

Using the Hero's Journey Monomyth Framework to Understand Students' Engineering Experiences

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Abstract

The Hero's Journey framework has been used by prior scholars to conduct research in engineering and science education. This framework, when used for motif coding, can help identify and organize crucial aspects of a student's narrative about their trajectory in engineering education. Following this coding technique with narrative smoothing provides a way to convey the story meaningfully and memorably. Our research team recently used this method to study a longitudinal set of interviews conducted with an Irish woman, and we herein extend the value of that work by analyzing the interview of a Kuwaiti woman studying at the same institution in Ireland. By using the Hero's Journey framework to analyze these women's stories, we distill core meanings and share findings that are significant for engineering educators. Their stories can help readers empathize with underrepresented students, and better understand the joys, challenges, and realities these students face. Our Kuwaiti protagonist chose to leave engineering, but the story she told can help break through existing cultural stereotypes and help us realize how much more there is to any student's experience than first meets the eye.

Keywords

Engineering education research; Research methodology; Theoretical framework; Hero's Journey; Student experience; Diversity

Introduction

Prior research on students' trajectories in STEM has investigated engineering students from low socio-economic contexts [1], women of color majoring in a STEM course [2], undergraduate women who persisted to complete degrees in civil and/or environmental engineering [3], engineering students outside the 'white male' norm [4], non-traditional Engineering students [5], and resilience of women in Engineering programs [6].

Campbell's Hero's Journey framework has been used by some researchers of trajectory [7]. A careful search reveals that whereas Lightner et al. studied graduate students' journeys in engineering using Campbell's framework [8], Cruz and Kellam investigated the journeys of undergraduate students [9], and Boklage et al. assessed academics' journeys [10]. Williams and Carvalho used the Hero's Journey framework to study and communicate a female entrepreneur's journey [11]. Other interesting research using Campbell's framework has involved the role of the researcher, including both teacher librarians [12] and qualitative researchers [13], and stories of preservice teachers [14], adult learners [15], and women returning to education [16].

This study responds to the lack of research on engineering leavers [17] as well as the gap in the documentation of women's stories globally [4], by analyzing and re-telling the story of a woman who tried engineering and left, but who nonetheless reflects heroism. She reported experiencing an apotheosis, or period of catharsis, which she took the time to share with us during her last day in Dublin, before her flight home.

The analysis reported in this paper applies and further tests a multi-part methodological framework for analyzing data, distilling meaning, and communicating rich narratives about life trajectories. The research team previously used the approach to analyze three longitudinal interviews with an Irish woman studying engineering in Ireland, conveying her experiences during the first, fourth, and fifth (post-graduation) years of her engineering experience. As she was one of 47 women contributing interviews to our larger study, we decided to select an additional case to analyze using the same methodological framework. The pair of studies investigates the applicability and value of coding interview data using the monomyth framework—originally proposed by Joseph Campbell in 1949 [7]—and then retelling the data in a condensed format using narrative smoothing.

Campbell's framework was distilled from a detailed analysis of hundreds of stories, myths, and religious passages collected from various diverse cultures around the globe [7]. The 17 phases Campbell identified are found in almost all culture's narrative traditions.



Figure 1: Monomyth phases adapted from Campbell [7]. Source: Chance et al [21].

Figure 1 depicts the major components of Campbell's framework. Its 17 phases comprise three distinct acts: (A) entails separating from the ordinary world, (B) describes a time in a special world, and (C) involves returning to the ordinary world. In our previous paper (under review), we adapted Campbell's framework for gender neutrality but retained all 17 phases, and the overall structure, of Campbell's original framework because they fit our data appropriately. Prior research (Boklage et al, 2019; Cruz & Kellam, 2018; Lightner et al, 2021; Williams & Carvalho,

2020) used condensed sets of phases. The number of phases used was: six [10], four [9], eleven [8], and thirteen [11].

The first act involves the following phases: (1) receiving a call to adventure, (2) feeling an initial refusal of the call, (3) receiving some sort of supernatural aid, and (4) crossing the first threshold.

The second act involves: (5) encountering oneself in a very strange situation, i.e., the "belly of the whale", (6) facing a road of trials, (7) meeting with an all-knowing guide, (8) meeting with and overcoming temptation, (9) achieving a seminal atonement with a parent. The hero then (10) experiences an apotheosis, and (11) achieves a state of energized empowerment known as "the ultimate boon". Sometimes, the hero enjoys this feeling and (12) shows some resistance or refusal to return to the ordinary world. Approaching the return threshold can involve (13) entertaining events known as "the magic flight" and the hero can be (14) pulled or pushed over the threshold, in some sort of rescue.

The final act involves the hero's transition back into the ordinary world, (15) crossing the return threshold, (16) now empowered as a master of the two worlds, and (17) feeling the freedom to live in the moment and in a more integrated way.

This study investigates the degree to which this student's narrative aligns with Campbell's monomyth framework and compares findings with those from our prior work to reveal relevant lessons for educators. The three research questions that guided this study are:

RQ1) To what degree does this student's narrative align with Campbell's monomyth framework?

RQ2) How do the findings of this analysis compare with previous research findings (currently under review)?

RQ3) What can we/engineering educators learn from this student's story?

Method

Procedure

The participant of this study was selected from a group of 47 students participating in a larger phenomenological research study to understand women's experiences with collaborative learning in engineering. The phenomenological interview schedule prompted each interviewee to talk about things most important or most prominent in her mind regarding the experience of being a woman studying engineering and of collaborative learning (in formal and informal settings).

After collecting interviews from 47 students, we endeavored to find reasonable, structured ways to make sense of reams of data and re-tell it in a meaningful way. We selected the Hero's Journey framework because it fit several of the narratives collected (using phenomenological research methods) to understand women's experiences with collaborative learning in engineering. The two stories identified stood out as good fits with the Hero's Journey framework. The protagonist of the first story is Jean, an Irish single mother returning to school as a mature student after a decade of working as a barmaid. We extend this first study by conducting similar analysis of an in-depth interview provided by a female student from Kuwait. The protagonist of the second

story (the focus of this study) is Zafira. Zafira provided a 90-minute interview the day before leaving Ireland.

Participant

Zafira (pseudonym) is a Kuwaiti woman studying engineering in Ireland who chose to leave to pursue language teaching credentials. At the time of the interview, she was in her second year of university-level engineering study. We have chosen to call her "Zafira" because this is a name meaning successful, triumphant victor and is derived from the Quran [18].

Results

We have used Campbell's monomyth framework as the *a priori* system for motif coding. In the first study, two researchers coded all three transcripts and achieved a high level of inter-rater reliability. One of these prior coders completed the motif coding reported in this paper. Following the coding, she employed narrative smoothing techniques to help communicate the student's story succinctly.

Motif coding

In the departure phase of Zafira's narrative, she is engaged in the ordinary world of high school studies but is called to undertake an adventure, in higher education in Ireland. The protagonist proceeds, typically assisted by a mentor who is, in this case, Zafira's father. He gives a supernatural aid of companionship and housekeeping during her first year in Ireland, studying for college entrance exams (called the Leaving Certificate, Ireland's equivalent of the SAT).

At the initiation phase, Zafira crosses a threshold into a new and unknown world of engineering studies that requires her to overcome engineering tasks and trials, which she manages with help from others, including a male peer mentor from Saudi Arabia who coaches her patiently until she understands. He isn't permitted, by his religious beliefs, to make eye contact or interact socially with any woman outside his family, but he finds innovative ways to assist Zafira by, for instance, using screen share to coach her on coding prior to an important project deadline.

Equipped with new understandings of herself and a crucial sense of atonement with her father, Zafira enters the return phase, where she returns to the ordinary world with rewards from the journey, and lessons on independence, assertiveness, a stronger sense of identity, purpose, and commitment.

Table 1 conveys the research teams' interpretation of each phase of Campbell's framework and summarizes how this was reflected in the interview Zafira provided.

Monomythic phase		Our interpretation	Alignment with Zafira's narrative	
Departure		In the departure phase of the narrative, the primary character is engaged in the ordinary world but is called to undertake an adventure. Despite feeling initial resistance, the character proceeds, typically assisted by a mentor.		
1.	The Call to Adventure	This provides the opening for the narrative: it addresses how and why the entire story starts. It may be a motivation or affinity within a participant, or a more external force that drives the participant in a particular direction.	Ever since she was in high school, she wanted to do medicine. She was mostly interested in biology and wanted to become a doctor. She moved to Ireland to complete foundational studies and to study for the Leaving Certificate to enter a university course there.	
2.	Refusal of the Call	The student has misgivings about their initial desire.	She came to Ireland and did the Leaving Cert but didn't get the points for medicine. She didn't work hard enough to score well, and she didn't get accepted into any programs she likes. She had no backup plan and ended up taking her dad's suggestion to study engineering like her brother was already doing in Dublin.	
3.	Supernatural Aid	The student receives unexpected help or advice regarding their career trajectory.	Her father, retired from the military, joined her for her entire first year in Dublin, doing all the cooking, cleaning, ironing, and taking her to the bus stop to attend Learning Cert classes. He didn't want her to take that time away from studying, because he was focused on helping her earn a college degree to ensure a steady income and stability later.	
4.	First Threshold	This is the first trial encountered by the student. Typically, there is an awareness that the first threshold will be a challenge, and so it is often something that does not come as a surprise to the student.	She resisted joining engineering and even cried. Finally, she agreed to join the engineering course even though she had no interest in the subject or its foundational topics. She was afraid of her father's reaction.	
Initiation		At the initiation phase of the journey, the main character crosses some sort of threshold into a new and unknown world that requires the character to overcome challenges, tasks and trails, either alone or with help from others.		
5.	Belly of the Whale	This is the lowest point in the student's experience of school. We looked for a negative experience that was transformative (annihilating an existing self).	She failed a couple of subjects in the first semester but kept the news from her dad. She didn't want to hear that she was lazy, even though she felt that to be true, because she so disliked the subject. Her dad suggested she talk with her scholarship sponsors about transferring to another place or program, but they refused, having already funded two years toward an engineering degree. She cried for two weeks.	
6.	Road of Trials	This is the "meat" of the narrative. It consists of all the things that happen to the student after passing the initial trial, but before resolution of the ultimate goal is in sight.	By second year she felt completely stressed out, and frazzled because she can't understand the way others in class do. She had some bad team experiences, but most groups supported her to an extreme, explaining things to her until she understood. Making eye contact was particularly challenging, and something she struggled to navigate in situations with people of many different cultures – including her own.	

Table 1. A summary of how Zafira's narrative reflects each phase of Campbell's framework [7].

7.	Meeting with the All- Knower	The all-knower is a figure who passes knowledge to the student that is crucial to the resolution of the journey. Without this relationship with the all-knower, the journey would have ended radically differently.	One female friend from Oman, Akilah, went into the same engineering major at second year. Akilah and a married male classmate from Saudi Arabia were core to helping Zafira hang on. She had to start talking with male peers, which she didn't do at home, to get help when needed. The male classmate didn't feel free to make any eye contact or meet individually with Zafira, but always checked to see if she and others needed help. He provided tutoring, even setting up online tutorial sessions to provide help within the strict religious boundaries he observed regarding gender interaction. Zafira had gotten to meet his wife and kids.	
8.	Meeting with Temptations	This is a particularly abstract idea for Campbell, but the core of the idea is that something keeps the hero from attaining a higher ideal. The student is tempted by something that does not help fulfill the journey's goal.	Laziness is the biggest temptation that Zafira faces. She tends to give up before reaching the end of assignments and to get carried across the finish line by peers on her team. She has successfully navigated some cultural differences, having learned to work and to communicate with male students. Although she had attended gender-mixed schools back home, she hadn't interacted with males outside her own family. Here, she seized the opportunity that studying abroad provided to learn to do some things differently.	
9.	Atonement with Parent	The parent is a powerful and intimidating figure that in some way held sway over the students' life. During atonement, the student comes to terms with this power, retains autonomy, and internalizes some of the parent's power.	Zafira feels she has disappointed her father. After he has done so much to support her, she fails numerous modules, her funders won't agree to let her change majors, and her father wants her to return home to study engineering there. She finally convinces him that engineering isn't for her, and he agrees, telling her that he loves and accepts her regardless.	
10.	Apotheosis	The student reaches a new stage of understanding.	Being accepted into a course back home to study to become and English teacher lifts a burden off her shoulders. She looks forward to building on skills like presenting and explaining things to other people, where she has unique talents.	
11.	The Ultimate Boon	While immortality doesn't happen in real life, the student may feel immortal for various reasons, particularly as the journey reaches resolution.	Zafira reflects on her time in college positively; she has become independent and has strengthened her own beliefs and convictions by questioning and challenging them. She aims to achieve inner peace and make a difference in the world. She looks forward to honing her sense of purpose. "But now I've learned my lesson, that I should stand up for what I want."	
Return		In the return phase, the main character returns to the ordinary world with rewards from the journey. The return is not straightforward, as the character may be reluctant to return, may be rescued or even forced to return by members of the ordinary world or chased out by gatekeeps of the special world.		
12.	Refusal to Return	The refusal of the return represents something that the student consciously does to defer leaving the current state.	She had worried that teaching English wouldn't help her make the world a better place, but her classmate, Akilah, helped her see different ways a teacher can achieve impact.	
13.	Magical Flight	The student might take specific elements of the special world back into the ordinary world – and making the return journey can be	She's flying home tomorrow and tying up loose ends. She'll meet with the family of her Saudi peer mentor, to say goodbye and give toys to the kids. Reaching out to peers to help schedule this last-minute interview on the way out of town (requested by the researcher more than a year before) was also part of the Magical Flight. Zafira normally	

		eventful, adventurous or dangerous.	has trouble making eye contact and speaking openly but feels good about having done this interview.
	Rescue from Without	If the student is refusing the return, some sort of event must bring the student back, causing the resolution of the journey (graduation).	She has a solid plan to study English and may be able to earn exemptions by testing to shorten her period of study.
15.	Return Threshold	After spending so long in college, people change. The return threshold is an attempt to communicate with the "real" world what happened during the journey and to reconcile the new identity with the world that the student left behind.	Her brother encourages her to be more assertive about her needs and desires going forward. She leaves Ireland resolved to change her passive ways.
-	Master of Two Worlds	The student can exist in both the "real" world (home) and the special world (Ireland).	Her opportunities for independence are much different between Ireland and home, where she will follow customs to live in her parents' home until she marries. She enjoys more freedoms in Ireland, knows the expectations back home, and has ideas for how to strike an appropriate balance.
17.	Freedom to Live	Mastery leads to a freedom to live free of fear – to live in the moment without regret of the past or significant worry about the future.	Getting her driver's license is an important next step to achieving a higher level of autonomy back home, and her dad will teach her soon, as he did with her sisters and brothers.

Narrative smoothing

In this portion of the analysis, we sought to provide a cohesive story based on Zafira's own words. This task was easier than we experienced with Jean's narratives, as Jean provided more data to sift through. Zafira's narrative was much more to the point, and in its original version was told in a way that almost replicated Campbell's framework—a framework with which she wasn't consciously familiar. At the time of the interview, the research team itself was not aware of Campbell's framework but used phenomenological interview techniques to let the interviewee determine the subjects to be discussed. The results of the narrative smoothing process are presented in the Appendix at the end of this paper.

Findings

Our findings related to each of the Research Questions follows.

RQ1) To what degree does this student's narrative align with Campbell's monomyth framework?

Although this interview was conducted before Zafira crossed back into her ordinary world, her words provided an indication of what she expected to come. She requested the interview at a seminal point in her story—the day before she was making both the metaphorical and literal

"flight" back to the ordinary world. We found evidence of all phases of Campbell's model in the single interview provided by Zafira.

RQ2) How do the findings of this analysis compare with previous research findings (currently under review)?

The protagonist of our first paper, Jean, achieved her hero status by excelling in engineering gaining a top designation and award for her Bachelor of Engineering capstone project, joining the industry, embracing new challenges, being promoted within a year, and balancing all this with family life—raising a son on her own and cultivating a committed partnership with another single parent, a relationship that evolved slowly and purposefully over time. Campbell's framework was very helpful in helping distill the content of three very lengthy interviews into one easy-for-readers-to-digest narrative.

Zafira's narrative was much different, and even though she left engineering, her story proved to be heroic, nonetheless. Both Jean and Zafira overcame challenges, and both described with poignance the interactions with their fathers. With Zafira, we had only one interview to go on, yet she seemed to select an ideal time to deliver it. As she had dodged requests for an interview in her first year, stating retrospectively that she hadn't had things to share that appeared to be of relevance to the research study (on collaborative learning in engineering) at the time. She reached out to the researcher (the lead author of this study) just before leaving, via her Middle Eastern classmates who had provided interviews, in an apparent effort to tie up loose ends and achieve a sense of closure.

Zafira relayed her story in a very concise way, that reflected all of Campbell's framework phases. Regarding both Zafira's and Jean's narratives, we found the coding and narrative smoothing to be an iterative process. As some stories code to multiple phases, the step of narrative coding challenges the researchers to further distill meaning and tell the story concisely. In this case, the narrative surrounding eye contact appears in multiple places. It falls under "Road of Trails" in our coding but also under "Magic Carpet" where Zafira discusses the ease with which she was able to communicate during this interview, during a very fast-paced series of goodbye meetings on her way home.

RQ3) What can we/educators learn from this student's story?

Despite leaving engineering, Zafira told a story that can help us, as engineering educators working in a Western context, better understand the diversity of students with whom we work. Zafira's story can help us break down stereotypes.

Zafira was reluctant to disappoint her father, and while we might first assume the father was overbearing or controlling, Zafira let us know the extraordinary lengths he went to in supporting his daughter's education. His aim to ensure her ability to support herself into the future may be common to many students we encounter each day; yet his willingness to move with his daughter to a new country and undertake a wide range of domestic chores for her, so she could focus on her studies, reflects a remarkable level of care—particularly since he did not do these household chores at home.

Other common assumptions might have to do with eye contact and communication between genders. Yet, in Zafira's narrative, we learn about her male peer mentor going so very far above and beyond to support other students while also upholding his own beliefs and customs. Both Zafira and her Saudi peer mentor carefully navigated the nuances of their identities, cultural and religious foundations, and found alternative approaches to communicate across these boundaries in ways they found acceptable.

Conclusions

Our analysis of interviews suggested that, as was the case with Jean's interviews, Zafira's narratives reflected most phases of Campbell's framework [7]. The data were not collected with this framework in mind; rather the interviewer was using phenomenological interview methods that encourage the student to discuss topics of most interest to herself.

Although the outcome of Zafira's journey was not a career in engineering, preliminary analysis indicates that elements of her story nonetheless align with the hero's journey framework and provide worthwhile lessons for educators. We feel that sharing her story, in the condensed version achievable via narrative enquiry, contributes to the literature on how students from underrepresented groups – in particular, female international students from non-western backgrounds – experience engineering education.

This study provides further evidence of the value of Campbell's framework for communicating the life stories of engineering students in a concise and compelling way. Additionally, it provides further evidence that such analysis might also contribute to the literature on student development in the areas of identity development [19] and developing reflective judgement [20]. Elements of the frameworks set forth by Chickering and Reisser [19] as well as King and Kitchener [20] are present in the narrative of this student, as are all phases of Campbell's hero's journey framework. These identity development frameworks will be the focus of subsequent analysis. Additional future work could include comparing the results of Jean's experiences with the findings of O'Shea and Stone [16], involving women returning to education, as was the case of Jean.

References

- [1] Carrigan, C., Hauser, J., Riskin, E. A., Mody-Pan, P., Borgford-Parnell, J., Wiggin, D., Winter, S., Pinkham, S, & Cunningham, S. (2019). Active agents and fictive kin: Learning from Pell-eligible engineering students' class standpoint. *Journal of Women and Minorities in Science and Engineering*, 25(2).
- [2] Ceglie, R. (2011). Underrepresentation of women of color in the science pipeline: The construction of science identities. *Journal of Women and Minorities in Science and Engineering*, 17(3).
- [3] Neumann, M. D., Lathem, S. A., & Fitzgerald-Riker, M. (2016). Resisting cultural expectations: Women remaining as civil and environment engineering majors. *Journal of Women and Minorities in Science and Engineering*, 22(2), 139-158.
- [4] Pawley, A. L. (2019). Learning from small numbers: Studying ruling relations that gender and race the structure of US engineering education. *Journal of Engineering Education*, 108(1), 13-31.

- [5] Smith, J. M., & Lucena, J. C. (2016). "How do I show them I'm more than a person who can lift heavy THINGS?": The funds of knowledge of low income, first generation engineering students. *Journal of Women and Minorities in Science and Engineering*, 22(3), 199-22. DOI: 10.1615/JWomenMinorScienEng.2016015512
- [6] Wilkins-Yel, K. G., Simpson, A., & Sparks, P. D. (2019). Persisting despite the odds: Resilience and coping among women in engineering. *Journal of Women and Minorities in Science and Engineering*, 25(4), 353-368. DOI:10.1615/jwomenminorscieneng.2019026945
- [7] Campbell, J. (2008). The hero with a thousand faces (Vol. 17). New World Library.
- [8] Lightner, T., Roy, S., Edwards, M., & London, J. S. (2021, July). "Racing the sun": A narrative analysis of engineering graduate students' journeys navigating public-inspired science work. Paper presented at 2021 ASEE Virtual Annual Conference Content Access, Virtual Conference. 10.18260/1-2—36535
- [9] Cruz, J., & Kellam, N. (2017). Restructuring structural narrative analysis using Campbell's monomyth to understand participant narratives. *Narrative Inquiry*, 27(1), 169-186.
- [10] Boklage, A., Coley, B., & Kellam, N. (2019). Understanding engineering educators' pedagogical transformations through the Hero's Journey. *European Journal of Engineering Education*, 44(6), 923-938.
- [11] Williams, B., & Carvalho, L. C. (2020). Trajectory of a fourth-generation female entrepreneur as seen through a monomyth lens – Casa Ermelinda Freitas. *Journal of Small Business & Entrepreneurship*, 34(1), 53-73. DOI: 10.1080/08276331.2020.1789827
- [12] Holmes, T. (2007). The hero's journey: an inquiry-research model. *Teacher Librarian*, *34*(5), 19.
- [13] Villate, V. M. (2012). Qualitative Research as a Hero's Journey: Six Archetypes to Draw on. *Qualitative report*, *17*, 76.
- [14] Goldstein, L. S. (2005). Becoming a teacher as a hero's journey: Using metaphor in preservice teacher education. *Teacher Education Quarterly*, 32(1), 7-24.
- [15] Simpson, J., & Coombes, P. (2001). Adult learning as a hero's journey: Researching mythic structure as a model for transformational change. *Queensland Journal of Educational Research*, 17(2), 164-177.
- [16] O'Shea, S., & Stone, C. (2014). The hero's journey: stories of women returning to education. *The International Journal of the First Year in Higher Education*, *5*(1), 79-91.
- [17] Seymour, E., & Hunter, A. B. (2019). Talking about leaving revisited. *Talking About Leaving Revisited: Persistence, Relocation, and Loss in Undergraduate STEM Education*. Springer.
- [18] QuranicNames.com (2023). Zafirah: A Quranic Name for Girls. <u>https://quranicnames.com/zafirah/</u>
- [19] Chickering, A. W., & Reisser, L. (1993). Education and Identity. The Jossey-Bass Higher and Adult Education Series. Jossey-Bass Inc., Publishers, 350 Sansome St., San Francisco, CA 94104.
- [20] King, P. M., & Kitchener, K. S. (1994). Developing reflective judgment: Understanding and promoting intellectual growth and critical thinking in adolescents and adults. Jossey-Bass: San Francisco, CA.

[21] Chance, S.; Williams, B., & Direito, I. (2023). "So, I'm trying to juggle everything" – a trajectory from barmaid to engineer viewed through a monomyth lens. Manuscript submitted for review.

Appendix

Interview text using narrative smoothing is presented below. All stages of Campbell's model were evident in the interview.

The Call to Adventure

"ever since I was in high school, like, I wanted to do medicine. I was interested in biology mostly, and I wanted to like be a doctor say."

Refusal of the Call

"then I came to Ireland and I did the leaving cert, and then uh I didn't get the points for medicine; so I did the leaving cert again, and I still didn't get the points."

"And then, because I was, like I didn't have backup plan [...] my dad was like, why don't you do, uh, engineering, like with your brother because he's doing it."

Supernatural Aid

"the first year, [my brother here in Ireland] was living with a friend, and I was living with my dad. My dad came here and [...] the entire time he was in Ireland with me. He used to take me all the way to the bus stop for me to get the bus to the Institute. [...] he used to cook for me, iron my clothes. He didn't want me to waste any moments he just wanted me to study. [...] He just wants me to have, to graduate from college and have a degree and to work and have an income because he's not going to be here forever."

First Threshold

"Like I even cried, I didn't want to do it. [...] I am not interested, not even 1% interest in physics and stuff. Umm, and so like, I joined the college. [...] because I, I was afraid of my father's reaction."

Belly of the Whale

"when the first semester uh results came out umm I failed a couple of ones, he then, asked me uh about my results and I didn't answer. Like I, like I didn't because I was already upset. I didn't want him to uh say more stuff that would upset me because I uh I dunno he might be he might be telling me that you're lazy and you're not studying and stuff like that. Which is true (laughs). But uh, it's because I don't like this stuff. It's just I can't get myself to study something, something that I don't enjoy. And uh, I was like always stressed out and that. [...] And umm, so like he [dad] told me go ask the cultural office here, umm of Kuwait because I'm sponsored by them. So, I went to them and I asked them about changing my major. [...] my dad asked, just to make

sure, [...] and they told him that 'we're going to change her major'. Like 'if the papers come to us, we're not going to change it because we have given her four years to do engineering, and she has done two years already. So, we're only going to pay for two years, you have to pay for the other two'. Umm and then, like I, I felt like no, no why is this happening? [...] And, I was really upset, for like say two weeks. I spent them like crying and all of that, umm I was really upset."

Road of Trials

"I'm 20 years old. It's only this year that I felt really really really stressed. [...] it's when I don't understand in classes I feel really frustrated like, why is everyone getting it and I'm not getting it. I know I'm not stupid cuz I've done really great in high school. [...] But in my case, I didn't use to understand in the classes, I'm not speaking about the institute, but in college. I was in classes that didn't make any sense to me [...]."

"Ever since I was a kid, eye contacting people has been a problem to me. Like um I just can't do it. It's, at some point I just feel like, I can't breathe. [...] I really want to work on this because people who don't know [me] will think that [I am] rude."

Meeting with the All-Knower

"If I didn't have my friends with me, helping me with my studies, I wouldn't have passed first year. [...] so the friend that is with me, from first year, [...who we have named Akilah] she is from Oman. [...] Like if I and Akilah got stuck, I'd ask others, and yeah, they'd be really willing to help. I've this um classmate that umm is from Saudi, he is really really, really kind, like he always, like after every lab he goes around each and every person and then he's like, 'Do you need any help?' or like he's so so kind. Honestly, he took a big burden off of my shoulder. [...] I even um met his wife and uh his kids [...] those times when I have to like finish off so many reports and I don't know how to like, what do they need in the reports? What do I...or the calculations and all this stuff. He'll be there to help me, he'll always be there to help me. [...] he just loves to help. And when I say 'thank you' he doesn't like it, because he's like 'why are you thanking me? God has put me in your way, you should thank God, you shouldn't thank me.' [...] that coding project. And basically, I have um a partner, a Brazilian partner. But he dropped the module, so I have to work on the code all by myself. [...] But I couldn't manage to finish it. So, I went to this mate and I told him, uh can you check my code, what is it missing and that stuff. And he said like, it's missing lots of stuff and like the submission date is next week. And umm he's like join our group [...] and then the teacher replied to me and she told me that it's fine em, you can join them if you can show them that you're going to do the stuff you told me. And yeah, and then he told me download this program, where you'd be able to see my screen, he and then he said download this so I can speak to you. So, uh then we spent four hours, em like I can see he screen from my house, he's at his house, I'm at my house. I can see his screen and I can talk to him. So that was really helpful."

Meeting with Temptations

"back home I've, I've been to a mixed high school. But like I didn't use to interact with males, like it's just, I didn't used to. But here I ask a lot, I'm not afraid to ask for help, even if they were male. [...] it depends on the person. You see, I believe that if you have the chance to go study abroad, it would be a great chance to get to know different cultures and to, you see what I mean? [...] I don't talk to them [males outside the family] much like back home. But here I started to interact with them. Like I'm not shy, and I'm not afraid to ask for help. [...] Like back home, because we're not even family, and it's not allowed to [...] talk with a man that is not even part of your family. [...] we don't believe in friendship between a male and female. Basically, because eventually one of them will have feelings for the other, and that makes sense. That's why it's not allowed."

Atonement with Parent

"then my dad was like, 'okay come back home, and then continue with the engineering back home, with the same course that you're doing. [...] I'm like, 'No! If I'm to do the same major I'd rather stay in Dublin, because I really like Dublin, and Dublin is like home to me now'. Umm and like, we had an argue about that and then he finally understood that I don't want to do this, finally."

"Then he was telling me, on his own, like he told me that it's okay, that uh, this, all of this doesn't matter and you're still our daughter and we love you and all that stuff. Umm I was shocked, I was like, is this my dad? (laughs)"

Apotheosis

"I applied for uh umm English. I'm going to be an English teacher. [...] I am very happy. I'm very, I feel like a big burden is like gone off of my shoulder. [...] I've been told that I mh, like when I explain things to people, they told me that I have the ability to make people, uh to send the information across. And uh, I love doing presentations. Ever since I was uh primary, I used to enjoy presentations. And teachers used to tell me that uh, 'your presentations are so creative'."

The Ultimate Boon

"my stay in Ireland is not a waste of time. I have learned so much and I met so many nice people. And but, now I've learned my lesson, that I should stand up for what I want."

"I don't think it [has been] a waste of time at all. Because I've, like learned lots of stuff. [...] they say that I've kind of umm become more independent. And I uh I know what I want to do in life. And like I know who I am. I have my own opinions and things and [...] in Islam, [...] I actually started to search, why I'm doing this and why I'm doing that. Like [...] I want to make sure that I'm not just following my parents. [...] So, I want to learn more about that. [...] I just want to achieve inner peace in life. And I want to do something that will make the world a better place. Like I do believe that each one of us has a purpose in life, and not just like work and get money and, and sleep and eat. [...] I'm still not 100% like fully like know what is my purpose in life. I'm still searching for it. But it's definitely not engineering!"

Refusal to Return

"At first I was thinking, what would an English teacher do? Just teach grammar and how is this going to change the world? This is, I was seeing stuff from my own perspective. But then Akilah was telling me, 'Why are you underestimating this?""

Magical Flight

"Honestly I, I don't know how I'm going to say goodbye [to her Saudi student mentor and his family]. I'm going out with them tomorrow. I'm so excited, yeah. I got them all toys and that. Umm, but yeah, I do believe that, God had put his, like kind people in my way to make this journey tolerable. Because honestly, I would have lost my mind if I didn't have anyone to help me. [...] I didn't tell them [her classmates] that, about this whole story about my dad you know. I just told them that I didn't like the course, and that I had to get into it because I didn't have any other choice. But now, this Saudi mate, he knows everything like. Now I've told him all that, and he wished me all the best."

Rescue from Without

"I'm going to study. Four years. But they said if I take a test, I might get an exception to just go into third year. I think they are going to test my Maths and English as well."

Return Threshold

"I was discussing this with my brother the other day. He was like telling me, all this happened because you didn't stand up for what you want. Umm because I'm always like, whatever my dad says, I'm like 'yes'. I'm too like polite, like I like I don't stand up for what I really want. But that's definitely going to change now!"

Master of Two Worlds

"It's good to be independent. Like, [here] you don't have to ask for anyone's permission, you can just do whatever you like. Whereas back home, you have to follow certain rules like not allowed to go out whenever you feel like going out and umm like you have to be at home before a certain hour, before 9:00 or whatever it is. There are those, those things. [...] Definitely it would [resume like this when I go home]. Like even the way I dress or the amount of make-up I put on. Umm, my mom is strict religiously and in Islam we are not allowed to wear make-up. And umm she didn't used to allow me to put any when I was back home, but now I'm old. I only started when I came here to Ireland and like I would try everything and umm but when I go back home – like she'll know that I'm older now. I can make my own decision regarding those stuff but she'll still like, if she saw me wearing this, she would be like 'This is so tight'. She would be like, 'No this is so tight. You're not going out in this'. [...] 'You're not going anywhere. Take it off.' [...] we always live with our parents, forever. Until we get married. (laughs) [...] But I feel like if I got my license things would change."

Freedom to Live

"I have to [get the driver's license]! Who's going to drive me to college? I have to, yeah. My dad's going to teach me first and if he feels like I'm okay driving, he'll then um make me do the driving test. [...] like he sits next to me. The same he did with my sisters and brothers."