versatile engineer for the future (Wadhwa, 2011). Engineers need to rethink their knowledge in economics and marketing,
societal norms, and changes associated with globalization. They also need to reassess their intentions and motivations in solving moral dilemmas. Only at that point can an engineer call himself a focal engineer and meet the professional obligations mentioned in the NSPE Code of Ethics ( Moriarty, 2001; National Society of Professional Engineers, 2007).

References

Feasibility Report: Assessing the Possibility of Introducing Online Classes at Texas A&M University at Qatar
By SeyedParham Mohajerani & Harshayu Desai

Writer’s Reflection
The focal point of this piece of writing was to introduce the student body of Texas A&M University at Qatar to the topic of online education. This report draws the attention of students to the advantages and disadvantages of online learning systems and inquires about their opinion on how or whether or not such a system should be implemented in Texas A&M University at Qatar. Furthermore, this report includes analytical data and information gathered from student surveys and faculty interviews, which portrays a general overview of the student body and faculty’s mentality toward implementing such a teaching system. Subsequently, it gives overall suggestions and recommendations regarding what would be the best method to apply such a system and what steps are necessary in the future to ensure the creation of most beneficial online educational system.

Background
This report is intended to assess the feasibility of introducing online classes to students at Texas A&M University at Qatar. The first step carried out in this research was to survey students and ask for their opinions about online classes. This survey (Appendix A) was also set to evaluate students’ understanding and possible experiences about online educational systems. Another part of the plan set for this research was to interview university professors (Appendix B) to discuss the benefits and the drawbacks of such a program and also to argue what departments can benefit from such a system. Questions about

Executive Summary
The purpose of this report is to assess the possibility of introducing online educational system to students here at Texas A&M University at Qatar. Online coursework has been considered the future of education since its introduction in early 1960’s [1]; it has been viewed as a student-based system in which students can proceed with their desired pace and study in their favored place. In other words, this educational system has allowed students to choose between instructor-led systems (synchronous), that is students having direct interaction between other students and instructor, or an asynchronous system that uses “online learning resources to facilitate information sharing outside the constraints of time and place among a network of people” [2].

The key purpose of this report is to see whether students and faculty are supportive of the idea of introducing such a program at Texas A&M University at Qatar, and if so, to suggest the methods that could be useful for the introduction of the program to the university. The significance and the need of such a report lies in the characteristics of online education; this system has been shown to be both economically and academically beneficial for students around the world. Each year students and their families spend a great deal on educational costs; this system has not only proven to be cheaper but also has been verified to be extremely “exciting, energetic, enthusiastic, emotional, and extended” [3] due to the unique and special use of visual and computer aids.

Biography
Morcos Metry, a Bachelor of Science May 2014, studied Electrical Engineering at Texas A&M University at Qatar. With a concentration in power electronics, Morcos’ primary research is on hybrid renewable energy generation systems for eco-friendly buildings. Morcos is a member of the IEEE and theEta Kappa Nu honor society. His passion for power electronics is accompanied by a passion for writing in both technical and the liberal arts settings.
what methods should be used if such a program were to exist will be considered. Furthermore, the director of Office of Academic Supplemental Instruction Services (OASIS) was interviewed and the scope and goal of its already established online educational program was discussed.

This data was collected and analyzed which aided the researchers to reach to a conclusion about the practicality of such a program at Texas A&M University at Qatar. This data could be presented to the administrative office of Texas A&M University at Qatar for further analysis and could be useful in the decision-making process of introducing such a system here.

Methodology
The methods that were used to carry out this project are as followed:

1. A survey was sent to the currently enrolled students at Texas A&M University at Qatar, and they were asked to express their opinions about the idea of online classes, whether they had experience with such a program, how effective they see such a program, and in what departments they would like to see such a program get implemented. The complete survey could be viewed in Appendix A.

2. For further diversity of this project, several members of the faculty of the university were interviewed. They were consulted about the concept of online educational system to determine how they see such a program’s effectiveness or non-effectiveness for students here at Texas A&M University at Qatar. They were also asked about their possible experience in teaching online classes and how they would like to see such a program get implemented at the university level. Refer to Appendix B to see the questions that were asked.

3. Finally, the OASIS director was interviewed and was asked for her knowledge about such a system. This interview was conducted because OASIS has been a contributor of online videos and lectures since its establishment, and it has been offering online classes to the students ever since; this is especially important in the assessment of the students since it can be useful to measure how excited students are about such a program. Refer to Appendix C to see the questions involved in this interview.

4. A collection of graphs and charts were formed based on the collected answers in the surveys and interviews. This showed the distribution of the responses which were beneficial in drawing a conclusion to the research.

Data Evaluation
The data from surveys and interviews were collected and analyzed. The surveys were sent to a total of 374 students and 65 responses were collected (17.4%). From these responses we observed that not many students have experienced an online teaching system; in fact only 5 students were enrolled in online classes sometime in their educational career (7.81%). This is due to the fact that here in Middle Eastern countries the educational system is traditional and involves minimal usage of online teaching systems. From the comments, we see that those who took these courses experienced the system directly and interactively towards successfully completing the projects assigned.

Another important feature that this survey revealed is that students who want online classes are mostly looking to cover liberal arts courses (89.66%) and the basic science courses, such as Math, Physics, and Chemistry (72.4%). This might be because these students believe that math and science courses need to be explained in person for the students to understand, while the liberal arts courses are more literature based and therefore pose fewer problems for students taking these courses online. But this point is arguable, as courses such as technical writing require a professor who can guide the students directly and interactively towards successfully completing the projects assigned.

Moreover, when the issue of technological-feasibility was discussed, students suggested that
if such a program were to be introduced here, it would be better to have it non-graded and have videos and online practice papers more than the other possible options, which were e-books and CD’s. This result was extremely surprising since it means that students are dedicated enough to complete the provided online and interactive material in order to gain a better understanding of the course.

In order to further back up the survey results and to gather the insights of educators about such a teaching system, professors at Texas A&M University at Qatar were interviewed. Professors from the liberal arts department and Math and Science department were chosen.

Initially History professor Dr. M was interviewed and his opinion was asked. Although he has never experienced online teaching system, he supported the idea of having online classes, seeing them as extremely cost efficient and beneficial for students especially in summer semesters when students are in other countries. However, he did not see only the online classes necessary for students here at Texas A&M University at Qatar, as the number of enrolled students does not justify the implementation of such a system; he felt this system was more effective for large classes. Moreover it was discussed that the liberal arts classes such as History and Political Science require direct engagement of students. Thus replacing such interaction with only online classes reduces the effect of direct involvement of the students. Yet he saw the online teaching system effective as a supplement to the traditional teaching method of any department. This interview initiated a background about how professors think about online classes here and helped to carry on with the rest of the interviews.

During the interview with English professor Dr. L, the discussion was similar to that of Dr. M. In this interview also the online classes were viewed as effective and beneficial for students as long as it served as a supplement to the traditional teaching method. The reasoning was also rather similar as it was directed toward the live student-instructor interaction. However, during Dr. L’s interview it was discussed that an interview with a professor who offers such services here at Texas A&M University at Qatar would be beneficial; thus an interview with Dr. B of the Math department was set.

During interview with Dr. B, his reasoning behind using an online system as a supplement to traditional classes was discussed. The argument was set towards the direction of technological feasibility. He described math as a subject that can be uninteresting and can demotivate students from continuing studies in engineering field; thus he believed that this use of technology can be exciting and engaging for the students. This followed the argument that Bernard Luskin made about technology’s effect on students. Also, he mentioned the fact that once a student watches a video about math, he/she could come to class not to try to understand the material from the beginning but rather to ask engaging questions which can be helpful for his/her studies to clear possible misunderstandings.

Dr. B believed that this fosters a more engaging and constructive classroom environment for both student and instructor.

An important point that was discussed in this meeting was that once a student uses online resources, he/she will have access to variety of information provided by professors all around the world. This is beneficial not only for the student but also important for the professors, as now they can create an international image of themselves which can help them to increase their credibility and international popularity.

To get more information about the background on online classes here at Texas A&M University at Qatar, an interview with an administrator of OASIS, Dr. S, was arranged. In this interview the OASIS’s experience with the online teaching program was discussed. One of the benefits that was mentioned was that here at Texas A&M University at Qatar, the female population, especially Qatari, would benefit the most as they could study at their home without being concerned about their hijabs. This is particularly important in Texas A&M University at Qatar, as she believed that the hijab is the reason more members of the female population do not engage in classroom activities as much as the male population. Thus having these online classes can be helpful for female students to discuss their ideas with professors personally via online chats and calls. However, similar to the other interviews, Dr. S endorsed on online videos and other internet services as a supplement to the students’ studies; they should not be offered alone as this could decrease the student’s direct engagement to the class.

Conclusion
The final outcome of these interviews was that online classes are most beneficial when their methods serve as a supplement to the traditional classroom learning system. Thus, if such a program were to get implemented at Texas A&M University at Qatar, it would be most feasible and successful if it were to follow the method of flipped education. This method suggests a blended, hybrid, learning system in which students watch lectures online and get a general idea of the material to be taught in the class and work on problem solving skills with the other students in class [4]. Furthermore this learning system fosters a classroom environment that is more focused on student-teacher interaction, as more time is available during class for students to communicate more effectively with professors by stating their confusions and asking for explanations, instead of just learning the material from the professor and trying to implement it on their own.

Recommendations
The research we carried out helped us arrive at the conclusion that flipped education was the most effective method of implementing online courses at Texas A&M University at Qatar. But this amount of data is not enough. We need to carry out further research to determine the cost and the methods required to establish such a system at Texas A&M University at Qatar. This can be done by presenting to the office of records and the Executive Board the data.
collected from the surveys and interviews to convince them of the desirability for such classes among students and professors.

Also, we will also conduct a case study by having students from all years attend a demo class which follows flipped education methods. This will help familiarize students with the concept of flipped education and help us observe students’ performances in these classes as compared to traditional classes. Furthermore, students will be surveyed on their view of flipped education as their active participation will help in developing an attractive system based on their views and suggestions.

Appendix A

References
Appendix B

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<th>Question</th>
<th>Answer</th>
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<td>Have you ever taught Online Classes?</td>
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<td>How do you see such classes effective?</td>
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<td>What are the advantages and disadvantages?</td>
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<td>Do you Think they are necessary here at Texas A&amp;M University at Qatar?</td>
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<td>What Departments you think should implement this program?</td>
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Appendix C

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<th>Question</th>
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<td>What was the motive to start such program?</td>
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<td>What courses are offered?</td>
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<td>How do you see your program effective?</td>
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<td>What is the reception rate?</td>
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<td>What changes you would like to make?</td>
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Application Denied: Is the SAT Really Necessary for College Admission Decisions?

By Siba Moussa

Writer’s Reflection

When I was thinking of topics to write my argumentative research paper for my first year English course, I could not help but think of a subject that I, myself, have often discussed previously with my peers: the injustice of the influence of SAT scores on college admission decisions. Due to my interest in this topic, I decided that, yes, I would look at the different perspectives of why some critics believe that SAT scores should be taken into consideration when looking at college applications while others don’t.

By comparing the two different perspectives, I gained insight into college admissions decision criteria and reasoning, and my original stance on the topic was slightly altered. After submission of my final product, I feel that I have produced a work of literature that I can definitely look back at and proudly say I have learnt a great deal from producing.

“Everybody is a genius. But if you judge a fish by its ability to climb a tree, it will spend its whole life thinking it’s stupid.” Although seemingly irrelevant and off topic, Einstein’s infamous saying is actually perhaps the largest argument to be made against the use of SATs in college admission decisions. Nowadays students from all over the world are required to take SAT tests and send in their scores to most college admission offices in the United States before a decision on their admission is made. Some people, specifically college admission officers, approve of this method, claiming to believe that doing so aids in the decision making process of the admission officers. Little do they know, however, that SAT tests have more negative impacts such as decreasing the students’ self-confidence, acting as unjust detectors of academic abilities, contributing to the negligence of SAT unrelated subjects, decreasing student campus diversity and acting as inaccurate detectors of intelligence, than they do in helping make college admission decisions. As a result, I urge the abolishment of SAT tests scores in college admission decisions as the drawbacks definitely outweigh the advantages.

The SAT, short for Standard Aptitude Test, was originally created in in the early 1900s as a mission of finding a test that would assess Harvard scholarship candidates. At first, the test was thought to measure “pure intelligence regardless of the quality of the taker’s high school education” as all the candidates were to take the same four hour long test (“A Brief History of the SAT”). Although the test format has been altered over years to consist of math, writing, and critical reading sections, the test remains fairly similar. However, what the test measures has completely transformed over the years of its existence. In the past, the SAT was seen as a measure of aptitude which is also known as “innate ability” (“What Does the SAT Really Measure?”). At this day and age, however, it is believed by many, including me, that the purpose of this test has changed to measure “developed reasoning” (“What Does the SAT Really Measure?”) and test-taking skills rather than intelligence.

Despite the common conception that SATs have a substantial ability of measuring the academic success and intelligence of its takers, SAT tests actually fail to take into account important factors that contribute to students’ intelligence. Since SAT testing is aimed only...
at measuring math, reading and writing skills, people of today’s society tend to forget that SAT tests scores do not serve as a measure of the creativity or imagination of the students; thus rendering these scores insignificant. In order words, SAT tests neglect “integrity, work ethic, open mindedness, and that passion for learning” (Teifenthaler 25). The results of the SAT examinations are a mere indication of a student’s “honed” test taking ability rather than proof of how successful student are or are capable of being in their future (Teifenthaler 25). Also, limiting the test to only three subjects does not provide the college admission officers with a precise sense of where the students stand in comparison to other applicants (Teifenthaler 25). Simply excelling in a specific area of study, writing, for instance, does not mean that the student is more qualified or smarter than a student who is a physics genius but earned a lower SAT test score. Due to such differences in the students, the SAT fails to serve its proposed purpose of objectivity, reducing the need for it to serve as a method of assessment in college admission decisions.

Not only is the SAT test an incompetent tool of measuring intelligence and life skills, but it also leads to the abandonment of SAT unrelated subjects. This frequently occurs due to the increased amount of attention paid towards enhancing performance in reading. To perform well on SAT examinations, extra pressure is exerted on teachers to emphasize focus on SAT related subjects, causing other subjects to be neglected. Due to this very reason, National Union of Teachers (NUT), is pushing towards a ban on SAT testing, stating that it is “educationally barren” (Greensheilds 30). Hazel Danson, the union’s education committee chairman, declares that thanks to SAT tests, the teaching curriculum is limited rather than expanded (Greensheilds 30). Does this limitation imposed by SAT testing not lead to hindering the advancement of our society’s education and academic achievements? I believe so. Hence, we must lean towards abolishing SAT tests as they impact the students’ learning and environment negatively which is very much contradictory to their purpose and detrimental to the quality of students’ education.

By abolishing the SAT exam, students will begin to focus more on other subjects in school and perhaps become more encouraged to apply to more competitive colleges. When students go through the process of selecting colleges they would like to attend, many take into consideration their minimum requirements, one of them being SAT test scores. As a result, some students might be discouraged to apply to top, leading universities due to their relatively low SAT test scores despite their high GPAs, academic excellence, outstanding community involvement and leadership skills. Many students fear rejection and part of that is due to obtaining “average” scores on the SAT test. Take for instance, a friend, who currently attends the Georgetown Qatar campus. When asked why she didn’t apply to Georgetown main campus although she was ranked the 4th top student in her high school in Amarillo, her reply was “I didn’t think I was good enough. Other students had higher SAT scores and mine was not too high” (Abdollat). Adding on to this example, a study conducted on the impact of dropping the SAT by scholars at Princeton University’s Office of Population Research shows that when SAT test scores were not required in applications, the diversity of the applicants rose (Jaschik). This shows that more students from different backgrounds were encouraged to apply, as they no longer felt constrained by their SAT’s scores and their need to live up to expectations of society. Once again, the idea of abolishing SAT scores proves to be not so bad after all.

Because it is universally perceived that SATs are vital to one’s college acceptance, a large amount of pressure is exerted on the students taking the exam. Due to this additional stress that students suffer when taking the exam, students generally tend to lose their self-confidence as they have the idea that the way in which they are viewed depends on how well they do (Murray). Most of the students taking the SAT feel that their scores define who they are as human beings and limit their ability to contribute to society. In fact, Amberg, the author of Verbal Review and Workbook for the SAT, discusses a situation in which parents of high schools compare their kids’ SAT test scores, as if the score itself is a measure the students’ intellectual abilities and their importance in the real word (Amberg 535). Students with low-test scores, or what they perceive to be a low-test score, generally have the belief that they “will never amount to anything in life” (Amberg 535). Thanks to the conventional way of thinking of today’s society, the students allow themselves to be defined by a mere test of which the scores will haunt them forever. Abolishing SAT tests, consequently, for college admission decisions not only causes society to rethink the amount of importance that should be given to SAT’s scores, but also makes the students feel like they aren’t being judged, reducing the strain placed on them to do well to prove themselves worthy.

Yet, to some, abolishing the SATs may appear to be irrational. “SAT scores are used to compare students from different backgrounds,” claim the critics (Amberg 536). As the applicants come from different schools, countries and backgrounds, SAT scores provide the admission officers with a standard way of comparing the students, allowing them to differentiate the applicants from one another. Critics of abolishing the SAT also pose several other arguments, among them being that schools vary in difficulty and an A from a certain school does not necessarily equate an A from another, making SATs important enough to act as an aiding factor in making admission decisions. Without the SATs, the colleges would have to create their own standardized tests (Amberg 536). Besides, the colleges do not use SAT test scores as “gate keepers,” where their decisions are based solely on the test scores (Amberg 536). GPA, academic improvement, and any other “outstanding records” come into play when making acceptance decisions (Amberg 536). Similarly, critics assert that in order to help the students deal with pre-testing stress, the ETS has provided practice tests to allow the students to know what they will be asked on the SAT and how to approach the questions posed (Amberg 542). This allows students to come prepared to the SAT exam with a general idea of the type of questions they will face, rather than going in completely clueless. Last but not least, some critics worry that abolishing SAT test scores will lead to the inability of college admissions to predict first year academic success in college since these scores show the students’ levels of adequacy of reading and writing and their ability to deal with stress, an important skill to acquire for college (Jaschik).

Yes, perhaps it may be true that SAT tests have the ability of predicting first year academic success due to exposure of college-like stress pre-college, providing students with the skills needed to manage and deal with stress. Yet, I proclaim that there are other ways to go about determining first year academic success that are much more efficient than SATs. For example, a new test that Stenberg, president of the American Psychological Association and professor at Yale University, has been working on measures “creative and practical skills” as they allow for college success. This test is called "The Rainbow Project” and has shown to be more successful at predicting college success than SAT test scores (Winters 56). Adding on to my previous claim, the case in which SAT scores are used as a standardized method to compare different students may have been valid in the past, but now the true accuracy of this method is jeopardized. With the wide availability of test preparation courses and an overabundance of SAT self-study prep books, the students learn how to master the SAT rather than allowing it to measure their true aptitude (Teifenthaler 25). In a way, I view this rigorous preparation as the students cheating their way through the SAT. Why is that so? Well, since all the students have to take the same test despite their background and not all the students have similar methods of access to such resources, some students are placed at unfair advantage amongst others (Murray). Because of this, the SAT exam does not serve as an impartial attempt to compare the students to one another. It is truly unfair to let SAT scores be the deciding factor in who gets in and who doesn’t when it comes to close competition. Although I disagree with many of the arguments that the critics may pose for the reasons stated above, I do agree
that SAT scores are not the only component of a student’s application that are looked at and taken into consideration. What I would like to point out, however, is that although colleges don’t weigh; these scores as heavily in most cases, society still does. The notion that SAT scores are a determination of a student’s intelligence is prevalent in today’s society, making the students feel that their scores limit their capabilities (Amberg 535). Abolishing SAT scores in college admission decisions would in fact serve as a way to alter the perceptions of society on this topic, as the people would begin to regard the SAT test as less valuable.

This leads us to the idea that maybe the fault is not the SAT test itself; maybe the fault is in society and the amount of perceived importance that the test is given. It doesn’t matter though, because in order to change the way society thinks of the SAT, the SAT must be abolished in college admission decisions to lower its alleged value. By doing so, students will feel better about themselves, diversity across college campuses will increase, schools will focus on various subjects rather than simply Math and English, and colleges will have the opportunities to come up with other, more accurate, fair, and creative methods for student comparison. Perhaps we are so consumed with the idea of competition and striving for the best that we forget our need to reassess the ways and the basis on which we judge the abilities of not only the students but also our society as a whole.

Works Cited

Sarah Mathew hated winters in Chicago. She did not care for the pristine beauty of the snow covered landscapes, the gentle fall of the snowflakes on the windowsill or simple pleasures like sipping hot coffee by the fireplace. All she associated with winters was bleak mornings, uncomfortable sweaters, flu breakouts and constant irritation. And on one such cold, bleak winter night, she tussled about in her bed, wishing desperately for an instant change in the season. She could feel the cold seeping through her bones, and her woolen blanket wasn’t providing the usual amount of warmth. She opened her eyes slowly to glare at the offending piece of bedding. But as her vision slowly started focusing, she took in more of her room. She slowly got up from the floor, clutching the pillow tightly and turned to face the direction of the noise. She could now see a thin, slouching figure, partially hidden in the shadows of the room and her heart leapt to her throat. The figure stepped towards the double pane window, and she was only mere seconds away from a full blown panic attack when her crazed mind registered the amused face of her best friend Lisa.

The moonlight falling on Lisa’s face would have made her features look ethereal, if it were not for the smirk she was directing towards her friend. “Were you trying to bludgeon me with a pillow? Seems like all those self-defense classes you took paid off well,” Lisa said.

“You are an utterly despicable human being!” Sarah swore, trying desperately to quiet her erratic heartbeat. “Why in the world were you hiding in the corner of some dark, desolate room? And while we are on the topic of said dark room, where exactly am I?” “I was waiting,” Lisa said. Then she tilted her head to the side and observed her friend for a few seconds. “You don’t remember,” she muttered. This confused Sarah more. “Remember what? The last thing I remember was coming home from school. I must have been exhausted because I think I fell asleep right after,” she said. Lisa frowned at her friend and in a careful voice said, “Sarah, you did not just fall asleep. You were in a coma for the last five days. We are in a hospital and I was waiting for you to wake up.”

The Ties of Friendship
By Regetha Reghunath

Writer’s Reflection

Although I have decided to dedicate my career towards studying the realities of the physical world, from time to time I like to venture into the realm of fantasy. I have always enjoyed telling stories, and I write short stories in my free time. My stories are written more with the intent of escaping reality for brief moments than with the intent of publishing. But when Best Writing sent the email requesting entries, I recognized it as a chance to escape the mundane daily routine of writing technical reports, and I had to pen down my story. This is my first attempt at submitting a story to be published, and I hope you like it.

Sarah Moussa is an 18-year old woman who has a passion for reading and writing in her spare time. She is currently working obtaining her undergraduate degree in Chemical Engineering at Texas A&M at Qatar. Having lived in numerous countries in various parts of the world, she aspires to write a novel about her experience growing up as a third-culture kid, perhaps someday in the near future.

Biography

Siba Moussa is an 18-year old woman who has a passion for reading and writing in her spare time. She is currently working obtaining her undergraduate degree in Chemical Engineering at Texas A&M at Qatar. Having lived in numerous countries in various parts of the world, she aspires to write a novel about her experience growing up as a third-culture kid, perhaps someday in the near future.
There was a moment of silence as Sarah stared at her friend, trying to understand how this joke might seem funny to her. Then she looked around and for the first time noticed the IV drip in the corner, the doctor’s chart attached to the bed, the whitewashed curtains on the side of the window, and it all suddenly made more sense. Lisa was not lying; she was in a hospital. But for the life of her, she could not remember what brought her here. She suddenly felt disoriented and had to sit down on the bed. Lisa came around the corner and stood in front of her. ‘I’m sorry, I know this is a lot to take in. Maybe you should have tried to be more tactful about it,” Lisa said.

“Well, neither subtlety nor tact was ever your forte. You would have failed miserably if you had tried,” Sarah murmured. Lisa snorted at that. Despite the strangeness of the entire situation, Sarah was glad that Lisa was with her. Through the ten years of their friendship, she had come to trust and rely on Lisa and could therefore draw comfort from her presence. She tried to remember the last time they talked and realized that her memories were blurry and mixed together.

“So, what had happened?” Sarah asked.

Lisa startled at that question, then slowly smiled and said, “I don’t even remember; I don’t think it matters. I don’t think it ever really mattered.” She paused for a few minutes and said, “Sarah, don’t worry, I forgive you.”

Sarah chuckled. ‘Very magnanimous of you,” she said. Lisa’s wit still amused her. ‘Why does she think she deserves an apology, especially when I was in a coma, and she looks just fine and peachy,” Sarah thought. She felt drained now and decided that she could nap for a while and talk to her quirky friend after she got up. ‘I’m going to nap for a while. You can be a creep and hide in the corner, or pull up a chair and try to sleep as well.’ She fell asleep to the sight of her friend’s amused smirk.

The next thing she knew, Sarah was awakened by her frantic mother. She woke up, blearily trying to gather her wits, as her mother sobbed on her shoulder. ‘You knew you were in a coma, and you don’t have to smother me to death.”

Her mom looked at her, through tear-smeared eyes and said, “You knew you were in a coma? You just woke up! Honey, do you remember what happened?”

“Not really. I remember bits of the accident, but Lisa had to tell me what happened”

Her mom froze and looked at her in horror, broken glasses and the bright blue paint of her school bus. She knew she had forgotten something important, but couldn’t place it. She felt nauseous, her head was throbbing, and she had to bite her tongue to stop from crying out. Lisa now looked more distraught than she did. She knelt down in front of Sarah, and gently whispered, “Hey Sarah, it’s okay now, you are all right. Listen, you don’t have to remember it; none of it matters now.”

They sat quietly for a while, only to be startled from their reverie by a crash in the hallway outside the door. Then Lisa straightened up and spoke in a quiet, rushed tone, “Sarah, I have to leave soon, but before I go, you have to promise me something. Promise me that you won’t beat yourself up about this, that you’ll let it go.”

“Let what go?” asked Sarah, “I barely remember what are you saying? I spoke to her! I spoke to her yesterday!”

“You must have dreamt it honey, it’s all right now,” her mother tried to console her.

Sarah’s head swam, several images flooding her mind at once. She remembered the argument, she remembered being so angry with Lisa that she pushed her past the curb. Lisa had stumbled onto the curve of the road, her backpack falling a few feet away from her. She had gone to retrieve her backpack, and Sarah had followed her, still shouting. Then there was that blaring noise. The bus driver had not seen Lisa step onto the road. He had taken a fast turn and could not break in time. In the last moment, Lisa had pushed Sarah away, and that was when Lisa hit her head on the boot of a parked truck. She remembered now: she had pushed Lisa, she had pushed Lisa to her death. And Lisa had saved her, looked out for her like she always did. Sarah was crying now, her heart felt heavy and she didn’t know if she could ever forgive herself. Then she remembered what Lisa had asked of her last night. Oh, but how could she, how could she let it go. Even if her friend had forgiven her. In time she would wonder if it was all a dream. Wonder if somehow the ties of their friendship had brought Lisa back to her friend’s side to console her. She would marvel at the strength of their bond, and feel comforted with the knowledge that she was never really alone, and she would use that to face another day, until she met her friend again.

Biography

Regatha Reghunath is a senior Mechanical Engineering student at Texas A&M University at Qatar. She is an Indian expatriate, born and brought up in Qatar, and considers Qatar as her home. She has always been interested in storytelling and wanted to pursue writing as a career in her childhood. However, after high school she decided to pursue a career in engineering and change story writing to her hobby. She occasionally suffers from wanderlust and uses her stories to travel into realms of her own creation. She has written articles for the annual magazine of her high school, but has not published a story before. Most of her stories are locked up in a worn out, red diary, hidden in her bedroom. This is the first one that escaped.
Analyzing My Writer’s Block

By Vamsi Vegamoor

Writer’s Reflection

While I was always told in high school that ‘writer’s block’ is just an excuse to not completing work on time, over the course of this project, I was able to actually study myself writing in a controlled environment. Based on analyses from various authors in my English Composition textbook along with supplementary reading, I was able to pin point the ‘rules’ I was involuntarily following while writing. This encouraged me to venture to try and improve the situation.

Free writing in class. After two sentences, I am stuck. I feel I have nothing more to say about the prompt. But then I hear, “Keep the pen moving,” so I write out the date on the page neatly, draw the margin, slowly underline the title, and then box it – Now what? I look around and see the other students are writing. I try to get back to my writing, but I find myself searching for the ‘right’ sentences. It was almost like my brain needed a ‘plan’ of the content before I could actually start the writing. Why is it that I can’t free write as comfortably and smoothly as others, when the writing is ‘unrehearsed’?

This study aims to try and analyze my writer’s block – what thoughts are going on in my mind during the writing process that might be responsible for this? It struck me that I have never done any formal analysis of my writer’s block, apart from simply ranting about it and using it as an excuse for not finishing my work on time. In my freshman year composition course at Texas A&M University at Qatar, after reading about some of the research done on the writing process of both professional and unskilled writers, I was naturally interested in studying my own situation. I realized that if I can obtain categorized results from my study, I might be able to connect them to either the flaws of unskilled writers or the suggested traits of professional writers pointed out by various articles in Writing about Writing. This would help me in developing a schema for improvement.

Methodology

Since I am not a person who is very comfortable speaking into a camera/recorder while writing or otherwise, I decided instead to record the screen while writing. I used a screen recording software called “CamStudio” that creates a video of all my onscreen activity. As for the writing, I studied myself writing three short essays for the application for Student Leadership Exchange Program to the College Station campus that turned out to be roughly 350 words each. Of course, while I watched the videos later, I had to rely on my memory to pen down my thoughts that were going through my head as I was writing. This was somewhat similar to Mike Rose’s method of stimulated recall (Rose 238). Though the readers might argue that this is not very effective as it might not give an accurate representation of my thoughts during the writing process, I would consider it reasonably truthful as the study was done the next day after the actual recording. While watching the playback of the recording, I was trying to look for the ‘how’ of my writing, rather than the content. I noted the speed of writing and the amount of time I spent on trying to fix certain sentences. I also took note of the distractions that came up during the writing process.

Results

From analyzing the video, I found that I, too, subconsciously follow Donald Murray’s reconceiving methodology while writing. This involves trying to rescan the text from an external reader’s point of view until “all rhetorical, formal and stylistic concerns have been resolved, or the writer decides to let go of the text” (Berkenkotter 223). In fact, this trait was so profound in my thought process that at one point, I actually cut a paragraph that I had originally composed for the second prompt, used it back in the ‘finished’ first essay and started redrafting the first one again because I had realized that what I had just written made a more compelling argument for me to be selected for the program. Further, I found out that I focused on a few ‘rules,’ akin to those described by Mike Rose, since I noticed that I too was “operating with writing rules... that impeded rather than enhanced, the composing process” (Rose 238). I found that I rigidly stick to these rules during my writing process. For example, I often pour over for hours on how to best express the content of my writing in such a way that it is easily understood by my readers. Also, I observed that whenever my sentences are too long, there are greater chances of the readers losing track of the meaning, I look for ways to split them into multiple sentences. Also I worry about the reader falling asleep in the middle of reading my piece – I feel I have to keep the audience interested in every sentence. Another ‘rule’ that I follow subconsciously was that the sentences should be grammatically correct even at the expense of clarity. This, I observed, is the major cause for my slow writing, for I keep changing a sentence over and over till I feel it is satisfactory. In addition, I tend to adhere to the five-paragraph structure, for I focus on trying to get at least three major points in the essays I write. This rule often stifles me, as sometimes, even though I have two perfectly valid points in my essay, I force myself to look for a third to complete the structure. Another key aspect I noticed was the presence of diversions from emails and social networking. Even though they were few, I noticed that after coming back to the writing, I ended up re-reading what I had written so far and then staring at the screen for a while before being able to start writing again. I noted, however, that I did not face this problem if I talked to someone in between, say with my friends in the dorm. This was probably because I was only distracted fully by a task that involved writing, and simply talking for short periods during writing did not sidetrack me significantly. It was as if my ‘Train of Thought’ had a very large inertia; once stopped it took a lot of energy to get it started again. Conversely, I also noticed that towards the middle of my concentration span (that time between distractions), I wrote fluently; one sentence naturally transitioned into the next.

Summary

I observed from the results of my study that I subconsciously follow rules during the writing process. But I also noticed that while some rules are detrimental, others have potential benefits to my writing process. I need to focus on improving those which help the process and suppress the ones derogating the situation. For example, in my view, the rule I follow about expressing the content in a lucid way is beneficial to my writing, but its rigidity makes the rule unproductive. So, I can improve this rule by trying to make it more flexible in application. Yet some others have to be completely suppressed by conscious effort during the writing process. I should keep in mind that grammatical corrections are not for first drafts but for editing; this, in my view will require the most effort, for I usually merge the process of writing and editing together, owing to my experience of having to write ‘single’ – ‘prompt’ pieces in high school. I have also come to the understanding that in non-technical writing, such as the pieces I studied myself writing, it might actually be beneficial for me not to use the aid of technology; I should probably write it out on paper, with the mobile phone switched off so that my ‘Train of Thought’ doesn’t stop frequently, and then type my paper after drafting.

After performing this study, I realized that during free writing tasks, I was not lost for words - I was subconsciously spending too much time looking for the ‘right’ words (which I guess defeats the whole point of the task), afraid that I would
cross lines in grammar, or that I wasn’t following all the rules. This and maybe distractions present at that time were essentially acting like friction to my writing. It wasn’t that I couldn’t free write, it was because I was putting my foot on my own brakes all along!

Though this study gives a good insight into my writing process and the potential suggestions for improvement, there is a need to carry out a follow up study that actually measures the effectiveness of these suggestions, and how well they help me overcome my writer’s block. There is also a need of a study that uses more objective data collection protocols than simply relying on memory.

**Works Cited**

**Biography**
Having grown up in Qatar for most of his life, Vamsi Vegamoor considers himself half Arab. After sitting through high school classes staring out of the window, he decided to take up engineering. By a stroke of luck, he ended up studying Mechanical Engineering at Texas A&M University at Qatar. He is rarely seen at parties having fun, instead preferring to satisfy himself with a good book. As a tech junkie and gamer, his laptop is dearer to him than all else. Admittedly a realist, he often enjoys a good philosophical argument.

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**Understanding Moore’s Law**

By Youssef Ftouni

**Writer’s Reflection**
The purpose behind writing this paper was to shed light on the concept of Moore’s law and its role in the modern day technological revolution. It is targeted towards an audience that has some background information on the subject of electronics. Throughout the process of writing this paper, I began to comprehend why computing power is doubling almost every 2 years, an aspect that I have personally been aware of throughout the past decade. Moreover, given my electrical engineering background, I was able for the first time to grasp the difficulties present in researching topics related to my field of work, which I have not tackled previously in my technical papers. I have received positive feedback from various peer reviewers and instructors regarding the well-roundedness of my paper and its ability to highlight the topic at hand in a forthright manner. I believe my piece of technical writing is an informative and enjoyable read.

With the birth of electronic circuits in the early 1950s, a chain reaction of technological innovation was set in motion. Gordon E. Moore, the co-founder of Intel Corporation, was one of the first to assess this growth in what came to be known as Moore’s law declaring that the rate of computing power doubles every 18 months. As computing power continues to increase at what is assumed by Moore’s law to be an exponential rate, computer engineers are required to realize the ongoing growth. Similarly, the levels of awareness computer engineers exercise in their field of work must be improved. By understanding the reasons behind the increase in computing power, the current standing of Moore’s law, and the future implications of such a law, overall engineer job proficiency could thus be enhanced.

**The Foundation of Moore’s Law**
The invention of the integrated circuit in 1950 triggered the beginning of a circuit-centered technological revolution. Prior to the creation of the IC circuit, physicists such as William Shockley and Murray Hill had worked on the manufacturing of a groundbreaking electrical component referred to as the silicon-based transfer resistor (transistor). Considered as the building block of numerous electrical components, the transistor could be calibrated and used to control the flow of electrons through one of its output terminals when varying voltages were inputted at two other terminals. Calibration took place through a process called doping in which impurities were added to the silicon material to increase conduction properties (Schaller, 1997). Three years after its creation, the integrated circuit (planar IC) was invented which accommodated planar transistors on a single silicon chip in a flat planar design, instead of the original 3-dimensional transistor design. Consequently, Schaller (1997) stated that the commercial manufacturing of transistor-based electric circuits became cheaper, more effective and practical. In 1965, “Electronics” magazine issued an article by Gordon E. Moore discussing the issue of packing additional components onto IC circuits. It was stated in the article that by “1975 economics may dictate squeezing as many as 65 000 components on a single silicon chip” (Moore, 1998, p. 82). This prediction was realized by Moore through his analysis of experimental data related to new circuit transistor density models throughout
1975, Gordon reexamined his initial prediction, putting the doubling of IC component density with little variation in cost at a rate of every 18 months. This new prediction, currently termed as Moore’s law, was due to advancements in manufacturing capabilities. More specifically, larger and less faulty chips were produced with no negative impact on circuit function through new methods of imaging the silicon circuit connections as well as printing them on the silicon chips (Schaller, 1997).

**The Current Prognosis of Moore’s Law**

A Technological Driving Force

The modern day significance of Moore’s law is widespread, driving exceptional growth in different areas of society. Increase in computational power (increased processing speed at higher chip densities) improved the modern capabilities of the communication sector and devices such as laptops and mobile phones. Similarly, scientific simulations, data analysis and design research is turning virtual with user expectations. For example, transistor counts in processor chips have doubled every 18 months ever since the invention of the IC transistor in 1969 (Schaller, 1997). Moreover, Beausoleil (2008) revealed how metallic interconnections in silicon chips have various limitations. These limitations range from weakening of the purity of transmitted data to increased power consumption, the smaller the size of the wires used in the chips. On another hand, there are recent breakthroughs capable of supporting Moore’s law for many years to come. Jurveston (2004) stated that nanotechnology in the form of nano-scale switches and tubes can be used for substituting transistors and wires as components which would be faster, cheaper and more powerful. Likewise, instead of using metallic interconnections in silicon chips, photonic interconnects (basing information transfer on photons and electrons in “nanoscale electronic-photonic circuits”) can be used instead. This technology could be implemented on existing transistor component structures and sizes thus making it easier to implement onto current circuit designs (Beausoleil, 2008).

In addition, Shulaker (2013) discusses how although advancements in silicon-based circuitry are still being made, unconventional techniques need to be explored. One of these alternative technologies is the carbon nanotube computer. This CNT computer would implement carbon nanotube based transistors which can outperform the traditional silicon-based transistor in terms of power consumption, and signal transmission speed. This can help in highlighting new technology that could extend the life of Moore’s law (Shulaker, 2013). As a result, advancements such as these would thus become the foundation of a new paradigm for Moore’s law.

Is the End of Moore’s Law Near?

Nevertheless, research had revealed that the technology is deemed to stop growing exponentially for multiple reasons. Certain limitations are faced by the use of transistors in building IC circuits utilized in computing. Semiconductors have reached limits in circuit utilization capabilities. These limitations include atomic size limitations, temperature overheating, and manufacturing cost related problems as chip component density is increasing (Jurveston, 2004). Moreover, Beausoleil (2008) revealed how metallic interconnections in silicon chips have various limitations. These limitations range from weakening of the purity of transmitted data to increased power consumption, the smaller the size of the wires used in the chips. On another hand, there are recent breakthroughs capable of supporting Moore’s law for many years to come. Jurveston (2004) stated that nanotechnology in the form of nano-scale switches and tubes can be used for substituting transistors and wires as components which would be faster, cheaper and more powerful. Likewise, instead of using metallic interconnections in silicon chips, photonic interconnects (basing information transfer on photons and electrons in “nanoscale electronic-photonic circuits”) can be used instead. This technology could be implemented on existing transistor component structures and sizes thus making it easier to implement onto current circuit designs (Beausoleil, 2008).

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**Influence on Electrical and Computer Engineers**

Out of all the previously discussed influences of Moore’s law, there exists one that directly influences computer engineering technology discipline. The responsibilities allocated to electrical and computer engineers in promoting growth, stability, and cultivating overall human states are affected by the notion of being mindful about the existence and influences of such a law. This is due to several factors. By being aware of Moore’s law, T. Tarhini (personal communication, November, 2013) states that its applicability “in the IC-Transistors manufacturing industry [would] provide insightful information for engineers already working in the IC domain or those who are seeking jobs in the IC-microelectronics fields.” Likewise, Tarhini affirms that by alarming practitioners and unemployed engineers to the remarkable growth that this realm is going through, job proficiency would definitely be improved. Furthermore, Schaller (1997) stated that “Moore’s Law is about the pace of innovation” (p. 59). Such innovation can only be acquired if electrical and computer engineers are to keep up with the rapid improvement. By achieving awareness in that field, responsibility to society as a whole is thus demonstrated.

**Conclusion**

What was noted as an unadorned observation half-a-century ago on the growth of transistor counts in silicon chips has become a driving factor for technological evolution. Moore’s law predicted the rate at which modern technology is growing. It had also set forth a standard rate for which electronic manufacturers would follow when planning out future innovations. The social implications are vast, however when it comes to its effect on the practice of computer engineering, understanding Moore’s law can positively affect the level of awareness that electrical engineers exercise in their field of work. By anticipating change and comprehending reasons causing that change, computer engineers can thus work more capably and efficiently.

Appendix A

Figure 3. A visual representation of the predicted doubling of the quantity of components on an integrated circuit chip every year, in which a small number of data points were used to generate the prediction. Data points were adapted from “Cramming More Components onto Integrated Circuits,” by G.E. Moore, 1998, Proceedings of the IEEE, 86, p. 84. Copyright 1998 by the IEEE.
Figure 4. A graph revealing the long-term accuracy of Moore’s law, through illustrating the number of transistors on silicon processor chips as a function of time in years. Adapted from “Gordon Moore’s Law,” p. 6, 2003. Copyright 2003. The Anderson School at UCLA.

References

Biography
Youssef Ftouni is currently completing his third year as an Electrical Engineering major at Texas A&M University at Qatar. He believes that in order for an engineer to be characterized as proficient and credible, he or she must sustain a certain level of professionalism in his or her technical writing. This is because technical writing is an integral part of being able to project technical concepts to society as a whole, concepts bestowed by engineers that facilitate mankind’s innovation, advancement and growth.
Engineering the Future and the Future of Engineering

By Karim Ibrik

Writer's Reflection

The following paper was prepared as an assignment for an Engineering Ethics course. The context behind the assignment was to prepare a response paper discussing an ethics-related theme using a list of publications provided by the instructor (and any additional sources). In this paper, I discuss what I believe to be the three essential changes in engineering ethics required to shift modern engineering towards a more sustainable future. First, I demonstrate that modern engineering ethics should shift from a self-serving “minimalist” approach to a collective level of ethical responsibility. Second, I illustrate the need for engineering ethics to progress from conceptual ethics to material ethics, giving rise to focal engineering that stresses the importance of habitat resonance and enlivenment. Finally, I discuss the importance of explicitly making ethics a core requirement for all engineering students as such a change will inevitably lead to more ethically conscious and hopefully more sustainable engineering.

Technology’s overwhelming influence over human life and natural processes has opened up a seemingly endless number of possibilities. However, with trillions of pounds of waste produced every year as a result of technological development and consumption, current pollution levels are approaching the planet’s carrying capacity (Woodhouse 24). The environmental complications resulting from the destabilization of our ecosystems are slowly being addressed by professional organizations such as IEEE’s Electronics and Environmental Committee’s demands for a shift to sustainable engineering (Meyer 65). Sustainable engineering by definition would lead to a safer future as it advocates “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Meyer 64). Critics argue that modern engineering ethics are incapable of steering the future of technology towards socially and environmentally responsible engineering (Munoz 47). In this essay, I will discuss the three essential changes in engineering ethics required to shift modern engineering towards a more sustainable future. First, I will demonstrate that modern engineering ethics should shift from a self-serving “minimalist” approach to a collective level of ethical responsibility. Second, I will illustrate the need for engineering ethics to progress from conceptual ethics to material ethics, giving rise to focal engineering that stresses the importance of habitat resonance and enlivenment. Finally, I will discuss the importance of explicitly making ethics a core requirement for all engineering students as such a change will inevitably lead to more ethically conscious and hopefully more sustainable engineering.

The “minimalist view” as illustrated by Woodhouse describes the most prevalent level of ethical responsibility in modern engineering (25). Basically a “stay-out-of-trouble” approach to dealing with ethical concerns, this view assumes that an engineer is only required to deal with what is contractually obligated. As such, minimalist engineers work within threshold values that only satisfy design criteria and standard operating procedures as defined by their terms of employment. Even if more favorable or efficient solutions existed and could be achieved, minimalist engineers are only obligated to satisfy the most basic of design standards. This in turn does not lead to ethically desirable solutions.

However, Woodhouse argues that engineers adopted the minimalist approach as a result of the career setting itself (27). This particularly becomes evident when considering the growing epidemic of overconsumption. Overconsumption refers to inefficient manufacture and use of products, which leads to more pollution than necessary (Woodhouse 23). Overconsumption is the result of poor design requirements and inefficient trade-off of ethically relevant design criteria, such as safety and environmental friendliness (Woodhouse 24). As a result of the prevalence of the minimalist approach, engineers usually do not deal with excess pollution resulting from overconsumption because they are not contractually required to. Although the reasonable care approach and good works somewhat exist in engineering, Woodhouse claims that the career setting itself jeopardizes the livelihood of anyone who merely refuses to accelerate overconsumption (27). This demonstrates that there is, in fact, an underlying force in the career setting that is pushing towards minimal action regarding overconsumption. Additionally, van Gorp and van de Poel argued that engineers as individuals are not the main cause of overconsumption plainly because they are not involved in the design process that sets thresholds on design criteria (16). They show that design requirements are usually set forth by a web of moral agents that includes employers, consumers, and government policy (18). As such, the design depends greatly on market and economic pressures, not engineering criteria.

The absence of engineers from the design process in turn leads to unethical design criteria trade-offs that overlook the serious effects of overconsumption.

For engineering to shift towards sustainability, engineers themselves must stop being self-serving minimalists and attempt to take part in the product’s design process. Doing so will prevent the relentless nature of the career setting from deciding astonishingly low thresholds, especially when it comes to overconsumption and pollution. Woodhouse argues that the most appropriate way for engineers to get involved in the design process is by shifting towards an approach that calls for collective action (28). This results in a safer environment for engineers to express opinions and discuss options. Consequently, the inclusion of engineers in the design process through collective action will bring forward a force that humbles the pressure from market forces. As a result, engineers will be able to work collectively towards a more sustainable future without feeling jeopardized by the career setting. Furthermore, thoughtful collective discussions of options could encourage engineering to revert to its traditional “control group and gradual scale” approach (Woodhouse 26). This approach allows for tremendous exploration of options with minimal harm done to the public and environment.

The second change in engineering ethics required to move engineering towards sustainability is a shift from conceptual ethics to material ethics. Before discussing what is meant by material ethics, we must identify the fundamental aspects of modern engineering. Engineering theoretically consists of three fundamental aspects, also known as the “engineering trilogy”: the engineers, the engineering process, and the engineered (Moriarty 32). Moriarty argues that modern engineering is tied to conceptual ethics, emphasizing the engineering process in the engineering trilogy (35). The rise of conceptual ethics could be attributed to the explicit use of science in the engineering process from the early days of the renaissance (Moriarty 34). However, for the future of sustainability, engineering ethics should move towards a material ethical approach that focuses on “the engineered” or the product manufactured in the trilogy. The shift to material ethics will in turn give rise to focal engineering. Focal engineering includes the same ways of knowing-how and knowing-what of modern engineering, but takes into consideration the aims of a product and its overall benefit to the world (Moriarty 36). Focal engineering will in turn lead to the
production of material that satisfies the three important assessments of material moral worth: engagement, enlivenment, and resonance (Moriarty 36). Engagement refers to the level of harmony between product and user, while enlivenment measures the harmony between the user and the world. Lastly, resonance measures the harmony between product and world. As a result, focal engineering provides a system in which engineers are forced to analyze the effect of deploying their products in our world. Resonance and enlivenment put the world into context for engineers, which is rather important because the engineering enterprise is driven by the world’s needs.

As illustrated in my earlier discussion of design criteria, the collaborative effort of engineers is a necessity for the growth of sustainable engineering. However, modern engineers deal mostly with “the engineering process” that aims at benefiting investors and creating a more advanced technological world for mankind. In relation to overconsumption, modern engineering advocates only the containment of environmentally hazardous material to protect the safety and welfare of the public. There are no long-term goals in handling the waste, just short-term “engineering process” to contain its effects (Meyer 65). Unfortunately, modern engineering does not take responsibility for long-term cleaner production. This can be extrapolated from the lack of commentary on environmental ethics, with only deliberate discharge of hazardous waste discussed in textbooks (Woodhouse 25). This is a clear indication that collaborative action of modern engineers is not sufficient enough to shift engineering towards sustainability. As discussed earlier, there are many advantages of collaborative engineering, but there also needs to be a shift from conceptual ethics that focuses on “engineering process” to material ethics that focuses on “the engineered.” This is where focal engineering plays a role. By contrast, focal engineering gives attention to the aims behind “the engineered” and assesses how well the product resonates with the user and his/her habitat. This would in turn progress engineering toward a more sustainable future as it takes the habitat into consideration due to its worldly-context. Bringing my previous discussion into the equation, collective action of focal engineering would provide the means by which engineers can: (a) influence design requirements to (b) ensure sustainable development through habitat resonance. If used appropriately, collaborative efforts of focal engineers can be directed toward solving the bigger problems of the day, such as global warming, acid rain, ozone depletion, and renewable energy sources (Moriarty 38).

The final change in engineering ethics required to shift engineering towards sustainability is making ethics a core requirement for all engineering students. Stephan has shown that less than a decade ago, the majority of engineering schools in the U.S. did not and possibly still do not require students to take ethics-related courses (8). Unfortunately, as engineering grows more complex with the current rapidly growing climate of technology, engineering ethics should play a more important role. The new dynamic form of engineering has become too complex. On a daily basis, engineers face challenges in determining the effects of their decisions. The minimalist approach is no longer sufficient and engineers need to understand that. As such, modern engineers need professional help in making judgments about the effects and uses of their products. I believe that engineering ethics should be the primary source of that professional help, and the classroom should be the platform upon which ethics is taught. Classroom-based learning offers two clear advantages. First, it provides a safe haven for errors; students can engage in solving theoretical problems without fear of actual harm (Stephan 11). Second, even a simple introduction to ethics during an engineering student’s education is enough to make him/her aware of ethical considerations that are usually overlooked in the field. Consequently, this prevents microscopic vision in the career setting (Stephan 11).

In conclusion, this essay attempts to discuss the three essential changes in engineering ethics that would facilitate engineering’s shift toward sustainability. The first change is the shift from the minimalist approach of engineering responsibility to collective responsible action. Collectively, engineers can force a change in current design process, causing a more balanced trade-off of design criteria that accounts for overconsumption and pollution. The second change is the shift from conceptual ethics that deal with process design towards material ethics that focuses on the aims and benefits of the product with respect to its worldly-context. This results in more habitat-friendly engineering. Finally, engineering ethics should become a core requirement for all engineering students. This will help them adapt to the growing complexity of technology and allow them to make vital judgments about product effects and uses. With that said, the future of sustainable engineering undoubtedly lies in the hands of ethically conscious focal engineers working collaboratively towards a sustainable future.

Works Cited

Biography
Karim Ibrik graduated from Texas A&M University in 2012 with a Bachelor of Science degree in Chemical Engineering. He has joined Shell as a graduate in their global development program and currently works in Qatar as a process control engineer in the world’s largest Gas-to-Liquids (GTL) chemical plant.
In Innovation We Engineers Trust

By Ivan Abraham

Writer’s Reflection

This paper, a response to an assigned reading of 5-6 articles, argues that the answer to problems caused by engineering (environmental, socio-political, etc.) is not to regulate engineering or place smothering reforms on its conduct. Instead the paper argues for unbridled innovation and more engineering as the solution to problems.

As is the case with any research paper, a complete understanding of the submission may require that the reader be aware (at least marginally) of the content quoted in the references section and throughout the text. However, since this paper was submitted for coursework, I refrained from changing any of the text to facilitate easier reading.

Numerous calls to focus on the societal aspects of engineering – including unforeseen consequences and environmental effects – have been made in the recent past. Some of them have focused on the ethical aspect of engineering, i.e. the notion that ethical engineering has to be inherently sustainable. Additionally, many of them have pitted the accelerated rate of technological development against the concept of sustainability, with Denise Oram even going so far as to call the simultaneous progress of innovation and sustainability a moral dilemma (32). However, apart from these calls for a renewed emphasis on the ethical theories that govern engineering, no concrete answers or solutions have been proposed in this regard. In this paper, as an engineer, I propose a few practical guidelines that will help engineering proceed in a sustainable fashion based on the premise that technological innovation should be the bedrock of our sustainability efforts.

The above mentioned premise follows as a consequence of two facts; firstly, it is impractical if not impossible to revert to an older level of technology, and secondly, the manner of technological progress is such that it is not possible to stifle progress in a singular field (i.e. engineering & technology) without affecting progress in other fields (e.g. medicine). The accelerated rate of development in the past century has indeed raised multiple questions regarding the direction in which engineering technology should proceed, and undoubtedly, sustainable engineering is the need of the hour (Oram 31). Engineering today certainly draws from centuries of environmentally unfriendly practices because traditional engineering ethics has been concerned with “how” and not “what” or “why” (Morarit, 32). However, the apparent rift between technological advancement and sustainability elucidated by Oram is a jarring concept because they are very much linked.

Technological innovation should be the bedrock of sustainable engineering because toning down on innovation only delays the oncoming storm and is a symptomatic treatment rather than a cure. Rather than develop esoteric ethical principles like focial engineering espoused by Morarit, we must place renewed emphasis on technological advancement and innovation (36). The current level of technological development certainly has had a cost on the environment. However, current technologies are here to stay unless replaced by newer ones. It is impractical to expect mankind to revert to older technologies because current ones are unsustainable. Since newer, more sustainable technologies cannot arise without innovation, we certainly cannot espouse a path devoid of technical advancement. Inasmuch as current technology damages the environment, not coming up with newer technologies will doom the planet to an environmentally distasteful death. Therefore, only more technological innovation can provide answers to the questions that challenge us and it can be logically concluded that technical innovation is the answer and not the problem.

Provided that sustainable engineering is a necessity, it is necessary to promote technological innovation as a whole because of the manner in which technological advancement takes place. Focusing only on environmentally sustainable innovation is akin to the murder of all innovation. Historically, humans have shown a marked ability to come up with elegant solutions to daunting challenges. Often these elegant solutions have not been manifested out of thin air by the likes of Einstein or Newton. Most of the time crude and inelegant designs have been continually perfected over time to result in the technological achievements we see today. A case in point would be the basic airplane wing design – which hasn’t changed much over the last century. At other times, it has been minor discoveries in a singular field that has led to a wave of inspiration to elegant solutions in other disparate fields. For example, the discovery that snake venom kills by lowering blood pressure has sparked research into its uses as a cure for hypertension. Thus, focusing only on environmentally sustainable development not only narrows down the scope of technical development but also restricts the amount of raw resources – in terms of inspirations, ideas, and technologies – that may in the future serve as sources of sustainably focused technical advancement. Thus, the basic premise – that the future of sustainability and that of the planet rests with our commitment to technical advancement – is a no-brainer.

Then to be in accordance with the basic premise, to answer questions that we face, we must turn to engineering itself – even if such questions arose as a consequence of traditional engineering methods. Towards this end we can adopt many guidelines for directing the progress of technological innovation towards environmentally sustainable outcomes. Four important ones are focusing on de-compartmentalizing engineering education so that sustainability is a concept diffused throughout the curriculum, adopting a general enforceable framework oriented towards sustainability, focusing on the sustainability aspect in non-engineering fields and initiating a paradigm shift in engineering thought.

The first step towards sustainable engineering is to do away with the modularized engineering educational framework. Traditional engineering education has been modularized into a technical education that seeks to impart technical knowledge and a social education that focuses on humanities (Amadei and Wallace 12). The concept of sustainable development is more often found in the humanities side of engineering education, including engineering ethics courses. Furthermore, student engineers themselves consider the humanities modules to be irrelevant to their technical education and place less importance on these courses. Thus, there exists a chasm between the objective in imparting a humanities education alongside a technical education and the reality of the end result. This chasm can only be bridged by incorporating the concept of sustainability throughout the technical education curriculum by de-compartmentalizing the humanities and the technical fields.

The second guideline is the adoption of a general and enforceable sustainability-oriented engineering framework. Such a framework regarding sustainable development in engineering does not currently exist across the board. The lack of a general framework is true of other fields like safety as well as pointed out by Van Gorp and Van de Poel (16-17). There are different professional societies including standards organizations in engineering; however,

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different entities are free to interpret standards and regulations in different ways. After all, the law itself can be open to a subjective interpretation within different juries or with passage of time (Oram 35). Furthermore, in the fast globalizing world, various interpretations can arise for the same concepts of sustainability due to inherent differences in culturally ingrained attitudes. Lastly, the framework has to be enforceable to be effective. Thus, the second step towards heralding a focused and sustainability-oriented phase of development in human engineering history is to adopt an enforceable framework across the board.

The third guideline is to emphasize the sustainability aspects of ethics in non-engineering fields. The huge importance placed on the ethical and moral considerations of engineers and engineering societies is grossly misplaced – with reference to sustainable development – simply because most engineers are not self-employed. An engineer who disagrees with his company’s unsustainable polices has no option but to resign from his job. If every corporation was focused on making profits, then the engineer may as well hang up his hard hat and look for another career. Professional societies exist on the premise of a social contract which enables them to police themselves provided they place the interests of the society above their own personal interests (Harris et al.). However, they may be hard-pressed to issue regulations and standards that would lead to the loss of their own status as professionals. In other words, engineers may not be willing to put forward the public interest (sustainability) as their primary objective if doing so will cause them to lose their status as engineers.

Such situations point to a gap between the relative importance of sustainability as applied to engineering and as applied to other fields. These situations are more likely to arise when engineers are faced with the task of sustainable development by engineering ethics while corporate ethics or business ethics may not place any such constraints on management or businessmen. Thus, the lack of focus on sustainability aspects of professionalism related to other fields, which have the power to affect change in a much more tangible and often more forceful manner than engineers can ever dream to, is indeed jarring. Most engineers are employed by businessmen, politicians and the like, which implies that without a consensus for sustainable technological development trickling down from the highest echelons, engineers are more or less powerless to affect any change. Therefore, the third practical step towards sustainable development is to ensure that sustainability concepts are emphasized in non-engineering fields as well.

A last guideline that would serve well as a starting point for the much needed paradigm shift in engineering thought is elucidated well by Munoz who argues for a concept of ethics beside technology as opposed to over or under technology (46). Therefore, rather than dictate terms in the beginning or point out flaws in the end, sustainability as an ethical concept should be applied throughout the engineering process from the requirements analysis to the final optimization tests. For example, as stated in Van Gorp and Van de Poel’s case study, lightweight recyclable materials might be sustainable from an ethics under or over technology perspective; however, these materials are much more energy intensive to produce and this factor is only revealed when sustainability concepts are applied alongside the engineering process. Thus, a major shift in engineering with regards to sustainability concepts and engineering ethics is required to direct development towards the sustainable direction.

Critics may argue that businessmen and corporations are guided by market principles espoused by Adam Smith, who holds that the public good is served by each individual and entity serving their own self interests (181). They might also argue that modularization is required in engineering education because the current four-year degree plan needs to be able to keep up with the ever increasing body of knowledge. To the first, I respond that principle of market economics is applicable only in instances where commodities and goods have prices and value. In the current society, environmental well-being, as of yet, has not been tagged with a value or price and thus does not enter the equation; i.e. it has to be consciously imposed on market principles. To the latter, regardless of the length of the course, the need of the hour is to be both broad and specialized at the same time. It is then possible that in the future engineering might be a seven-year course like medicine, and such a reality should not be unacceptable.

Thus, even as the accelerated rate of development raises challenging questions regarding the future, from an engineering standpoint it is in innovation and unbridled technical advancement we should focus our efforts. Inasmuch as current technology might be unsustainable, we cannot come up with newer technologies by espousing a path devoid of innovation. Human ingenuity and engineering innovation has led us so far that there should be no reason they cannot surmount future challenges as well. Furthermore, stifling any kind of technical innovation has far reaching implications that serve to decrease the overall rate of technological progress. Provided that technical innovation must not be stifled, the adoption of new guidelines can enable technological advancement in a sustainable manner. These guidelines focus on de-compartmentalizing engineering education, adopting a general and enforceable framework focused on sustainable development, focusing on the sustainability aspect related to professional ethics of non-engineering fields and initiating a paradigm shift in engineering thought which will incorporate the sustainability aspect throughout the engineering process. With the proposed guidelines in place, and with an unshakeable faith in human capacity, as an engineer I find it appropriate to say – in innovation we trust.

Works Cited
Hydrocarbon Based Hybrid Fission-Fusion Reactor by Using Quantum Spin Hall Effect

By Abul Hasanat Muhammad Jahanur Rahman

Writer’s Reflection

This paper talks about a theoretical nuclear reactor that can harvest energy from hydrocarbons like crude oil or gas. It is a supplement for those countries that do not have uranium, thorium or plutonium etc. As a hobby physicist, I like researching nuclear physics and quantum optics. I have this idea of a reactor that can carry out both fusion and fission reaction simultaneously based on Dirac electron interaction and nuclear binding energy level. It is a unique nuclear reactor, which has not been practically tested anywhere. So I went to publish my hypothesis in the ASME nuclear conference ICOMEPOWER2012. It was accepted, but due to lack of funds, I did not present this paper, and therefore it was not published. It helps to know quantum nuclear physics, energy, and environmental impact in order to understand the motivation behind writing this paper.

Abstract

This purpose of this paper is to introduce an alternative clean utilization of hydrocarbon resources with more reservation for the future energy. It is about a nanotech catalyst that controls low temperature fusion through phonon frequency and z-pinch confined plasma by using piezo and pyrocrystal. It paves the way to utilize natural resources like oil and gas in eco-green and optimum efficiency. The exhaust burned gas is reformed into sync-gas that can be used for two nuclear fusion initialization steps. One is hydrogen fusion and other carbon fusion. Later this can initiate very high temperature carbon fusion reaction in the reactor. This promises energy for very long period by using very small amount of hydrocarbon fuel. This reactor carries out two reactions. First it carries out chemical reaction that synthesizes fuel from biomass or syngas through gasification and Fischer-tropes catalytic reaction. Then it initiates fusion reaction once critical temperature reached by the exothermic chemical reaction. This reactor is more energy conservative than ordinary fusion reactor because it uses proton tunneling catalyst support that detour proton-proton nuclear repulsion force at lower temperature. The energy produce in this reaction can be stored back into hydrocarbons through synthetic gasification and pyrolysis cracking of CO2. This reduces environmental impact of CO2 based pollution and its greenhouse effect. It operates in supercritical stage. For best performance, it needs to have inert carrier (ionic liquid) that can have both superconductive and super fluidic stage at the supercritical condition. Since this reactor consumes the whole fuel and exhaust no gases, it can significantly decrease environmental pollution and greenhouse effect. The byproduct of this fusion reaction is heavy atoms, which can be used for radioactive medical purposes or initiate fission reaction in the reactor after fusion reaction. This gives it hybrid mode of carrying out fission and fusion reaction simultaneously until the lower potential element is reach, which can be iron or its neighbor atoms. This promises energy for very long period by using very small amount of hydrocarbon fuel. It opens up the opportunity for Middle East countries to have a self-independent nuclear capabilities.

Introduction

The purpose of this invention is to use mostly available resource like hydrocarbon than rare earth metal like uranium for nuclear energy production. Also at later stage this invention is to introduce hybrid nuclear reactor that carries on both fission and fusion reaction simultaneously. This reactor carries out two reactions in its mesophore and microphore. First it carries out chemical reaction that burns fuel to produce syngas that can either reuse in reactor to synthesize different fuel through gasification and Fischer-tropes catalytic reaction or initiate nuclear reaction by using thermal energy from burned fuel. The fusion reaction starts once critical temperature reached by the exothermic chemical reaction. After hydrogen fusion, carbon fusion and other higher element fusion reaction is carried on sequentially and if any very heavy transient element form; they go into fission reaction. The end goal is to reach optimize region containing least strong nuclear energy element or most stable nuclei like iron. Increasing the fission-fusion cycle frequency beyond the nucleus transient time of most stable atoms can destabilize nuclei and cause breakdown into more unstable regions of quark disintegration. This increases mass to energy conversion rapidly, but it’s very unstable condition for the reactor. It can hypothetically simulate supernova explosion of red giants. The end product at full conversion, is energy and subatomic particles from the mass of the fuel.

This sequence of fission and fusion reaction is controlled by matrix of quantum well vortex inside quasicrystal nano-catalyst. Factorial hexagon nanoparticle structure like carbon nanotube and graphene support can give its more endurance to stresses due to hotspot or other thermal and pressure disturbance, which is big problem for current fixed bed catalyst reactors. This factorial hexagon is a quasicrystalline, which collapse into homogeneous honeycomb structure at critical pressure. It disperses stresses and increases yield strength instead of breaking down.

Figure 1: nuclear energy density varies with element mass
Description

This quasi-crystal catalyst support (blue hexagon) of the reactor has two types of control crystals in its porous mesophore membrane. They are pyro-electric (it is an asymmetry piezo-crystal that converts heat energy into electricity by dipole-dipole moment interaction) and piezo-electric symmetric crystals that convert mechanical stress to electricity and controls porosity diameter that determines diffusion kinetic rate and chemical reaction rate. Graphene support with Fullerene C60 nanoparticle catalyst that controls sequence of low temperature fusion and fission reactions. Stabilization control is done through phonon frequency and z-pinch confined plasma by using Piezo and Pyro crystal by inducing C60 with heavier nucleus decreases electron wavelength than lighter one. The active nano-catalyst inside the quasi-crystal support consist of nano carbon fiber with fullerenes covered by single layer graphene with metamaterial Nano particle (potassium atom) in the center of hexagonal graphene unit cell. It acts as topological insulator (which obeys symmetry and time reversal) and quantum tunneling membrane. By providing voltage variance across the nano-catalyst, the conductivity can be altered. Confined by magnetic field, these different conductive layer creates heterogeneous topological layers or parallel quantum well that introduces variable mass Dirac fermion due to quantum hall effect. This Dirac fermion is a cooper electron-hole or electron-phonon pairs. This quantum well is quantized in energy along topological contour surrounded by potential barriers. Only dimensional plane that does not have barrier can be introduced to distortion and noise. Since topological quasicrystals obey super symmetric and time reversal, it is stable with ground state energy. After inputs of disturbance, it goes back to equilibrium stable position again by releasing out energy. Transfer function of this process depends on input, which can be electron pairs or plasma ions of syngas. Topological order or stages create, when spin frequency of electron match with frequency of angular momentum of nucleus or center of mass like resonance. This resonance gives impedance match and stability. This phenomenon is called spin-orbit coupling. This is control mechanism for the nuclear process, which is carried out by using mesosphere as cathode and microphore (red small hexagon structure) as anode. Electron beam or current either tunnel through the hexagon nanotube at the surface area of the membrane or flows parallel out of mesosphere into microphore creating a magnetic spiral vortex, created by nonlinear effect of magnetic field focusing. This directs the current in twisted pattern along with syngas plasma that looks like thin hot filament sheath. Figure of these plasma filaments is shown below.

Heavier nucleus decreases electron wavelength than lighter one. The active nano-catalyst inside the quasi-crystal support consist of nano carbon fiber with fullerenes covered by single layer graphene with metamaterial Nano particle (potassium atom) in the center of hexagonal graphene unit cell. It acts as topological insulator (which obeys symmetry and time reversal) and quantum tunneling membrane. By providing voltage variance across the nano-catalyst, the conductivity can be altered. Confined by magnetic field, these different conductive layer creates heterogeneous topological layers or parallel quantum well that introduces variable mass Dirac fermion due to quantum hall effect. This Dirac fermion is a cooper electron-hole or electron-phonon pairs. This quantum well is quantized in energy along topological contour surrounded by potential barriers. Only dimensional plane that does not have barrier can be introduced to distortion and noise. Since topological quasicrystals obey super symmetric and time reversal, it is stable with ground state energy. After inputs of disturbance, it goes back to equilibrium stable position again by releasing out energy. Transfer function of this process depends on input, which can be electron pairs or plasma ions of syngas. Topological order or stages create, when spin frequency of electron match with frequency of angular momentum of nucleus or center of mass like resonance. This resonance gives impedance match and stability. This phenomenon is called spin-orbit coupling. This is control mechanism for the nuclear process, which is carried out by using mesosphere as cathode and microphore (red small hexagon structure) as anode. Electron beam or current either tunnel through the hexagon nanotube at the surface area of the membrane or flows parallel out of mesosphere into microphore creating a magnetic spiral vortex, created by nonlinear effect of magnetic field focusing. This directs the current in twisted pattern along with syngas plasma that looks like thin hot filament sheath. Figure of these plasma filaments is shown below.
In the center of microphore, current pinching effect produce twisting magnetic field that confined plasma into helical orbital path whose cross section decrease exponentially towards focus point of dense ball called a plasmoid due to Lorentz forces. This is known as z-pinch confinement process inside the catalyst. This confinement field takes the shape of a toroid around microphore active region. The outer surface area has ‘elastic stress” or memory like property that stores the energy produce from the hybrid nuclear reaction at the center. This area of the field is surrounded by mesophore where diffusion rate of fluid dominates over its kinetic rate. Whether fluid can extract energy from this field area depends on its average diffusion velocity. The inner surface area surrounding the microphore at the center has plasticity effect that disperses the produce energy homogenously towards the outer surface of the field. This section needs to have strong dielectric permittivity value.

This focal point plasma is the initial step in carrying out nuclear reaction. The size and gyration radius of this orbit shrinks for lower electron velocities and higher magnetic fluxes. But according to De-Broglie wave theory electron has a wavelength, which is inversely proportional to its velocity. So, there is a minimum electron velocity where the orbit radius of plasma and wavelength of electron is equal. Velocity greater than this is required (controlled by external magnetic field) for transporting energy from this focus nuclear reaction zone inside the microphore. Plasma consists of lighter hydrocarbon and its reduced carbon products enter the reaction chamber inside microphore by carrier fluid, which needs to be in supercritical and superfluid stage two (required to control second-sound wave) that allows electron-pair vortex to be formed at specified temperature and pressure. Sensitive to the applied electro-magnetic vortex field by crystal layer supports, zero mass Dirac fermions produces more charge carriers than other layers with less mass electron pairs. Massless fermion topological layer act as high temperature superconductor with magnetic vortex, which separates the hydrocarbon nucleus far away by increasing electromagnetic (weak force) interaction. This decreases fusion probability in microphore. Also piezocrystal of microphore get ionized and accelerates the byproducts of hydrogen bubble fusion by vibration through microphore channels toward a center collision point, where higher concentration of catalyst nanoparticle exist. This vibration is in resonance with second sound wave of the superfluid carrier for amplifying acceleration of ionized fusion products and directs heat wave towards pyro crystal for more for electric field generation. With each momentum increment in these ions, the mass of Dirac fermions (electron) gets higher. At the impact point, the catalytic layer which has Dirac electron with mass higher than effective electron mass (like muon particle) increases probability of fusion by weakening electron-electron repulsion and aggregating strong nuclear force along the tunneling path due to increase in gravitational force between higher masses. By controlling this resonance phonon frequency and electromagnetic field through pyro and piezo-electric nano-catalyst crystal layers, hybrid fission-fusion reaction can easily be sustained at lower temperature. The switching point between fusion and fission reaction is determine by the concentration of iron ions in plasma.

Figure 5: a) Twisted stripe model of circular polarized photon with open path in flat space whose plane is magnetic field (B) perpendicular to electric field (E). b) Same photon with closed path in curved space whose E-field is radial and directed inward and B-field is directed vertical towards the propagation direction of light.18

Figure 6: a) The cross sectional view of helical filament7, 8, 9

Figure 7: Moore
Summary
This fixed bed reactor needs nanoparticle catalyst made out of metamaterials (transition rare earth metals) in order to lower activation energy of focus nuclear fusion through quantum tunneling. Its plasmonic properties are used to confined cold plasma inside microphore along with electromagnetic confinement for controlling nuclear reaction. Quasicrystal structure and topological insulation of mesophore and microphore gives the reactor more resilient during high temperature and pressure. It also helps in controlling diffusion rate of syngas plasma, its solitons and phonons. The disadvantage is that reactor needs to be operated at supercritical temperature and pressure, where carrier fluid (like mercury) of syngas exhibits super fluidic and superconductive properties. This can create fluctuation of hotspots. By creating differential layers using plates and feedback reflux system, this fluctuation can be reduced. The momentum vortex created in the carrier fluid is kept confined by electromagnetic field of nanoparticle. This reduces the energy dissipation by dynamic vortex. Also self-refolding property of the quasicrystal hexagon structure can dissipates stresses of hotspots uniformly. The second sound wave of the carrier fluid is used to control sonic compression of the magnetically confined plasmoids in catalyst region. This gives fusion reaction at lower energy. Syngas are converted into plasmoids by momentum transfer from the arc of electrons moving along the helical magnetic field. Momentum transfer occurs from faster particle to slower particle without the concern of which one has higher energy. The arc between mesophore (cathode) and microphore (anode) is kept above minimum velocity to heat up syngas into cold plasma. Also topological insulation property of microphore helps to control the mass and momentum of electron pairs (Dirac fermions) at the nucleus of cold plasma which helps to create similar condition of muon catalyst fusion reaction by decreasing repulsion between nucleons. So reactor carries out nuclear reaction whose process is a combination of z-pinch confined focus fusion, bubble fusion and muon catalyst fusion. There is also possibility of nuclear fission from heavy nucleons created by fusion due to high sonic compression in the catalytic region. This is what makes it hybrid nuclear fusion-fission reactor. Simultaneous fusion and fission reaction can make the nucleons very unstable that can lead to breakdown into subatomic particle like quarks and more energy. So the end result is that inlet of hydrocarbons or syngas inside this reactor is converted into energy along with heavy elements or quark particles. The biggest problem of this reactor is stability and control mechanism by using nanoparticle and quasicrystal.

Acknowledgments
This paper used the resources mentioned in references. I would like to thank them for their contribution. This paper suggested a conceptual theory. It has never been practically carried out in any research, as the author is an undergraduate student.

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Biography
Abul Hasanat Muhammad Jahanur Rahman is a 2012 graduate of Texas A&M University at Qatar. He got his Bachelor’s degree in Electrical Engineering with math & chemistry minors along with a technology diploma in Telecomm & Electronic Technology from CNA-Q. He has 5 years of experience in the Information Technology department in Texas A&M University at Qatar and is a former member of the Texas A&M University at Qatar Robotics Club. He is currently working as an Optical Physics researcher dealing with femtosecond frequency comb laser research. A permanent resident of Qatar for his whole life, he is an avid video game player and reader of nuclear and quantum physics texts. He has authored and co-authored published papers in IEEE, ASME, AichE and ACS during his student life at Texas A&M University at Qatar.
A Technology Demonstrator: Ultra High Bypass Turbofan Engines

By Mohammad Hassan Mohammad Khorasani

Writer’s Reflection

It has been close to eighty years since the advent of the jet engine. Ever since, the jet era has made the world a smaller place thanks to the speed, range, and efficiency of this magnificent innovation. Over the decades the jet engine has been re-invented several times over and over again in order to optimize and enhance what was already a cutting-edge product. This paper was written in order to encourage academics and industrialists alike to move on to the next chapter in the life of the jet engine – the ultra-high bypass turbofan jet engine. This paper provides a brief outline of the potential of this technology that has been proposed for some years now. The statistics and empirical data presented in this paper seek to paint a bright picture of the future given the correct attention and funding required to develop this technology. By compiling this paper, I myself became well acquainted with the potential this idea poses to air travel. In the final analysis, this paper is meant to encourage those who have the means to transform this technology demonstrator into reality.

Executive Summary

This paper seeks to promote Ultra-High Bypass Turbofan Engines (otherwise known as Propfans) as a feasible alternative to current turbofan technologies. With this goal in mind, the main objectives of this paper are to demonstrate both the empirical and abstract benefits in the mechanical performance, fuel economy and noise reduction of this technology. The content of this paper will include an introduction to the engineering context of propfans followed by a thorough analysis of several journal papers regarding this topic and later supported with empirical figures and data to support the main objectives mentioned previously. Later on there will be an attempt made to explain the key mechanical features of a propfan that put it at a vantage point over current turbofan technology and to determine methods of testing and evaluation of these features. Finally an original design on SolidWorks will be showcased as a possible candidate for further testing and research using wind tunnels and computational fluid dynamics. The findings will be to determine how advantageous propfans are over current turbofans, how feasible and how compatible they are to current infrastructure. Overall the results of this paper will be to give clear testament to the technological advantage of propfans over turbofans. These advantages include -32dB less noise, -60% less emissions and -33 less fuel burn. The conclusion will be that propfan research has been underfunded and key industrial players need to support enhanced research for this technology in order to move it to operational capability within two decades. In the final analysis, this paper urges for enhanced funding and support from key players in industry, for greater research in this area. With the necessary resources it is possible to paint a bright outlook for such an ambitious project. This outlook calls for the transforming of the propfan from a technology demonstrator in its current stage into a device with limited operational capability in the upcoming years and finally into a product with full operational capability in the upcoming decades in order to revolutionize air travel as we know it.

Introduction

The advent of jet-engines more than seven decades ago by Sir Frank Whittle, forever changed air travel for the better. Since then the evolution of jet technology has seen the transition from turbojet to turbofan and finally to what we name today as high bypass turbofans. The time has come yet again for passage to a new zenith – a vantage point which can see increases in fuel-economy by up to 35%. This is where Ultra High Bypass Jet Engines (or simply known as propfans) step into the arena. With current research pace it is estimated that propfans will reach limited operational capability by 2030 at the earliest. The purpose of this report is to shed some light onto the technical advantages of this technology to encourage both manufacturers and customers alike to support this research. The objective of this report will be to educate a wide industrial target audience on the technical benefits of propfans and present both abstract and concrete data to support the argument for this technology. This will be achieved by evaluating previous literature on this topic and by executing a brief research project in order to manufacture a small scale model of a propfan for further wind tunnel performance gauging and in analysis.

Objectives

Objective One: Enhanced Performance Benefits

The goal here will be to exhibit the evidence for enhanced performance in three critical areas of:

- Fuel efficiency
- Cabin noise reduction
- NOx Emissions

These three aspects will then be compared and contrasted to those of current technology turbofans. This section will aim to show the clear potential advantage that propfans possess and how this can be applied to current airliners in order to achieve increased performance with decreased cost to both companies and passengers alike.

Objective Two: Methods of testing and evaluation

The outlook for objective two will be to assess the methods required for further mechanical evaluation of the key aspects of a propfan in wind tunnel testing. The main quandaries to be clarified here are:

- Method of noise evaluation
- Method of vibration evaluation

Support Ideas and Arguments

Support Arguments for Objective One: Enhanced Performance Benefits

As mentioned previously, propfans have a clear edge of current turbofans in many performance areas. A testament to these facts is figure 1 by Hughes [1], which lists four criteria for assessing propfans and comparing them to turbofans. As shown, in all four areas there is a considerable decrease in noise (atleast -32dB [1]), NOx emissions (atleast -60% less emissions [1]) and finally with regards to performance, there is (atleast -33% less fuel burned [1]) than current technology engines.

Support Arguments for Objective Two: Methods of testing and evaluation

The advantage these figures can gift to the industry and airliners is quite apparent. Less fuel burn can multiply profits for airliners in already competitive markets and decreased emissions can reduce the tax burden on airliners that operate in countries with increased regulations and red tape. In addition the reduced noise ratings as shown in figure 3, can allow airliners...
to keep within the ever-tightening Noise Certification Requirements of the FAA. Already many great aircraft such as the Boeing 707 and 727 have lost their permits to fly in many areas of the United States and the EU due to these enhanced requirements. But the question is how can these figures translate into increased comfort and ease for passengers. Well the answer is clear, less operating costs on airliners will result in lower ticket fares and reduced cabin noise can endow a relaxing experience for every traveler.

In comparison with current and previous technology, Hughes displays the striking advantage that propfans possess in figure 2 [1]. As evident, propfans maintain a significant fan propulsion efficiency of almost 0.2 over Geared Turbofans. It is fair to mention that Geared Turbofans themselves are currently considered to be a state of the art and highly efficient design, which puts into perspective how superior propfans are in terms of technology. In addition it is visible that propfans operate under a reduced fan pressure ratio FPR [1], which alleviates longevity, endurance and ease of operation.

These facts are in coherence with what Srinivasan states that, "current predictions indicate that a prop-fan powered 120-passenger aircraft will burn 20% less fuel than a similar turbofan powered aircraft. Potentially greater benefits are predicted with counter-rotating propfans [3]."

Support Arguments for Objective Two

In this section the methods of evaluation noise, vibration and other variables will be discussed. The paper by Simpson [2], tenders a feasible model for testing an aerodynamic object. Although the object being tested is a whole aircraft as opposed to a propfan engine, however the methods remain similar. As shown in figure 4 below, first it is necessary to compile a practical data acquisition system in order to acquire the necessary data. As shown in the diagram below by Simpson [2], shows a correct set of equipment and system required to conduct an experiment in a wind tunnel. Firstly it is necessary to mention that the propfan will be mounted in a wind tunnel undergoing subsonic speeds, which will induce inherent excitations on the device; therefore an artificial signal generator as shown in figure 4 is unnecessary. However a speaker (which in this case will be an electret microphone) will be used to record a Fourier series response curve and an LVDT sensor (Linear Variable Differential Transformer) will be utilized to record the vibration trace of the propfan under operation. Simultaneously this data will be fed to an FM recorder (frequency modulator) in order to filter the signal from the LVDT and later a Digital Butterworth filter with higher order can be used to filter unrelated frequencies from the Fourier series response curve. All this data acquisition will be carried out in National Instruments LabVIEW.

For the vibration decay trace, 6 consecutive
peaks will be measured for time period and logarithmic increment which will then be used to determine the damping ratio and natural frequency of the system. For related equations please refer to Appendix A.

Finally the mean, standard deviation and confidence intervals will be computed for the statistical analysis of the acquired data and regression models will be used to determine the relations between variables such as angular velocity and natural frequency. Please refer to Appendix B for the related formulae.

Support Arguments for objective 3: Original Design Concept

To produce a new original design with and demonstrate the improved - bypass ratio and turbine design, more compact engine core/nacelle design and finally lighter and more advanced materials for manufacture.

In order to explain the following design concept, it is first necessary to define several technical jargons. Firstly bypass ratio refers to the ratio of cold thrust to warm thrust in an engine, i.e. how much induced air is ignited in the combustion engine to create warm thrust and how much air is circumvented around the combustion chamber and utilized as cold thrust. Nacelle design will refer to the design of the outer casing of the engine.

As the title of the paper says it, propfans are ultra-high bypass engines whereas current turbofans are only high bypass. This means that while turbofans have a bypass ratio of 8:2, propfans will be at 9:1 or even greater due to the effect of the attached propeller blades attached to the main spool of the engine which will then rotate outside of the nacelle as shown in figure 5 above.

This will allow for greater efficiency as less air is combusted, while creating a cushion effect by the increased amount of cold air which will suppress noise and vibrations.

In addition this engine design will use a geared fan ratio using an epicyclical gear box shown in figure 6 below. This will allow the fan at the leading edge of the engine to rotate at lower speeds than the turbines within. This allows reduces fuel burn and noise, since the large fan is rotating at far lower speeds.

With regards to nacelle design, a lighter and more compact nacelle as shown red color in figure 7 is ideal. This will significantly reduce the coefficient of drag of the engine when it is mounted on the pylon. It will also be accordingly be manufactured using smart materials such as fiber glass which have increased tensile modulus at decreased density.

Finally the propeller blades that will be placed outside of the nacelle shown in figure 5 can be designed in a way to allow for variable angles of attack to the leading wind. This will permit us to gauge what angle of attack will yield the lowest amount of noise and vibration.

In addition it must be noted that all these concepts are designed to be completely compatible with current infrastructure. The propfan engines as shown in figure 5 can be mounted on the exact same pylons used on current aircraft, thereby eliminating upgrade and transfer costs for customers.

Conclusion:

It is fair to claim that propfans have long been underprivileged with little research, funding and allocated resources. This is while they possess a great potential to change air travel as we know it. As Srinivasan put it, "current predictions indicate that a prop-fan powered 120-passenger aircraft will burn 20% less fuel than a similar turbofan powered aircraft [3]." The purpose of this paper was to demonstrate the advantage of the propfan over current turbofans empirically in terms of both facts and figures. Consequently with the analysis shown it is clearly evident that they are at a vantage point in every way possible. A 33% reduction in fuel burn, 60% reduction in NOx emissions and 32dB decrease in noise is the definition of this advantage. It is therefore of increased salience that key figures in industry allocate the necessary resources and funds to researchers with design concepts such as the one presented in Objective Three. It supported, it is possible that within two decades there can be a transition of this concept from a technology demonstrator to a product with full operational capability.

References

Mohammad Khorasani has always aspired to be an engineer. This aspiration springs from his passion for aircrafts, which led him to apply for the mechanical engineering program at Texas A&M University at Qatar, and to acquire the privilege to pursue this field from the fall of 2011. Before that he attended Doha College from 2004-2011 where he studied mathematics, physics and chemistry. Although he has always remained a science-oriented student, he has not neglected writing and literature and acknowledges that he may never be a sound engineer if he lacks the prowess to communicate skillfully by pen and paper.

The Machine

By Sarah Sameh Ibrahim Hassaan

Writer's Reflection

This piece was about the first time I used a computer, and how that experience alone impacted part of my life. It is about a circumstance that composed meaning to my life. This piece was recorded and made into a video. The audience I was aiming for was my English professor (as she was the grader of this piece) and the Digital Archive of Literacy website members. It was hard at first to get the idea, as I was thinking about the assignment in terms of writing about the first time I read or wrote something and how it affected my life, rather than thinking about a situation in life that affected me as a person. It was great to write about something from childhood as it was a trip to the past where you take a stroll down memory lane and remember the good old days.

It was at the age of six when I first learned how to use a computer. We were a family of 4 kids, three boys and one girl. At the time, having a personal computer at home was very rare. Unlike the ones you buy today, the monitor was a huge box, the keyboard had these really big keys, and the mouse had a ball at the bottom of it instead of the laser light. The first user of the computer was my eldest brother by default. He and my other two siblings used the machine like they were professionals. I just sat there in utter amazement. I watched as the colors flashed on the screen. I saw how with each keystroke, something happened. I thought this magic box had everything.

Finally, it was my turn. I was super excited to get my little tiny fingers on the keyboard. I sat on the high chair and stared into the glaring screen. I realized that I didn’t know what to do.

I decided to give it a go; what is the worst thing that could happen? But it was a major failure as with every key I pressed an error tone played. I was stunned, and I turned around to see my three elder siblings laughing at me. I felt like an outcast. I was in a dilemma. I cannot show my weakness to my brothers. Being the only girl, I had to prove I was talented like them. I could not simply ask them for help.

My father eventually came in to check on his little princess. He dismissed my elders and sat to teach me. He came to my rescue, like a knight in shining armor. I felt so relieved. I had a huge grin on my face.

We sat together for the next couple of hours with him teaching me how to work with the machine. He showed me all sorts of magic tricks that could be done on the machine. He demonstrated how to work with the mouse and how to operate a
game. Before he could leave, I pulled his sleeve and asked him to show me how to write. He looked at me and laughed, then said, “You waited hours for your turn on the computer and all you want to do is type?” I nodded my head at him. I told him that I wanted my hands to have an excuse to touch the keyboard. In response, he opened the paint program and showed me how to draw my own textbox. He told me, “Imagine yourself writing in school. You have the same letters, the same sentences, the only difference is that you are using a computer and not paper and pen.” He showed me an example and then left me to it. I mimicked every move he made. When it came time to type, I made a little prayer hoping it would work, and it did!! My first sentence that I typed on that machine was “My name is Sarah.” How delighted I was that this machine typed my message. Ever since then, every time I access a computer I think of that little incident and my hero.

**Code of Ethics for Robotics Engineers from an Application-Oriented Viewpoint**

By Mouhyemen Khan

**Writer’s Reflection**

The paper takes the reader on a journey of witnessing many ethical dilemmas that arose in the field of robotics due to various reasons; the concerns are addressed in the paper. The need for a dedicated code of ethics is proposed for robotics engineers since there are no customized codes as the existing ones such as ASME, IEEE or ACM (followed by many robotics engineers) fail to address the ethical dilemmas. Finally, the paper discusses in detail a particular group of robotics engineers since they are a vast community. I am very passionate about robotics, and hence I wanted to do my response papers for an ethics course that targets roboethics—ethics on robotics.

Robotics is the scientific branch of technology that deals with the design, construction, artificial intelligence and application of robots. Robotics engineers, who specialize in robotics, often integrate principles from different engineering disciplines such as mechanical, electrical and computer engineering. The aforementioned fields have their own dedicated engineering code of ethics such as IEEE, ASME and ACM due to their practice of distorting nature to come up with innovative solutions for the betterment/suitability of humanity. Many of these solutions have a great impact, from short-term to long-term, due to their direct weight on nature, human lives and sustainability of the planet. Similarly, robotics engineers that come up with robots in order to serve humanity will face ethical situations that arise due to the evolving nature of technology, human society and increasing inclusion of robots.

Currently there are no dedicated codes of ethics for robotics engineers and neither are there any professional institutes like ASME or IEEE for robotics engineers [1]. A dedicated code of ethics is very much required for this field since system standards, design considerations, environmental safety and human welfare are all a part of it. This paper will focus on the need for a dedicated code of ethics for robotics engineers, a code that emphasizes the application of robots with ethical use. I will begin by showing how robotics technology advanced at an unprecedented rate while ethical discussion on the subject arose later. The technology’s impact gave rise to ethical ramifications due to the lack of codes of ethics for this field. The next section of the paper will address how existing codes of ethics from different engineering disciplines fail to serve as a guide for robotics engineers. The need for a dedicated code of ethics for robotics engineers will be proposed with emphasis on applications with ethical usage. Finally, the classification of robotic engineers that it applies to most will be discussed.

While robotics technology has been advancing at an unprecedented rate throughout the world since the mid-20th Century as an engineering application-based field, the discussion on robotics among ethicists began much later. It was only in 2004 that the term “roboethics” was coined by Gianmarco Veruggio because he felt that ethical quandaries from robotics needed to be discussed and addressed [1]. Ethical discussion on robotics is gaining momentum, but the gap between the developing technology and discussion of it is significantly large. With the existing low-cost electronic components, high-level sophisticated algorithms, and powerful batteries and sensors, robots have taken a

**Biography**

Sarah Hassaan is an Arabian freshman engineer who finds it easier to express herself through writing rather than through speech as with writing she feels as free as the birds and unlimited as the sky. If Hollywood made a movie about her, it would be called The Procrastinator for Life.
In bringing about all of the sophisticated robotic technologies, robotic engineers played a tremendous role in fashioning, designing and improving the robots. However, with any existing technology that is converging towards human services, ethical quandaries arise. Currently, there is no code of ethics to govern the behavior of robotics engineers nor is there any governing unit solely dedicated to professional robotics engineers. Needlessly advancing robotics technology without a set of guidelines could very deservedly be questioned in the future and foreseeably pose more problems than solutions. Also, without the code of ethics, human beings generally perceive technology as an engine of power, productivity and promise, which, more often than not, can pose dangers that are conventionally not anticipated [6].

There are many risks posed by this ever-growing technology that will inevitably converge with everyday human activities or the living environment. The risks considered here are within a broader context of societal and moral implications of emerging robotics technologies. At least 50 countries across the world are involved in the technological development, growth and proliferation of UAVs [4]. Aerial drones have dominated the battlefields of Iraq since 2004, where only 150 robots were reported. However, now there are over thousands of unmanned robots keeping surveillance checks, conducting military operations and collecting intelligence. The theatre of war has transformed, due to the development of unmanned robotics technologies where operators sit thousands of miles away in a safe operation zone conducting tele-operations and the decisions when to apply lethal force on their targets [4]. Medical robotics has not only helped doctors and researchers to develop robotic hands or arms that can be transplanted on patients with amputated limbs, but also invited the possibility of hardwiring human beings with sophisticated machinery [6]. Robonannies are a product of humanoid robots that tend to infants and children. Extensive use of such robotics technology can impede the psychological, emotional and intellectual progress of children [7]. Although much advancement in robotics has taken place, ethical discussion on these issues have sprung up only in the last decade, thus depicting the huge ethical gap between the two.

The existing codes of ethics such as ASME, IEEE and/or ACM, which serve as ethical guidelines for most robotics engineers, fail to serve many of the above ethical scenarios. Technology is like a double-edged sword with both benefits and risks, and the field of robotics is no exception, regardless of how compelling the need be to conduct research and development. In order to prevent the technology from harming humans or giving rise to more harms than benefit, ethical codes are developed. This goes back to my earlier point where robotics engineers come from different engineering backgrounds such as mechanical, electrical and computer engineering. Each of these disciplines has its own code of ethics that lays out their priorities. However, these codes of ethics fail to address a lot of ethical dilemmas that arise from rising robotics technologies. I will provide three examples to prove my point:

1. ASME places the responsibility upon the engineers to take key decisions and places the responsibility upon them for such decisions. However, robots have decision-making abilities of their own, albeit artificial. There is another existing and thinking entity apart from the robotics engineer on the field that has to take several decisions. ASME has no canon that addresses the decision-making process or ethical consideration of a decision from another consciousness on the field, in this instance, a humanoid robot. The same could be said for IEEE and ACM. The codes fail to address where responsibility would fall if any unintended harm is inflicted by a robot to a person.

2. Another example is the notion of human-machine interaction. With increasing robots in today’s society, the interaction between humans and machines is bound to increase. Robonannies are increasing in number and tending to children. Many psychologists and roboethicists have given strong opinions on the matter of children being exposed to machine-care rather than human companionship in early development. Neither IEEE nor ASME takes into account such human-machine interaction and their ethical implications. Interactions were primarily between human beings, and hence, the codes of ethics did not need to address anything beyond. However, with humanoid robots becoming part of the society, human-machine interaction has gained a lot of momentum and no codes of ethics exist to address it.

3. The last case is the very concept of good and evil. Military robots and drones are being designed and developed by robotic engineers. These technologies have tremendous ethical implications associated with them since they are primarily being used to take human lives and to conduct surveillance checks. None of the codes address whether such technology should be developed where one of the primary objectives is to take human lives. No matter how compelling the reasons could be for developing such technologies, they are still human-killing machines, and no fundamental canon addresses the legitimacy behind such research.

Due to lack of a dedicated code of ethics for robotics engineers, there are many ethical dilemmas unaddressed as shown above. This void and lack of ethical discussion has also invited the technology to progress into areas without much accountability on the part of the engineers since they come from different professional backgrounds. If continued, robotics can be lead into a direction that will beg the concern of industries to question the existence of such technology. Any kind of technology introduced brings along with it the visible benefits and latent inconceivable harms which can have various technological speculations. It is only when these technologies are applied that ethical consequences can arise. Thus, I have shown that the existing codes of ethics are inefficient since they fail to solve the ethical challenges in robotics.

It is imperative to bring together a code of ethics for robotics engineers with special emphasis on applications with ethical usage. However, one might ask why is the emphasis being placed
During the development of the technology, I argue that the ethical content expands the most will serve better in solving ethical dilemmas will cause more harm than good. The above of a human being's development [7]. Although children can have psychological impacts in early engineering practice where the robots are inverted into human roles, which is then part of a larger fabric of the human society [8]. This pursuit of knowledge and research concerns itself with developing relationships of any sort between humans and machines, so the engineers must be accountable for their creations.

Since the robotics community is a growing unit of the engineering society, what follows is an examination of whether the new codes of ethics apply to all robotic engineers or a small population of it. One could say that by focusing so much on applications with ethics going parallel with it, this will stifle creativity and development of technology. Or should the engineers be held accountable for designing robots that are moderately intelligent and can display sophisticated human motions, which are then modified to be used as robonanies? Or should they be held accountable for working on vision systems and digitally enhanced cognitive abilities of robots which can be then modified forms of applications, such as drone attacks? To address this, I will differentiate robotics engineers themselves into two broad categories who practice the following ways:

1. Discernible interest in developing the technology for the sake of science without much accountability.
2. Applications of the technology geared towards developing human welfare and progress with accountability.

The former category is a Technology-Oriented viewpoint where robotics engineers are involved in developing the technology, regardless of whether the technology itself will remain within the confinement of robotics. For example, the concept of computer vision is being heavily pursued by computer scientists and robotic scientists. The algorithms associated with this field has led to a better understanding of neural cognitive processing in the human brain that has led to further improvements in the field of neuroscience [6]. This method of practice merely limits itself to a purely objective standpoint and places no restriction on the researchers’ or engineers’ creativity and intellectual pursuit. Also, it does not require the engineers to question all the possible outcomes from such a practice.

The latter category being Application-Oriented viewpoint is interested in producing applications with the intent of having robots involved with humans in various forms, shapes and practices. The engineers falling in this category are burdened with the additional premium of having robots creatively fill the space for humans. For example, the concept of having humanoids greatly supports this kind of engineering practice where the robots are integrated into human roles, which is then part of a larger fabric of the human society [8]. This pursuit of knowledge and research concerns itself with developing relationships of any sort between humans and machines, so the engineers must be accountable for their creations.

Needless to say, it is nearly impossible to divide all the robotics engineers into just these classifications and it is a much extended generalization. There are many who are involved in both the areas. However, for the sake of simplicity, such generalization is reasonable. The emphasis in the code of ethics that I propose for robotics engineers is placed upon the latter practice since that is more application-oriented. As I stated earlier, it is by the application of the technology that the ethical nature of things surface the most. For example, a branch of humanoids would be robotic soldiers and/or robonanies. The technology for a robot to accurately decipher between an innocent civilian and a criminal is still decades away [9]. Deployment of such a technology gives rise to many ethical questions, and therefore, it is imperative that before deploying such a technology, all the ethical perspectives are measured and evaluated. I am saying that the code of ethics needs to regulate the applications but not the development of the field. This is due to my earlier point where the development of the technology is more often than not just lab experiments and simulations. They do not directly come into contact with the majority. Also, the incessant pursuit of developing the technology will add to the wealth of human knowledge. However, the ideals and standards that require ethical usage is for the applications end since that is directly involved with a larger segment of human population and every day usage. Therefore, the new codes of ethics primarily target robotic engineers that are focused in applying the technology.

In summary, robotics has grown immensely as a technological field while discussions on the ethical aspects of robotics began later. Due to the lack of any professional code of ethics dedicated towards robotics engineers, robotic engineers practice their profession under existing codes of ethics such as ASME, IEEE or ACM. These codes fail to address ethical ramifications for robotics which deserve great attention. This not only impedes the growth of robotics, but also gives room to greater ambiguity on robotic creations which leads to more ethical dilemmas. Since there are many ethical scenarios that will inevitably arise and are already being discussed heavily by ethicists, robotic engineers need to be very careful on their ethical course of action. I argued that a dedicated code of ethics will serve better in solving ethical dilemmas by restricting robotic engineers to deploy technology with ethical considerations and at the same time not constrict pursuit of knowledge for researchers or developers. Hence, it is imperative that a code of ethics for robotics engineers be written that places emphasis on ethical application of robots.

This code of ethics will ensure better physical and mental safety of the public and help bridge the gap between robotics and ethical discussion of the field.
Job-Related Concerns for Texas A&M University at Qatar Students

By Ernesto Nuguid, Jr., Mohammed AlShammasi, Morcos Metry, and Yahia Abo Al Naga

Introduction

Through our research on the current literature on academic online databases, we found a gap in research that discusses job-related concerns for Texas A&M University at Qatar students in the Qatari job market. Therefore, the Texas A&M University at Qatar students’ job-related concerns have not been formally researched. The purpose of this research is to identify the most prominent job-related concerns faced by Texas A&M University at Qatar students in Qatar, investigate the current measurements taken by Texas A&M University at Qatar to solve the current problems, and suggest new solutions. In the research we collected data through reading ten scholarly and popular articles in the secondary research, conducting ten interviews, distributing eighty-four surveys on Texas A&M University at Qatar students, and recording observations in the student lounge at Texas A&M University at Qatar. According to our findings, the main concern for Texas A&M University at Qatar students is cultural issues, followed by lack of internships. We found that other concerns, such as unemployment and lack of skills are of less importance to the students.

Biography

Mouhyemen Khan, whose ethnic origins are from Bangladesh, was born and brought up in the State of Qatar. He is currently a senior at Texas A&M University at Qatar, pursuing his undergraduate studies in Electrical & Computer Engineering. He aims to pursue his future studies in the fields of robotics, making robots accessible in an engaging and fun way to young people and undergraduates. Being very passionate about robotics, he founded Qatar Robotics Institute for Development (QRID) to serve as a platform for promoting science, technology, engineering and mathematics (STEM) in the region. Since then, he has been actively involved in the growth and development of this institute along with his undergraduate studies at Texas A&M University at Qatar.

Acknowledgements

This research done by a group of four students used data from ten scholarly and popular articles in the secondary research, conducted ten interviews, distributed eighty-four surveys on Texas A&M University at Qatar students, and recorded observations in the student lounge at Texas A&M University at Qatar. This study found that the main concern for Texas A&M University at Qatar students is cultural issues, followed by lack of internships. We found that other concerns, such as unemployment and lack of skills are of less importance to the students. This paper was submitted to an English course in May 2012.

References

popular and scholarly articles, we formed preliminary hypotheses about the common job-related concerns for college students, which include unemployment, cultural issues, lack of internships and lack of technical skills. Table 1 below contains a list of the articles we reviewed and used as references in this research project. Although we found many related articles that discuss specific job-related concerns for college students, the lack of literature specific to Texas A&M University at Qatar or even Qatar was apparent. Therefore, we needed to conduct extensive primary research to assist us in defining the concerns for Texas A&M University at Qatar students and reach reliable results.

Table 1: List of selected articles about job-related concerns for college students

<table>
<thead>
<tr>
<th>Article title</th>
<th>Author(s)</th>
<th>Year</th>
<th>Topic</th>
<th>Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job creation in the Arab economies: navigating through difficult waters</td>
<td>J. Chaaban</td>
<td>2010</td>
<td>Compares the GDP of different MENA countries to their unemployment rates</td>
<td>Scholarly</td>
</tr>
<tr>
<td>Migrant transfer in the MENA region: a two way street in which traffic is changing</td>
<td>G. Naufal and C. Vargas-Silva</td>
<td>2010</td>
<td>Identifies current variables in the MENA region regarding immigration flows and policies</td>
<td>Scholarly</td>
</tr>
<tr>
<td>Meeting the employment challenge in the GCC - the need for a holistic strategy</td>
<td>R. Shediac and H. Samma</td>
<td>2010</td>
<td>Outlines the problems of educational systems in the GCC countries</td>
<td>Scholarly</td>
</tr>
<tr>
<td>Affluent Qataris seek what money can’t buy</td>
<td>M. Slackman</td>
<td>2010</td>
<td>Shows the contradiction in the way Qataris and expatriates view each other</td>
<td>Popular</td>
</tr>
<tr>
<td>Qatar tries to plug the brain drain</td>
<td>M. Yahia</td>
<td>2010</td>
<td>Reports the problems that Weill Cornell Medical College at Qatar students face while working in Qatar due to lack of technology</td>
<td>Popular</td>
</tr>
<tr>
<td>Arabic economies at a tipping point</td>
<td>M. Noland and H. Pack</td>
<td>2008</td>
<td>Discusses problems in the MENA region like unemployment, brain drain, educational weakness, political regimes and terrorism</td>
<td>Scholarly</td>
</tr>
<tr>
<td>Making room for migrants, making sense of difference: spatial and ideological expressions of social diversity in urban Qatar</td>
<td>S. Nagy</td>
<td>2006</td>
<td>Reviews different perspectives when dealing with cultural issues in Qatar</td>
<td>Scholarly</td>
</tr>
</tbody>
</table>

Table 2: Names and positions of our interviewees

<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. T</td>
<td>TAMUQ</td>
<td>Administrator</td>
</tr>
<tr>
<td>Dr. M</td>
<td>TAMUQ</td>
<td>Program Chair</td>
</tr>
<tr>
<td>Dr. A</td>
<td>TAMUQ</td>
<td>Associate Professor</td>
</tr>
<tr>
<td>Dr. G</td>
<td>TAMUQ</td>
<td>Visiting Professor</td>
</tr>
<tr>
<td>Dr. S</td>
<td>TAMUQ</td>
<td>Associate Professor</td>
</tr>
<tr>
<td>Dr. B</td>
<td>TAMUQ</td>
<td>Lecturer</td>
</tr>
<tr>
<td>Dr. V</td>
<td>CMUQ</td>
<td>Associate Professor</td>
</tr>
<tr>
<td>N</td>
<td>Company A</td>
<td>Construction Manager</td>
</tr>
<tr>
<td>E</td>
<td>TAMUQ</td>
<td>Engineering graduate</td>
</tr>
<tr>
<td>H</td>
<td>TAMUQ</td>
<td>Engineering graduate</td>
</tr>
</tbody>
</table>

Interviews

We interviewed a total of ten Texas A&M University at Qatar faculty, students, and field experts. While choosing the interview questions, we made sure that issues were investigated from different points of view. Basic interview questions and interview transcripts are available in Appendix A of the report. Table 2, below, lists the ten people we interviewed along with their organizations and positions. Interviews were voice recorded and then written as they are on transcripts except for two interviews, Dr. G who refused to be recorded for privacy concerns, but we sent him the transcript and he revised it himself; and Mr. N whose interview was conducted in Arabic so we translated it in the transcript.
During our interview with the Administrator at Texas A&M University at Qatar, Dr. T., he discussed Texas A&M University at Qatar's current policies to solve the lack of internships and other problems. In addition, interviews of professors from all departments at Texas A&M University at Qatar provided us with different views about the job-related challenges their students face while in school or after graduation. Also, they expressed their opinions about Texas A&M University at Qatar policies towards difficulties students face in getting internships and integrating into work places.

The two graduate students we interviewed, E and H, introduced us to their experiences of trying to join industry. Also, we asked them about the problems they faced during their university years in getting internships, plus challenges they currently encounter in getting a job after graduation.

Regarding subject experts, we interviewed an engineer and a professor. Mr. N, the construction manager of Company A, talked about the problems he sees while employing newly-graduated students in his company. Dr. V., a professor in Carnegie Mellon University at Qatar, addressed the economic dynamics in the job market at Qatar and explained how they may affect the employment patterns.

We encountered several challenges while analyzing the data we collected from these interviews including varying opinions about the same questions. As an example, most interviewed professors and professionals disregarded cultural issues as a major concern for Texas A&M University at Qatar students when they join industry. Results from surveys showed the opposite as shown in the results section.

Observations
We observed the patterns at which Texas A&M University at Qatar students interact in the student lounge during lunch time. Choosing the student lounge during lunch time was crucial since most students socialize during this period. We made sure not to interfere in the environment by staying away from the students and recording notes. The observation took place on Sunday which is the most crowded day in the student lounge, and we recorded our observations for 30 minutes.

Recording our observation, we were looking for a certain pattern at which students sit and interact together. Our hypothesis claimed that cultures are segregated in the lounge where every student sits with his own friends from his same culture. Therefore, we wanted to either approve or disapprove this prediction. The observations could have been more conclusive if they were corroborated on two different days; however, due to time constraints we only did them once.

Results and Discussion

Cultural Issues
Cultural issues, including issues of gender and race impose numerous challenges in diverse work places. Through our research, we found that the main job-related concern for Texas A&M University at Qatar students was about cultural issues. According to our survey results shown in Figure 1, 61% of Texas A&M University at Qatar students either agree or strongly agree that cultural issues are challenging in work places at Qatar (p=0.61). We found that pP=A=0.95, and the boundaries at a=0.99 were [0.47, 0.75], which proves the suitability of these results for supporting the claim on cultural issues.

In the observation we have done in the student lounge on the pattern at which people interact, we found startling results. We have noticed that the way people interact in the lounge and in many parts of the university is culture based. Every cultural group gathers separately, and interactions among them are barely present. We found that Qataris are more likely to be

Surveys
We designed and distributed surveys on students at TAMUQ and collected eighty-four responses. The survey form contains four multiple-choice and two free-response questions; a survey copy is shown in Appendix B. The survey asked about class (freshman, sophomore, junior and senior), nationality, and gender. Such identification information was considered while sorting and analyzing the responses to look for any distinct patterns. Questions about internships and their usefulness to the subjects were asked, which allowed us to grasp an idea about this specific problem. Four rating questions on concerns we identified from the online research and the interviews followed. These concerns were the culture and job-related issues, the demand of TAMUQ students in the market, TAMUQ policies, and the way TAMUQ prepares its students. Finally, written response questions asked for further elaborations on any additional problems, and solutions to them. In analyzing these surveys, we illustrated the results using pie charts to show percentages for the rating questions.

The percentage of students, who either agree or strongly agree on a certain concern as pertained from empirical data, was assigned an arbitrary symbol P. Using a data sample, n, of eighty-four students we wanted to prove and generalize the results to all TAMUQ students. The actual probabilities we were looking for was assigned the symbol A. Then, we used two statistical inferences to prove A: the “normal approximation to the binomial” method, and the “confidence interval” method.

In the “normal approximation to the binomial method” we wanted to find the probability P(P = A), which shows the probability that the results are correct; if the probability is high, P can be directly generalized into A. The formula used approximated the Binomial approximation µ mean, σ standard deviation) to the normal distribution N (nP, nP(1-P)) without loss of accuracy; because, n is large. In the approximation we calculated, z = nσ = nP(1-P). Then we used the normal distribution table to find the corresponding value for “z,” which is P(P = A).

The other method, the confidence interval method, allows us to find an interval in which A exists with certain accuracy “a” of 99%. This means that the probability that A lies in the interval is 0.99. We looked up the corresponding value for z when P=0.99 then we used this formula: A = P ± z (P(1-P))/n to find the possible upper and lower limits of P(A), [lower, upper] at confidence level a=0.99.

In most of our results for the normal approximation we found that P(P = A) lies from 0.93 to 0.95, which signifies that the results could be false for the remaining 5% of the students. Also, when running the confidence interval at high confidence levels we get a wide range in the interval. These drawbacks could have been reduced by increasing the sample “n,” or in other words, by collecting more surveys.
enclosed together with fewer interactions than any other ethnic group. We have also noticed that Qatari men are the least likely to interact with the other gender. Qatari males and females are still segregated even when they are in an open-American community. Speaking to a number of Qataris, they still don’t realize that culture segregation is an issue. Also, they insist that gender segregation is cultural and such an area shouldn’t be discussed. However, according to scholars these issues are catastrophic in work places. Therefore, tackling such concerns is crucial, especially when they get introduced in a supposedly open community like Texas A&M University at Qatar.

Secondary research revealed two possible causes for cultural issues. First, as suggested by Nagy, is the way houses in Qatar are distributed, where Qataris and expatriates are separated by distances and barriers. Back in the 1960s, according to Nagy, Qataris viewed their neighborhood as “safe, open and friendly places full of familiar and usually related faces.” Qataris used to live among their extended places full of familiar and usually related faces. “Their neighborhood as “safe, open and friendly arena as well. Many of the university events and groups encourage diversity and get students familiar with different cultures but these are not incorporated during students’ free time.

We recommend adding activities in the student lounge during lunch times. For example, students from the same cultural backgrounds can be assigned a certain week from the academic year to show some of their significant traditions, including food, clothes, and language. These shows are specified a certain day of the week, and we recommend Sunday because the lounge is busiest on that day, then every week a different culture gets its turn. These activities can help students understand and value diversity. Also, we noticed that table tennis is one of the few places that have culturally-mixed players. Therefore, we recommend incorporating official competitions in table tennis and Foosball during lunch time to enhance the sense of a unified community. Additionally, Texas A&M University at Qatar should increase the number of group projects, in-class activities and shared assignments in courses. Instructors should pick the team members from diverse backgrounds to improve the social integration.

Lack of Internships

Internships are a vital part of the educational development process, especially for engineers. Through internships, engineering students see typical lives in the field, gain more technical knowledge and develop precious technical communication skills with professionals from different disciplines.

Lack of internships was found to be the second most important job-related concern for Texas A&M University at Qatar students. This result was supported by interviews, surveys and secondary research. Dr. M explained that getting internships is not a problem for Qatari students since they are usually sponsored by companies who provide them internships over summers. According to our survey results shown in Figure 2, more than two thirds of Texas A&M University at Qatar students (p=0.68) did not have internships. Statistically p (p=A) = 0.93 and the intervals a = 0.99 are [0.538, 0.822]
Another reason for the lack of internships for non-Qatari students at Texas A&M University at Qatar is the strict implementation of Qatarization policy by some companies. Qatarization is a protectionism policy that is implemented by the Qatar Government to encourage companies in all sectors to hire Qatars. Protectionism policies such as Qatarization, Omanisation and Saudization are very popular in the GCC labor-importing countries, which encounter large percentages of foreign workers in key sectors such as petrochemical and energy. Such policies are source of great tension between locals and expatriates in these countries. While locals see such policies fair reduce their dependence on foreigners, expatriates think of them as a legalized nationality-based discrimination. As said by E and H, although Qatarization is supposed to target full-time hiring, some companies reject non-Qatari students’ applications for internships due to their strict Qatarization policies.

Texas A&M University at Qatar approaches the problem of lack of internships in several ways. According to Dr. M, Texas A&M University at Qatar tries to solve this problem by putting pressure on industries to encourage them to offer more internship opportunities for Texas A&M University at Qatar non-Qatari students. Texas A&M University at Qatar administration contacts multinational companies such as Exxon Mobil, GE, Maersk, and Shell to encourage them to hire non-Qatari students. As stated by Dr. A, for example, chemical engineering program has created an internship committee who has developed a list of students who are interested in doing internships over summer. This committee communicated with companies and developed together joint internship projects with specific learning objectives for summer 2011.

However, Texas A&M University at Qatar current policies addressing the lack of internships problem needs to be taken a step further. We recommend forming internship-joint programs between Texas A&M University at Qatar and industry so that students are supervised by a faculty member from Texas A&M University at Qatar and a mentor from industry. This will decrease the burden on companies and allow students to achieve specific goals that will benefit industry. In addition, we recommend for Texas A&M University at Qatar to communicate with international companies and convince them to offer more internships for students both locally and abroad.

Unemployment

As said by Dr. T and Dr. M, unemployment is not a current problem among Texas A&M University at Qatar graduates. Also, according to Texas A&M University at Qatar Annual Report 2008-2009, 93 % of senior chemical engineering students near graduation were either employed or considering offers, 88 % for electrical engineering students, 78 % for mechanical engineering students and 79 % for petroleum engineering students. These numbers were obtained through a survey by Texas A&M University at Qatar in 2009 to which 96 % of senior students who graduated in spring 2009 responded. Furthermore, according to Dr. T, over 85% of Texas A&M University at Qatar graduates are employed at the moment. Keeping in mind the challenging global economic crisis that recently hit many international companies forcing them to slow down their hiring processes, these numbers show clearly that unemployment is currently not a problem for Texas A&M University at Qatar graduates.

Furthermore, statistics on World Bank indicate that the demand for engineers in the Qatari market exceeds by far the number of Qatari graduates. At a real growth rate in GDP of 19.4%, Qatar has the world’s highest growth rate in 2011 according to CIA World Factbook. J. Chaaban, in his Arab Human Development Report, mentions that Qatar has the lowest unemployment rate (1%) in the Middle East and North Africa region. Also, having awarded FIFA 2022 World Cup, Qatar is expected to continue its fast economic growth over the next decade as maintained by Dr. V. The demand for mechanical and electrical engineers in the Qatari job market will continue to grow driven by the large-scale infrastructure projects in preparation for the 2022 World Cup. Also, the continuing growth in Qatar’s industries such as refineries, fertilizers, petrochemicals, cement and steel stimulate the demand for chemical and petroleum engineers. As a result, as Minister of Municipality of Urban Planning at Qatar Shaikh Abdul Rahman Bin Khalifa AlThani said at an event at Texas A&M University at Qatar recently, as quoted by The Peninsula magazine: “Qatar needs more and more engineers, both locally and from overseas.”

Lack of needed skills

Survey data showed a high level of satisfaction among Texas A&M University at Qatar students about Texas A&M University at Qatar current policies towards their job-related concerns. 35 % of students surveyed agree that Texas A&M University at Qatar deals effectively with its students job-related concerns, while 19 % of them disagree and 46 % are neutral, as shown on figure 3. This signifies that Texas A&M University at Qatar is doing a great job in choosing a curriculum suitable for the engineering work field.
Dr. G emphasized the effectiveness of the curriculum followed by Texas A&M University at Qatar that promotes critical thinking and encourages doing rather than memorizing. Also, Dr. M mentioned that some curricula like Petroleum Engineering require practical involvement in the work field by applying for internships. These actions taken by Texas A&M University at Qatar are enough to prepare students for future employment.

Summary
To sum up, our research topic is about job-related concerns for Texas A&M University at Qatar students, Texas A&M University at Qatar policies to address these concerns and our recommendations. For data collection, we have reviewed eight reliable scholarly and popular articles, interviewed ten people including four Texas A&M University at Qatar professors and an Administrator and collected 84 students’ surveys about their concerns. Our results showed that cultural issues are the most prominent concerns with 61% of students agreeing that work places at Qatar are culturally challenging. The second concern was about lack of internships where 68% of students stated that they did not do any internship.

Texas A&M University at Qatar is currently taking steps to address these concerns. Attempts to minimize cultural issues include adding group projects in some courses to encourage teamwork and integration. Other attempts to minimize lack of internships include influence by Texas A&M University at Qatar administration on national companies to encourage them to employ Texas A&M University at Qatar students for internships. However, Texas A&M University at Qatar needs to take some steps further in reducing the consequences of the concerns on Texas A&M University at Qatar students. Therefore, we have recommended some solutions which follow.

Recommendations
For Cultural Issues
As previously mentioned, our results showed that the major job-related concern for Texas A&M University at Qatar students was about cultural issues in work places at Qatar. Thus, Texas A&M University at Qatar students believe that dealing and communicating with professionals from diverse background in work places at Qatar is troublesome. We recommend the following specific steps for Texas A&M University at Qatar:

1. Texas A&M University at Qatar should increase the amount of group projects, in-class activities and shared assignments in Texas A&M University at Qatar courses. The groups should be picked by instructors to include members from diverse backgrounds. This will teach students how to deal professionally and communicate effectively with other students and future employees.

2. Texas A&M University at Qatar should increase the number of ping-pong tables and foosball tables and add more shared social activities such as Nintendo, Play Station 3, and mixed events. According to our observations, such social activities greatly push the students to engage with each other expanding the social integration.

3. Texas A&M University at Qatar can arrange events or lectures given by experts or students that introduce the students to different cultures along with their traditions and beliefs. This will greatly increase the vision of students making them more open to other cultures.

4. Texas A&M University at Qatar should increase the amount of tournaments on academic and sports levels. Such events will significantly increase the interaction among students.

For Lack of Internships
In order to address the lack of internships concern, the following list contains our recommendations about this problem:

1. Texas A&M University at Qatar should form a new system of internships where companies offer specific industry-related projects with specific targets. Then, Texas A&M University at Qatar can choose interested and qualified students to work on these internship projects. For each project, two advisors may supervise the students: an academic professor from Texas A&M University at Qatar and an industrial engineer from corresponding company. This would decrease the pressure of managing interns on companies and allow them to get real valuable outputs. In return, companies will offer more internships Texas A&M University at Qatar students.

2. Texas A&M University at Qatar should focus more on international internships in the GCC region, the United States, or Europe. Many students are willing to travel for an internship to get hands on experience. Many companies such as Saudi Aramco and Total offer internships for interested international students which will help create more internships opportunities for Texas A&M University at Qatar students.

We believe that Texas A&M University at Qatar should consider our research and recommendations seriously, and take more steps in order to address these concerns. Future research directions may include investigating the cultural tensions from Qatars’ points of view and exploring the lack of internships issue from industrial perspective. Also, researching variables in the country’s policies using government archives on employment patterns may be crucial to understand job-related concerns from a factual point of view, rather than using opinions of scholars.

To conclude, our research is of utmost importance; because the concerns we found are persistent since they can cause a nonappealing future for students in Texas A&M University at Qatar. Hence, if you consider our recommendations, you will be solving the top job-related concerns for students which will expand the reputation of Texas A&M University at Qatar among all employing companies as a credible educational institution. Hence, more students will want to enroll in Texas A&M University at Qatar; this will strengthen Texas A&M University at Qatar’s position even further.

Thank you for your time and consideration. We hope that the research has provided you with useful information that you expected to receive.

Appendix A: Basic Interview Questions
What do you think are the major job-related student concerns at Texas A&M University at Qatar?
What do you think the main reason of the difficulty Texas A&M University at Qatar find when they look for an internship?
What are Texas A&M University at Qatar current policies to address these concerns?
How do you evaluate these policies?
How can Texas A&M University at Qatar incorporate programs that make it easier for students to find a full-time job or an internship?
Do you think unemployment is a serious issue for Texas A&M University at Qatar graduates? Tell us about your opinion about Qatarization. Do you think it represents a problem for Texas A&M University at Qatar international students who would like to work here at Qatar? How do you feel about the work culture in engineering industries here at Qatar? Do you think that cultural factors such as social integration and gender segregation form a problem for Texas A&M University at Qatar graduates working at Qatar? How about occupational discrimination? Do you think it is a reasonable concern?

Appendix B: Survey Questions

Survey: Job-Related Concerns for TAMUQ Students

ENGIE 210 Research Project
By: Ernesto Nuguid, Mohammed AlShammasi, Morcos Metry, Yahia Abo Al Naga

Thank you in advance for taking 5 minutes of your time to answer these questions. In doing so, you will help us provide TAMUQ with better understanding of your job-related concerns as a student. The survey is anonymous and only group statistics will be reported.

Personal Information: (Please check or write your response)

Gender: [ ] Male [ ] Female
Nationality: [ ]

Classification: [ ] Senior [ ] Junior [ ] Sophomore [ ] Freshman

Questions (Please check or write your response):

A. Did you have an internship before: [ ] Yes [ ] No
   If yes, was it useful: [ ] Yes [ ] No [ ] Not sure

B. How far do you agree or disagree with the following statements:

Strongly agree | Agree | Neutral | Disagree | Strongly disagree

1. I feel TAMUQ prepares its students with all skills needed in the Qatar job market.
   ☐ ☐ ☐ 2 1

2. I think TAMUQ students are of great demand in the job market.
   ☐ ☐ 2 1

3. I believe that cultural issues (e.g. gender-related and language) are challenging in work places at Qatar.
   ☐ ☐ 2 1

4. I think TAMUQ deals effectively with its student job-related concerns.
   ☐ ☐ 2 1

5. Please write about any other job-related concern(s) you may think of:

6. Please write below how differently you may think TAMUQ should address the concerns above:

THANK YOU for taking the time to answer these questions.

Biography

Ernesto Nuguid graduated with a Bachelor of Science (BSc) in Electrical Engineering from Texas A&M University at Qatar on May 2013. His primary focus was on power, completing a power electronics-based project on portable battery chargers designed specifically for laptop computers. After university, Ernesto entered industry and hopes to return to school to further this knowledge on either research or management, which he later plans to apply in industry.

Mohammed AlShammasi, born and raised in Khobar, Saudi Arabia, graduated Summa Cum Laude from Texas A&M University at Qatar in May 2013 with a bachelor's degree in chemical engineering. During his undergraduate studies, he worked on research projects in the fields of wastewater treatment and nanotechnology for Li-ion batteries. Mohammed joined Qatar Shell in October 2013 as a Process Technologist Air Separation Units (ASU), supporting operation of the world's largest oxygen plant at Pearl GTL.

Morcos Metry, a Bachelor of Science candidate for May 2014, studied Electrical Engineering at Texas A&M University at Qatar. With a concentration on Power Electronics, Morcos’ primary research is on hybrid renewable energy generation systems for eco-friendly buildings. Morcos is a member of the IEEE and the Eta Kappa Nu honor society. His passion in power electronics is accompanied with a passion for writing in the technical and the liberal arts settings.

Yahia Abo Al Naga is an Egyptian who completed his high school in Cairo, Egypt, based on the International British System (I.G.). He joined Texas A&M University at Qatar in Fall 2009 for the chemical engineering track. He graduated from Texas A&M University at Qatar in Spring 2013 and joined Shell Qatar in 2014 as a process engineer.
Aspects of McDonaldization exist throughout everybody’s life, yet most people are not aware of this. There is no need for any background knowledge to grasp the meaning of what McDonaldization is because my paper addresses McDonaldization by giving examples from people’s everyday lives. Even though this paper is my first argumentative essay, I still think it’s different from what I have ever written before. When I go through the process of writing about something, I always go with subjects that have a lot of reference, but McDonaldization didn’t have that many references. So, I had to relate the little reference I had with the articles I found to deliver my message effectively. This to me was a skill I learned while writing this paper. Because this term is properly new to a lot of people, most of the students in my class didn’t know what I meant, but they understood what it meant when I started explaining it to them. My professor, on the other hand, did identify it with when I informed him of the meaning of the term. I hope this article provides more people with an answer to “What is McDonaldization?”

Although there is no denial over the efficiency and profit a corporation can get when adopting McDonaldization, McDonaldization in occupations should be eliminated due to its side effects which are the dehumanization of workers and the exploitation of consumers. The term McDonaldization was first coined by the great sociologist George Ritzer, and it does not mean the spreading of the McDonalds corporation throughout the world, but instead it means the transformation of occupations to somewhat similar occupations as in McDonalds, and it was coined by Ritzer as McJobs (Macionis & Benkraitis, 2009, p.125). McJobs were defined by five attributes: the jobs require a group of simple tasks that are performed as efficiently as possible, time is regarded as most important so, workers would tend to focus on quantity rather than quality, workers are predictable (the actions they do are set up by the “do’s and don’ts”), there are many nonhuman technologies which control worker’s actions, and the dehumanization of workers which leads some of the workers to drop the job (Ibid, 2009, p.126). As a result of the previously mentioned attributes of McDonaldization, workers become deskilled, as they require no skill to get their job done. The success McDonalds achieved through the use of McDonaldization led a great number of corporations to adopt the same system to maximize profit out of the over-exploitation of their employees.

In the eyes of corporations, McDonaldization is a business strategy to achieve the highest profit without regard to the employees. The key words in McDonaldization are profit and efficiency. The workers will be given a number of tasks, and they are supposed to be done with them as fast as possible, leaving no room to think or innovate, but to only do what is required of them. To see how strikingly efficient McDonaldization can be, we have to analyze the profit an adopting corporation can achieve out it. What better example than the golden arches, the source of McDonaldization itself? In a financial release made by McDonalds, the net profit achieved the third quarter of this year was estimated to be 3.74 billion dollars (ABC news, 2013, para.7). Disneyland is another corporation which had adopted McDonaldization, the profit would have been surprising if they were to release their financial record, but because Disneyland think of themselves as the smile factory, they can never show how much profit they earn. Now keep in mind that such profit doesn’t come from the good service nor does it comes from the quality that a corporation offer (McDonalds, 2013, para.2), even though the quality does play an important, it is not the reason why the net profit is so high. The profit McDonalds and Walmart make can only come from the abuse of workers who are provided with low wages, and in the case of Disneyland, employees are used as a product to sell smiles, yet they don’t too provide them with wage that does satisfy the federal minimum wage, or sometimes they do but with wages slightly above the minimum wage to maintain employees for some more time (Macionis & Benkraitis, 2009, p.125; Newman & O’Brien, 2011, p.242; Lichtenstein, 2004, para.12&24).

One potentially positive effect of McDonaldization is that it provides jobs which require no skills, making it easy for anybody to be accepted (Macionis & Benkraitis, 2009). This is true too for Disneyland, but there are some little differences here and there; for example: the requirement to work at Disneyland are all based on looks, so the only thing that a person need to do to become an employee under Disneyland is to cut your hair short, remove all facial hair... etc. (Newman & O’Brien, 2011, p. 236). This can prove useful in the case of the poor, as poverty contributes to the lack of education, and this is mostly caused by financial issues. Research done by the National Center for Biotechnology Information (2007) had regarded poverty as a negatively contributing factor on the behaviors of students, and most importantly the achievement and the continuation to pursue education (para. 2). Because of this, McDonaldization is required to provide jobs to the poor who have stopped pursuing education. This is something I don’t deny: that McDonaldization is needed in such situation, but when these jobs are provided to the poor, they will still be under the pressure of McJobs. They will be dehumanized, used and exploited for the success of the abusive corporation. It is a system built to attract those with no skill, and have no option but to accept to do such jobs. Moreover, it is made so that they stay poor with the low wages provided to them.

The dehumanization of workers is an aspect which is interrelated with McDonaldization, which emphasizes the idea of workers turning into just machines for whom their job is to only do what is asked of them, and should never involve human attributes in them. In the golden arches and Disneyland, workers are prevented from personal interactions. For every situation, the workers would react according to what they have been taught, and if there was a situation that was not taught to them, they would not know how to respond, or the supervisor would show up to act instead of them (Macionis & Benkraitis, 2009, p.127; Newman & O’Brien, 2011, p.236). In McJobs, employees are distrusted in handling customers as the customers are thought of as kings. Yet, employees reach a point at which they cannot handle the stress caused by the great number of rules that rip them from their personality, so most of them would end up quitting their job (The Economist, 2000, para. 2&7). This triggers the cycle again as it is easy to get hired in a McJob, and the workforce is going through a turnaround in a short period of time. So, workers are only regarded as a replaceable workforce.

Technology is so deeply integrated in McJobs that corporations would have a hard time replacing their employees without it; this doesn’t seem important, but when McJobs are understood, the technology will prove important to have. Using technology can help as a contributing factor to the deskilling of workers. This works because the employees who are hired are already with no skills, and with technology included they learn nothing, and instead start depending on it to get their job done. This can be experienced firsthand when ordering at a fast food restaurant, or visiting a supermarket. The cashier will not use any mathematical skills to figure out the cost of
what you bought, but instead they will use the cash register in front of them to do their job for them. This downgrading of human beings doesn’t end there. In most fast food restaurants, the cash registers include pictures of what the customer wants, and so the job of the cashier is to just press on the pictures. The skills of the workers are no longer trusted, and their jobs led only to their further deskilling. It is a system made so that they are replaceable. In any second, workers can be replaced with new workers who have no skill nor experience, and they are taught by the machines how to work. Later on, when technology is developed enough to do the work of humans, these workers in McJobs will be first to lose their jobs as they are not needed anymore, and their simple tasks can now be done without any wages being paid. A great proportion of the middle-class will be eliminated, while the proportion of people in poverty will increase.

Thus, workers must develop irreplaceable and unique skills to survive the uproar in technology, and with the existence of McDonaldization this won’t happen. Because McJobs require no skills, why do they need to develop any?

If you think workers are the only ones being exploited then think again. Every consumer today is targeted to be exploited, and used in a way to benefit corporations even more, and that is with use of McDonaldization. They are not only exploited, but there are also social norms and expectations forced on them that change their behaviors in certain situations. A small but regularly experienced example can be seen in the western countries’ restaurants. When people are done with what they are eating, they are expected to clean after themselves. But, should they be doing it? Isn’t that the job of the consumers? If the people in the U.S, and other countries are expected to do it, we start doing that with no objections. But, this doesn’t happen in a matter of seconds; it takes a great amount of time to make us believe that we need to do it. Over time, the effect of forcing social norms upon customers will be clearer as consumers will take more roles of the employees. They will be exploited even more. This is simply because those corporations have the power, and they can force any expectation, so why shouldn’t they? If it is going to maximize their profit, then they are going to do so. There is one reason why consumers accept these norms, and that is because of brand loyalty. After countless times of being consumers to a certain corporation, people start becoming loyal to these corporations. They will not object nor oppose any ideas presented by such corporation that it makes them vulnerable to being exploited.

McDonaldization is a representation of capitalism, in the sense that people try to use others for their benefits. They will go through all means to achieve their goals. Workers are being dehumanized, consumers are being exploited, and a system is made to provide the poor with jobs, but to still keep them in their social status. A system that can easily replace humans with others, or even with machines to do their jobs. Such system is not needed, but instead a system which allow employees to grow, and be treated more like humans is the one that is required. It seems irrelevant that all the examples related to McDonaldization are somewhere outside of the Middle East, but it will soon invade occupations in the Middle East just like the western traditions invaded the gulf. If the people in the U.S, and other countries accepted McDonaldization, it will lead to us accepting it too, making us another victim of McDonaldization.

References


Chasing My Unfulfilled Dream

By Sathiasegkaran Muthumanickam

Writer’s Reflection

A dream that is unfulfilled is a great despair for each of us because it is left incomplete and buried once the soul leaves the body. I do not want to be one of the people who sacrifice their dreams and accept what lies in front of them. So, I felt it necessary to pursue the passion that I refrained from when I was twenty, as the satisfaction to fulfill such desire is the greatest accomplishment in my life due to tremendous difficulties and constraints. In this piece, I reflect on my life and try to prove to each reader that taking that extra mile to follow a dream can be rewarding and satisfying.

Something ponders my mind while I sit silently in the living hall, holding my acceptance letter from Texas A&M University. My father realizes I am clenching a letter and assumes I am going to leave again. “What are you up to now?” he asks. “I am going to Texas A&M University,” I answer. He gazes into my eyes earnestly and says, “Why do you want to study Petroleum Engineering even you have a degree in Mechanical Engineering?” I’m soundless for a minute, and then I look back at him, “I actually feel incredibly lucky to be one of those people who have a passion.”

My passion has driven me to pursue higher education in Petroleum Engineering. My desire to be a petroleum engineer was sparked by the awe-inspiring oil rigs. In my first year at university, my professor, Dr. Daniel, who previously worked in a leading petroleum company in Malaysia, used to share his fascinating experiences in oil platforms. Functioning as a drilling engineer with countless sleepless nights, he ensured the drilling process ran in a smooth way and brought back photographs and stories of life on an offshore rig. Those narratives of glittery feats of petroleum engineers have intrigued me ever since, and I have fostered an innate interest for petroleum and its extraction. One afternoon as he was enjoying tea alone in his office, I asked him, “Why are you so enthused about petroleum?” He smiled with a look of great satisfaction of his accomplishment and answered me. According to him, crude oil is the world’s most precious resource; the list of indispensable petrochemicals we use in our day-to-day life ranges from gasoline to simple household cleaners. The petroleum industry, despite its colossal operations in the deep sea beds and underground wells, touches every human being on this planet in one way or the other. At a time when the world is reeling under the looming cloud of depleting fossil fuel resources and climate change, he deemed it necessary to become a petroleum engineer who is instrumental in the sustainable extraction of crude oil and able to do his part in bringing this precious resource to the surface of the earth in harmony with the environment. Inspired by his stories and a burning desire to work and experience life on oil-platforms as he did, I took an oath at age eighteen to choose petroleum as a gateway to my future profession.

I fully realized the oath I took would not be easy to keep after completing my pre-university at twenty. Maintaining this goal requires dedication, effort, patience and perseverance, but my dreams drifted away when I could not secure an admission to the petroleum courses in any universities in Malaysia. I not only met the standards required for the admission, but exceeded them. I had more than double the required grade point average from my college and also had an outstanding achievement in education and sports. That was the moment I discerned the fact that “need-blind” admissions are not honored in Malaysia. The term need-blind in the context of college admissions suggests that students be considered without regard for a financial circumstances. Bearing the agony, forced to go through the remainder of my days in solitude, I tried to persuade my inner self to overcome this obstacle and to continuously strive for my future. My parents, siblings and friends did not understand my desire for petroleum engineering, questioning me with “What are you going to do now?” or “Why don’t you just do the course you get?” At twenty-one, I finally realized I am different from the average person who just accepts the instances that occur. Enduring unfavorable reactions of family and friends, I made a decision to apply for a Mechanical Engineering major in a private university when I was twenty-one for the hope of one day accomplishing my dream of being a petroleum engineer.

Why am I here at Texas A&M University? At age twenty-five, I successfully completed a Bachelor of Engineering Honors in Mechanical Engineering degree with a distinction in my major from University of Bradford Malaysia Campus. Yet, I felt it necessary to pursue the passion that I refrained from when I was twenty, as the satisfaction to fulfill such desire is the greatest accomplishment in your life.

I would never say getting what you desire or wish is easy. But when you have something that you truly love and would do all day long, it makes studying that extra hour almost pleasurable. To know that you are learning something to make you understand the world better—to know just that little bit more than you did a minute ago—makes you want to learn more, to understand even more about the universe, to go that extra mile and comprehend that extra concept. You may have the pleasure of knowing a person who completely loves what he does, who is so passionate that when he talks, you can see it glitter in his eyes. That person is who I am today, and that person could also be you someday, sharing your journey as I have shared mine with you. My journey toward following my passion has led me to Texas A&M University, and I am finally close to achieving my dream.

Biography

Sathiasegkaran Muthumanickam grew up in Penang, Malaysia. He is currently studying for a Petroleum Engineering degree in Texas A&M University at Qatar, having previously completed a Mechanical Engineering degree at the University of Bradford where he graduated in May 2012.
The Secrets to a Successful Research Paper

By Fathima Faizeen

Writer’s Reflection

This piece was written for an assignment during my English course in the spring of 2014. We were instructed to write a Summary and a Response to Margret Kantz’s article, ‘Helping Students Use Textual Sources Persuasively.’ In this article Kantz addresses the issues faced by students in writing a research paper. She tackles issues faced by students when researching and reading to gather information and how this affects the final paper they write. She also suggests many different methods on how the students can improve such a paper and how the instructors can help them in writing a good research paper. Writing this paper has been a tremendous learning experience for me. This was my first summary and response, and since we had to do it in MLA format, it was also my very first time of actually following a proper citation format and citing my work. I am very pleased with the way this paper turned out and the response for this paper so far has been positive.

Kantz suggests that the difficulty of writing a Research paper depends on the sources and the topic itself. It can also depend on how the student uses the sources and how much original thought is put into the paper (70). How well the student uses the sources depends on how the text is read and how the assignment itself is interpreted. The final paper depends greatly on the goals set by the student, reflecting the “awareness” and “confidence” of that student (71). Kantz states that goals can be set by asking questions regarding the three main aspects of Kinneavy’s triangle (74): “speaker/writer (the Encoder), an audience (the Decoder) and topic (Reality)” (75). (See Figure 1)

In the article “Helping Students Use Textual Sources Persuasively,” Kantz does exactly that: she explores the many struggles of an average college student when it comes to writing a research paper. She believes that in order to “understand how to teach students to write such papers, we also need a better understanding of the demands of synthesis tasks” (69). She further explores this issue by using the example of a fictional character named Shirley, a “typical college student with an average academic preparation” (69) and her friend Alice. The introduction of these characters helped me as a student to connect and understand what we usually do with such tasks.

Kantz suggests that the concept of “rhetorical gap” is introduced by Kantz to help students to not just merely report the contents of the source but to address the “gaps between the text and the reader” (77). In order for the students to identify such gaps they will have to think of the paper as problem to be solved, a question to be answered or a lesson to be taught (78). She suggests that this new form of thinking will provide the student with more original ideas to write about (78).

One possible reason for a problem related to writing such a paper would be the assignment itself. Kantz states that a “weak assignment”, in which the instructor does not specify what the student has to do, would make the student’s final piece messy as the student most likely will not know what exactly he/she has to do. Providing the students with a “model” for the paper will help them better understand the type of writing they are expected to do (72). She says that the final paper can also be greatly improved if the teacher makes effective critiques in the draft, which the student can use to better understand the requirements of such a paper (72). I completely agree to this suggestion, as a student, I never understood what the teacher was expecting from me, and I was never sure if the format I was using was actually correct. This always prevented me from focusing and improving the content itself.

Kantz also looks at the problems a student would have even if the assignment was not a weak one. She believes that one of the major issues lies in the misunderstanding of the source (71). The reason for this is because the students “misread texts as narratives” (81). Educating the students on the types of texts and their characteristics will help them better understand the sources (86). When I was reading this, I became aware that I was indeed reading this piece as a novel as well!

Another problem the students find such assignments difficult is because “they expect their sources to tell the truth” (72) and because they do not understand that facts are used to persuade readers (73). Students see texts as “descriptions of truth, instead of arguments” (73) and therefore do not know what to say when sources conflict (74). Since students are taught to only find “the main idea” and learn the “content,” they either agree or disagree (74). Kantz suggests that in order for the students to better understand the material, they need to be taught “Rhetorical reading,” where students read the text as a message sent to another person and how to understand this message and the reason behind it (74). This will allow them to write an original argument either by discussing the source or the material (71).

In order to ensure that the student understands the task well and has time to develop and write a good final essay, Kantz encourages the submission of multiple drafts that can be corrected and re-corrected (81). She finally claims that the ultimate key to an original solution is a “creative paper” (81). I believe creativity is something that every individual has in his or her own way. What happens when restrictions and doubts take place in the student’s mind is that this creativity is restricted because they are more worried about getting the task done.

From this article I have learned the steps and secrets for successfully writing a research paper, and I believe that if I applied this newly gained knowledge to my previous papers, my grades would greatly improve. I was also scared and used to hate research papers, but now after reading Kantz article and understanding the way I need to approach such a task I look forward to actually writing one.

Works Cited


Biography

Fathima Faizeen is a current student at Texas A&M at Qatar class of 2017. This is her second semester at A&M in the field of Petroleum Engineering. She moved to Qatar from Sri Lanka six years ago and is the eldest in a family of four. Previously she was educated at Doha College.
Why Do We Write?
By Vamsi Krishna Vegamoor

Writer’s Reflection

I wrote this poem as part of my English class in Fall 2012. The poem was written towards the end of the semester wherein I reflect on the valuable lessons learned and how the course had changed my view about writing as a hobby.

To express our own thoughts to the rest of the world; or to critique others and call them crackpots.

Some think writing is like acting: an art or an open conversation.

We also write to influence, to make others do our bidding like a presidential candidate asking for votes.

Yet others write solely for their own delight, stories that shall ne’er be told to the outside world.

Diaries and personal journals, as claimed by Steven Gould, maybe these are the real gold, for you write them for thyself.

But the real question is: would you, in the future, still write if you didn’t have to? Would you still prefer the lamplight, over ‘Thought-Transfer™’? Would you be one of those who continue to write loyally, remembering how much of a companion writing had become?

Until a few months ago I would’ve said “Of course, No.” But after English 104 I think I will.

Biography

Having grown up in Qatar for most of his life, Vamsi Krishna Vegamoor considers himself half Arab. After sitting through high school classes staring out of the window, he decided to take up engineering. By a stroke of luck, he ended up studying Mechanical Engineering at Texas A&M University at Qatar. He is rarely seen at parties having fun, instead preferring to satisfy himself with a good book. As a tech junkie and gamer, his laptop is dearer to him than all else. Admittedly a realist, he often enjoys a good philosophical argument.