

# Not Just for Undergraduates: Examining a University Narrative-Based Career Management Course for Engineering Graduate Students

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## Abstract

The experiences of graduate engineering students enrolled in a credit-bearing, career management course at a Canadian University were explored from a narrative perspective. Scant literature exists on the outcomes of career planning courses at the graduate level, largely because these classes tend to be aimed at undergraduate students. Individual interviews were conducted with 10 students who completed the semester-length course. The inquiry focused on students' life-career plans and their experiences in the course. Applying social constructivism to career development as a theoretical framework, thematic analysis was used to generate results in the form of three main thematic categories. These categories included: fostering career awareness and exploration skills; finding affiliation with others; and developing optimism and confidence. Findings highlight the benefits for graduate students who are offered opportunities to develop career planning skills through credit bearing courses. Implications for practice, policy, and research exist based on the data analysis, including alternative strategies to incorporate life-career planning skills into graduate-level coursework.

*Keywords:* career planning courses, narrative career development, qualitative research, graduate students, career management, social constructivism

University students continue to graduate into an increasingly diverse and global marketplace (Bevan, Brinkley, Bajorek, & Cooper, 2018). Uncertainty regarding technology's impact on future work permeates the workplace today (Brynjolfsson & McAfee, 2016). Projections suggest that most new graduates and employees will need to develop and hone life-long career management skills to thrive (Aoun, 2017; Callanan, Perri, & Tomkowicz, 2017). This is true for students entering the fast-growing and rapidly changing workplace, especially in industries reliant upon STEM education (Rottinghaus, Falk, & Park, 2018). Career management skills, such as life-career decision-making competencies, are deemed necessary for university students (both undergraduate and graduate students) to find relevant work and proactively manage their careers for the future (Stebleton & Franklin, 2017).

Academic institutions and higher education professionals use multiple strategies to educate and prepare students for life-career planning. One preparatory strategy is credit-bearing career planning, or career management courses, typically at the undergraduate level (Fouad, Ghosh, Chang, Figueiredo, & Bachhuber, 2016; Hansen, Jackson, & Pederson, 2017). Although some career education is embedded into academic planning and orientation activities (e.g., University 101 first-year experience classes), there are fewer opportunities for students to

enroll in a structured career planning course that bears credit towards graduation. Previously, some institutions have offered individual career planning courses affiliated with specific majors or departments (Reardon & Fiore, 2014). Providing education to a specified group of students by discipline (e.g., engineering) allows educators to tailor curriculum to the specific needs, aspirations, and concerns of that student population.

## Rationale for Graduate Student Career Management Planning

Past studies on the outcomes of career planning courses focus on the experiences of students enrolled at the undergraduate, university level (Reardon & Fiore, 2014; Reardon, Melvin, McClain, Peterson, & Bowman 2015). Frequently, these courses serve undecided students; therefore, topics of career exploration receive much of the curricular focus. In comparison, most graduate and professional programs do not offer career management classes, resulting in a dearth of literature and understanding around these student experiences.

The lack of data on the experiences of graduate students enrolled in career planning classes and the over-reliance on quantitative methods represent two significant gaps in the literature. To fill these gaps, we examined the experiences of 10 graduate students enrolled in a for-credit career planning course offered through an engineering program at a

Canadian university. The students completed a semester-long course that utilized a narrative-based framework to life-career planning (Franklin & Feller, 2017; Savickas, 2012; Zikic & Franklin, 2010). At the conclusion of the course, students were invited to participate in an individual interview during which the goal was to inquire about what they learned through the course. The central research question that guided our study was: What are the experiences of graduate engineering students who completed a credit-bearing career management course at a large Canadian research university?

For the purposes of this paper, we define several key terms as follows. “Life-career planning” will be used to encompass the acknowledgment of and preparation for the holistic and integrative nature of life roles over the course of a lifetime (Hansen, 2001). “Career management” will be defined using the National Association of Colleges and Employers (NACE) framework for career readiness. According to NACE, career management includes the ability “to identify and articulate one’s skills, strengths, knowledge, and experiences relevant to the position desired and career goals, and identify areas necessary for professional growth.” In this study, *life-career planning courses* and *career management courses* will be used synonymously.

## Literature Review and Conceptual Framework

### Career Planning Courses in Higher Education

Career planning courses maintain a long history on college campuses. Higher education professionals first offered career courses in the early 1900s, and curricula

was included in first-year orientation programs (Maverick, 1926; Reardon & Fiore, 2014). The general outcomes from an analysis of career course literature are clear and convincing (Folsom & Reardon, 2003; Hung, 2002; Reardon & Fiore). Overall, well-executed career planning courses favorably influence student outcomes, such as measures of career thoughts, career-decision-making, vocational identity, and career decidedness. Career course outcomes positively affect persistence of undergraduate students, graduation rate, cumulative GPA, job satisfaction, and satisfaction with field of study (Reardon & Fiore). Additionally, participating in a career planning course contributes to students’ occupational engagement, awareness of career resources, and self-efficacy (Cox, Rasmussen, Jacobson, Wells, Rettew, & Sirridge, 2006; Fouad et al., 2016; Thompson & Feldman, 2010).

Despite this comprehensive outcome data, there remains at least one shortcoming. Most of the evaluation studies on career planning courses have been conducted at the undergraduate level and involved quantitative analysis (Reardon et al., 2015); less is known about the effectiveness of career planning courses for graduate level students from a qualitative perspective. The literature on graduate students and career readiness focuses primarily on the role of career services for graduate and professional students. Academic institutions and departments offer support services to graduate students mainly through initiatives via career development offices. These services tend to focus on specific tools—such as individual development plans, online career resources, on-campus recruiting events, and workshops for graduate students—designed to assist students for their transition

into the workplace (Cassuto, 2014; Hobin, Clifford, Dunn, Rich, & Justement, 2014; Wang, 2016). Based on our review of the literature, we found limited scholarly work that explored outcomes for graduate and/or professional school students who completed a credit-bearing career management course. This is perhaps because there are so few for-credit graduate level career planning courses in higher education contexts, both in Canada and the United States. Notably, many Canadian colleges (comparable to the U.S. community college system) offer career specific planning courses that represent different disciplines (e.g., business-oriented programs).

There remains a lack of career management courses offered in science and technology programs. Lent, Schmidt, and Larkin (1985) studied the impact of a career course in science and engineering in adult students at the University of Minnesota. The authors discovered that the students improved in career decision-making as measured by the Career Decision Scale and related measures. In other words, a career planning course for science and technology students proved effective based on student outcomes.

A compelling need exists to learn more about the experiences of graduate students who complete graduate-level career planning courses. Specifically, more needs to be understood about graduate students’ experiences in career management courses grounded in narrative approaches to career development that are offered at Canadian institutions. Scholarly inquiries that exist so far on the effectiveness of career planning courses comprise largely of quantitative (i.e., using pre-test and post-test measures) and survey-based approaches. In an analysis of 88 studies of career course

interventions and publications, almost all used a pre/post-test design (Reardon & Fiore, 2014). Qualitative data collection methods such as interviews, which examine the impact of career planning courses on students, remain largely absent in the career development literature. The lack of data on the experiences of graduate students enrolled in career planning classes and the over-reliance on quantitative methods represent two major gaps in the literature.

### Theoretical Framework: Social Constructivist Career Development

The constructivist framework to career development served as the theoretical foundation for this inquiry. Since the early 1990s, Mark Savickas and other scholars have advocated for a shift in career development theory and practice towards a social constructivist perspective (Savickas, 1993). Under this approach, proponents argued for a shift from a reliance on scores towards an emphasis on stories, or a narrative approach (Peavy, 1992). This movement towards constructivist approaches advanced in the 2000s, and it gained further prominence and acceptance among career development scholars and practitioners (Bujold, 2004; Young & Collin, 2004). Unlike traditional post-positivist views on career development, a constructivist framework allows career educators to conceptualize career as meaningful and complex, as opposed to “sequential, patterned, and normative” (Peavy, 1992, p. 218). Challenging these traditional assumptions, however, requires both practitioners and clients to make meaning of the career process. Perhaps more importantly, it encourages individuals to seek order

within every interaction or acquisition of knowledge (Young & Collin, 2004). Constructivist approaches to career development and the understanding of *career* continue to gain credibility, and they have been applied to varied contexts and populations (Franklin, Yanar, & Feller, 2015; Savickas, 2011).

From the constructivist perspective, “career” can be understood as much more than paid work experiences and takes on a life design process (Savickas, 2012). Career is examined holistically, including the constellation of life and work roles such as non-paid work, childcare, citizen/volunteer, and others (Glavin, Haag, & Forbes, 2017; Supper, 1990; Taylor & Savickas, 2016). With an understanding of these shifting roles, career planning becomes a co-shared, collaborative process between the client and the practitioner (Bujold, 2004; Richardson, 2004). The constructivist approach aligns with a narrative or storied approach to career development. A narrative approach can further guide practitioners and individuals towards this process of understanding career-related experiences as meaningful, engaging, and transformative.

Using intentional reflection, narrative approaches assume that one’s life involves a story with multiple chapters; the reflection process allows for a better understanding of these meaningful life-career experiences. An extensive body of work on narrative approaches in career development exists, and the potential merits of employing narrative to career counseling and management continues to be well-documented (Bott, Duffy, Borges, Braun, Jordan, & Marino, 2017; Brott, 2005; Franklin, 2015; Stebleton, 2010). Narrative approaches applied to students (undergraduate and graduate) serve as useful tools given that

most graduates will enter a continually shifting workplace where they are likely to hold multiple jobs and careers over the course of a lifetime. Narrative career counseling models can also be used effectively with underserved and marginalized students, such as first-generation students, immigrant students, and other diverse populations (Abkhezr, McMahon, Glasheen, & Campbell, 2018; Grier-Reid & Ganuza, 2011). These studies exclusively explore the undergraduate student experience. A dearth of scholarly inquiry exists around the impact of career planning courses that employ a narrative approach at the graduate and professional student levels. Our study intends to fill this gap in the literature.

### Method

#### Study Location and Overview of Course

The study was conducted through the Institute for Leadership Education in Engineering (ILead) at the University of Toronto, located in Ontario, Canada. The university serves over 90,000 undergraduate and graduate students from around the world. The Faculty of Applied Science and Engineering offers a range of graduate degrees, including master’s and PhD options. The students in this study were enrolled in one of two master’s programs, the more popular 10-credit non-thesis Master of Engineering program, and the research focused Master of Applied Science.

Students opted to enroll in a for-credit career management course in Fall semester, 2016. The course, *APS1030 – Engineering Careers – Theories and Strategies to Manage your Career for the Future* is offered once each academic year through the School of Graduate Studies and

ILead. Career management aligns with ILead’s focus on four aspects of leadership: self, team, organization, and society. The goal of the course is to support graduate engineering students to learn more about contemporary theories, concepts, and issues in career development, so they may apply knowledge and skills to better manage their own career transitions.

The course instructor uses a narrative-based framework, positioning the curriculum around career clarification that is grounded in both theory and practice. There are four main components of the course: a) navigating your career in a volatile, uncertain, complex, ambiguous world; b) career and life clarification; c) intentional career exploration and making choices; and d) job search tools and strategies; managing engineering talent. Students in the course completed a range of projects, including a group-based informational interview, critical reviews of readings, and a career management logbook reflecting on weekly activities and tracking personal changes. Within the curriculum, students experienced a narrative-based gamified tool called *Who You Are Matters!*, a peer-to-peer storytelling activity from OneLife Tools that aims to build the key career readiness competencies articulated by NACE. Additionally, students used a narrative assessment web application called Online Storyteller. This interactive, responsively designed tool was used individually by students to reflect on their educational, work, and volunteer experiences in an organized fashion, resulting in a robust ‘career statement,’ and career exploration plans for each of their career possibilities.

### Participants and Recruitment

The study was approved by the Human Research Ethics Program at the University of Toronto. At the end of the semester, enrolled students in APS1030 were invited to participate in the study. Direct communication with students occurred by informal announcements in class and by formal email after grades had been submitted. Participation or non-participation did not influence students’ grades in any way. Interested students completed a consent form. Of the 21 students enrolled in this offering of the course, 10 students agreed to participate in an individual interview. The participants were enrolled in a master’s program, had less than five years work experience, and had successfully completed the course. In an attempt to minimize bias in the research process, the instructor did not play a role in the interview process, and the principal investigator of the study assumed no role in teaching the course or evaluating the students.

Students earned a \$10 gift card upon completion of the interview.

### Interviews

Individual interviews were completed with each of the 10 participants. Each interview lasted between 45 and 60 minutes. Interviews were conducted by the lead PI using WebEx video conferencing software. Of the 10 participants, three identified as women; seven identified as men. Nine of the ten students identified as non-White. Participants were both international and domestic students, most of whom are non-native English speakers. Interviews were transcribed, and pseudonyms were assigned to each student. Interviews focused on students’ personal life-career plans and their views on the course. Examples of interview questions included: What future visions do you have for your career and life? How engaged are you in your career exploration? How confident are you about planning for your career and life? What was your

Table 1

*Demographic information of study participants*

Name*	Gender	Race/Ethnicity	Program Name	Home Country
Lisa	Female	White	Chemical Engineering and Applied Chemistry	Canada
Jazmin	Female	Middle Eastern	Chemical Engineering	United States
Ping	Female	Asian	Engineering	China
Derek	Male	Multiracial	Applied Science	Canada
Jun	Male	Asian	Applied Engineering	China
Amin	Male	Multiracial	Electrical, Computer, and Biomedical Engineering	Yemen
Yunxu	Male	Asian	Mechanical Engineering	China
Alexander	Male	White	Engineering, Leadership and Innovation	Canada
Jianyu	Male	Asian	Computer Engineering	China
Arjun	Male	Asian	Chemical Engineering	India

\* Pseudonyms. Not the actual name of participants.

personal experience of differences in you between the start and end of the course? How organized is your thinking now about your career choices compared to before the course?

### Research Design

We engaged in a type of narrative research in which the focus of inquiry is to understand the lived experiences of the individual (Creswell & Poth, 2018). Our goal was to learn more about the stories of the graduate Engineering students who had successfully completed APS 1030. There are varied forms of narrative research inquiry. We opted to use what Polkinghorne (1995) titled an *analysis of narratives*, in which the stories themselves form the data. Excerpts of participants' stories led to descriptions of shared themes. From this perspective, the goal is to assign or understand the narrative meaning of an experience (i.e., participation in the course). According to Polkinghorne (1988), "the aim of study of narrative meaning is to make explicit the operations that produce its particular kind of meaning, and to draw out the implications this meaning has for understanding human existence" (p. 6). As is the case with other qualitative research approaches, the objective is to reach a better and deeper understanding of the experience (rather than to create generalizations or predictions about the experience). This analysis of narrative approach aligns with the theoretical framework for the study, which focuses on narrative career development and counseling.

### Data Analysis

Thematic analysis approaches were used to code and interpret the interview transcripts (Braun &

Clarke, 2006). We used Dedoose, a qualitative software management program, to help organize the data. An inductive and interpretive process was used to code the data, where pre-existing coding frameworks were *not* used. The analysis is data-driven, and the themes that result ideally align closely with the data (Braun & Clarke). We started by doing initial line-by-line coding of all 10 transcripts. We generated 358 initial codes. From there, we clustered text into focused codes, or more general categories based on common experiences or statements made across the participants. We engaged in memoing as a writing strategy to develop a better understanding of the main thematic categories that were emerging (Saldaña, 2009). After reviewing possible themes, larger thematic categories were titled through ongoing team analysis discussions. We generated six thematic categories across the 10 student interviews (Morrow, 2005). For purposes of this article, we focused on three main thematic categories, which represent the most engaging and robust of the six categories.

### Trustworthiness and Validation Strategies

Creswell and Miller (2000) outlined several strategies to determine validity and trustworthiness in qualitative inquiry. Four approaches were employed that fit best with this study. First, the researchers met numerous times in order to code and re-code data multiple times, finally agreeing on the thematic categories. Second, using a constructivist paradigm, thick, rich descriptions drawn from students' quotes were used to provide readers with an understanding of students' experiences (Denzin, 1989). Third, we engaged

in researcher reflexivity, which is the process of becoming self-aware via ongoing reflection (Morrow, 2005). For example, the lead researchers recognized their commitment to career interventions and how their bias in favor of such interventions may have affected their interpretation of the data. Fourth, we used a colleague as an external auditor who reviewed tentative findings and quotes and provided feedback; this individual did not participate in the interview or analysis processes.

### Results

We opted to focus on three thematic findings that resulted from the data analysis process. The themes are distinct yet overlap (i.e., some quotes could fit into more than one category). The three themes include fostering career awareness and exploration skills; finding affiliation with others; and developing optimism and confidence.

### Fostering Career Awareness and Exploration Skills

All of the students in the study discussed newly developed insights and skills related to career awareness and exploration. Students gained an understanding of the career development process, including how concepts related to career planning can be applied to their own lives. Many students discussed the changing nature of work and how their personal and professional goals might fit into this unpredictability (e.g., overcoming obstacles). They discussed the need to be flexible and proactive; this awareness was often challenging for them. Additionally, students discussed how the career-planning course allowed them to develop more skill-oriented knowledge that helped prepare them

for their next steps. Frequently, these competencies focused on networking skills, interviewing, resume writing, and communication. Both the career awareness component and the more concrete skill-building aspects comprise this thematic category and lead to a better understanding of students' experiences in the course.

All of the students in the study explained how their perceptions of life-career planning were influenced by the course. Most notably, students reflected on how the narrative component of the course encouraged them to view work and career as more *unpredictable* in the future. For example, Derek discussed the challenges of planning and the need to be flexible:

Yeah, I guess trying to create a narrative for your, for your life. I think it's a good way of going about it, just like reflecting on certain things, because yeah, basically right now you can't really predict anything so creating a sort of like narrative, or way you want to see your career progress, or based on like, what you want, is like a good way to do it because of the unpredictability of everything... I guess leaves a lot of flexibility in terms of career.

In addition to remaining flexible, Derek noted the importance of knowing self and being proactive in the planning process, recognizing that barriers will likely exist such as learning "to work within the chaos theory" – a concept learned in class. Amin discussed how concepts from the course curriculum contributed to a better understanding whereby he might confront obstacles in his own future planning. He stated:

I think it's related to the framework of the course like how do you kind of use your support systems and how do you try to overcome obstacles and how the course provided us with tools that you can kind of use in order to overcome these. For example, through this course we now know that there are certain ways and there are specific inspired actions that you can take that I didn't specifically know before.

For Amin, key concepts from the course encouraged him to take specific actions when he gets stuck in his own career planning. Similarly, Yunxu talked about setting goals, yet realizing that they might not occur according to a pre-determined plan. He discussed new insights regarding planning for specific job titles at certain milestones in his life:

So planning something like that—it might not work in the future. So actually discovered this is really important. Seriously, I thought maybe I should really have a future career target, like in, maybe in 20 years in 30 years I should become someone, or something... I should be in some situation. But after reading that article, I discovered that may not be really correct.

Yunxu realized that long-term career plans can change and that openness and flexibility are important traits. Accepting that *change* occurs and should be anticipated was a recurring pattern in many of the interviews. Another student, Jun, stated "you don't need to stick to one position." Additionally, he explained "it's okay to make a change in your career...and it is

important to keep a positive mindset about one's career; that is the main thing I learned about the class." Jazmin also discussed change and stated that the course allowed her to acknowledge that making significant work changes was acceptable and normal. Additionally, she felt reassured that others were experiencing similar challenges with the planning process. Prior to starting the masters program, Jazmin worked at a prestigious financial company. She explained:

Because while working at my previous job, they told us, you know, 'this is the best career ever, you should never quit,'...I never heard people getting out, it's just like 'no, you stay there forever'.

Alexander, a recent graduate of the program, captured the core of this career awareness theme. He explained:

It opened my eyes to this idea of career development being a lot more than just a job title, or how much money you make, or whatever it may be; so it completely changes your mind as to what career development individuals actually do, how it is that they do the work, and it changes the way you think (about) your own career.

Furthermore, most students discussed learning specific skills related to the career exploration process, including interviewing and communication skills. Arjun expressed the value of learning how to communicate one's experiences to a prospective employer. For him and some other students, this was a new concept and skill set. Arjun explained, "So to get a job you

actually need to sell yourself to your recruiter right; so if you don't do it with smartness, not the academic smartness but street smartness." Arjun explained that this 'street smartness' was different from formal academic preparation, and that it is a skill that he and others developed in the course.

Participants seemed to understand that the future is unpredictable, and that they needed to develop the skills to manage changes in their professional work lives. To accomplish this goal, the students engaged in numerous learning activities throughout the semester, including engaging in structured 'conversation café' discussions about assigned articles, and exercises about work and future trends. These challenges pushed them to think and plan in new ways, resulting in greater career awareness and exploratory skills as well as a greater connection to each other as colleagues.

### Finding Affiliation with Others

The narratives of graduate engineering students in this career class suggested that they found a sense of connection and affiliation with others. These feelings included a strong sense of belonging that students fostered through numerous collaborative activities and discussions around life-career decision-making. In turn, this created a community of learning founded on disclosure, dialogue, and engagement in a common space. Some students were re-assured that they were not going through this process entirely on their own; it was a reminder that other students struggled with similar life-career issues.

Jazmin talked about the value of learning from others. She mentioned that: "And then, um, I like reading like articles like

'miswanting,' or seeing other people who struggled with their career as well, because *I thought I was alone.*" She contrasted experiencing feelings of loneliness with new perspectives offered by hearing others' stories. She found value in others' career stories, which were presented in assigned readings, podcasts, and websites:

We had the option to listen to a career story and then I think, or he (the instructor) made us do reflections; I think those were really, really helpful. I especially liked going through the website he provided because I would have never come up with those websites, I didn't even know about them. And then just like doing personal reflections were really also helpful as well.

Similar to Jazmin, Lisa discussed the importance of sharing ideas in class and receiving feedback from others in the group. She talked about creating an action plan near the end of the semester:

What I found was actually the most difficult part was the end when you had to—the possibilities—come up with an action of possibility, you know, I was...I am kind of still unsure of what I wanted to do, but I got really good kind of ideas from the people around. Even (the instructor) would go around to each group and "oh, did you hear about this option" and "this is kind of good for you," so that was cool.

Lisa continued by stating that:

I was able to meet a lot of people, too, in the class. It was a small class, so you have a lot of interactions. I had the

experience of talking to a career professional, which I have never done before, so that was good.

Jianyu also found support from others in the class who pushed him to try new activities—including ice skating and participating in the in-class career game activity. What Jianyu learned from these activities translated into building career skills. He explained:

...I started to skate, ice skating, from last year, and I felt that was pretty good. And during the first few times, I couldn't really stand up on the ice, but in the end it turned out I can skate. And the other people told me that you can get out of your comfort zone and sort of get over obstacles, and you can try something new, which is really awesome. And I never thought about that before.

Jianyu gained strength through the support of his classmates, and he equated learning to ice skate with new concepts that he could apply to his own career management. His classmates encouraged him to try new challenges. Similarly, Arjun, a male student, talked about how the students learned through group discussion, often debating concepts from key articles. He discussed this sense of community developed in the class:

...It was actually interesting to know that we all have different opinions but at the end of the day we're all just same everyone, everyone is just as confused as the one sitting next to me, so that was actually good to know and also (the instructor) used to talk about the same thing, the same theme or used

to have a different theme and then we also had reflections to write about...

Arjun reflected a similar message that was evident in Jazmin's previous quote, that they were collectively grappling with important decisions; the struggle fostered bonds between students and the instructor.

Yunxu reflected on the classroom atmosphere that helped foster this sense of connection and belonging.

Honestly, it was really it was a nice class and had a very open and friendly atmosphere and when we actually work, study in that class, we were giving some reading assignments about different people...

He continued:

I think this is a really nice experience because it was a really nice experience to talk to many students and to understand some more. And, also the course, the most useful thing I think is the career and life cycle clarification model; I really liked that model.

Students valued the opportunity to talk and learn from others in class. It validated their own experiences, and they found comfort in knowing that others struggled with the same life-career issues. This sense of belonging created a strong atmosphere of connection and communication and contributed to positive feelings about their future planning.

### Developing Optimism and Confidence

Students in the study expressed the growth of optimism and confidence in their degree program and career field. For participants, these two themes manifested along a spectrum. For example, some students registered for the course because they lacked confidence in their future plans and left the course feeling very confident in their next steps. Conversely, some students gained only some confidence; still others left the course more uncertain than when they started. Students who reported increased optimism attributed it to class activities, such as the reflection assignments and career game.

Alexander described his false confidence before the class and felt the course helped him differentiate between real and false confidence:

...from my perspective there's really two types of confidence in this in what I've seen in myself. The first is this idea sort of I guess...ignorant confidence where you're just very confident in yourself and your skills from without understanding all the problems and all the things that lay ahead [I: Yeah] and I would like I would probably classify myself as that before (the) course took over in terms of planning for the future ...

Alexander elaborated further on how the course helped him re-define his own perceptions of confidence:

For me it was this idea of the fact that you actually need to plan for something in the future...taking the course and sort of going through it and

realizing there are steps and different components involved and even getting to the point where I'm at now isn't necessarily based on luck...I walked out much more confused than I did walking in because all of a sudden there's all this new information and it's no longer as clear cut and I don't want to say that I am no longer as confident, but the confidence has now changed...

Jun disclosed that the course stimulated the way he thought about careers, allowing him to consider different career paths, and more importantly, feel more comfortable switching careers or being unsure:

I would say that it's definitely went up in optimism. Before I have taken this course, I wasn't sure what I should do in my career. But after I have taken it I at least feel it's ok to make a change in your career. Just to do something like following your passion. I'm definitely more optimistic with that...this course it just give a lot inside of what you do consider.

Derek mentioned how the class put him more at ease. In general, he feels more positive in situations that may warrant negativity, and he felt reassured that positivity would not erode his ambition or determination to reach his goals:

I think just being positive about it is maybe one of the most important things. Like not being too down on it and like trying to do what you want, like not trying to settle, but just trying to be positive that you'll get what you want and keep trying to get it. And I think that's what I

learned, one of the most important takeaways from the course.

Derek and Jun expressed confidence while remaining unsure about their specific career outlook. However, not all students felt empowered or entirely confident. Lisa struggled with what kind of career would fit her needs, before, during, and after the class.

So, I think, right now, I am leaning towards doing the exam just to, just to do it. I don't have to make a decision right there, but at least I'll have the option...I'm not one hundred percent sure, but I do like working in the lab. I am interested in science still, and engineering kind of, you know, any pharmaceutical companies or companies that involve research and science, I don't know; that's what I'm thinking of at the moment.

Lisa took the course to help her sort through her many options. She discussed gaining some confidence upon talking more with her instructor about her future plans: "So, [my professor and I] kind of drew this timeline together, and I have the option of bypassing into a PhD program, or...finishing off or getting an industry job." She was still somewhat undecided about her career trajectory, but had narrowed her options and felt confident in her ability to move forward despite inherent ambiguity and uncertainty of her situation.

Other students fell in the middle of this spectrum of confidence and optimism. Yunxu, for example, indicated that his optimism increased some because of the course. He stated that he has "discovered one direction" and is "optimistic about [his] future." On the

other hand, Amin revealed that his optimism only increased slightly.

I think for me only optimism improved slightly, and the others remained the same because I think the course...I tend to reflect and sit back and think about what I want to do and research it and stuff...so I think that's related to the fact that there were so many kind of options or ways to think about future opportunities that I didn't necessarily think in terms of a framework of thinking that way before the course, so it kind of opened my eyes.

Most students reported an increased capacity to define and assess their confidence and optimism about their life-career plans. For some students, the reported gains were minimal. In sum, developing optimism aligned with the other themes, developing career awareness and finding affiliation with others.

### Discussion

The purpose of the study was to explore the experiences of graduate engineering students in a career management course at a large Canadian university. Although much work has been done on the experiences of undergraduate students in career planning courses, little scholarly inquiry exists on graduate or professional school students enrolled in these classes. The findings of these students' interviews suggest that a narrative-based career management course provides several benefits to graduate engineering students in this particular context. Although this inquiry explores a single course offering, student participants articulated a greater sense of career awareness as well as increased

optimism and confidence upon completion of the course. Using a narrative-based framework that served as the basis for the course curriculum, students seemed to gain an understanding that *career* can be viewed as flexible and unpredictable. Most students discussed the merits of learning how to better manage their career through the self-reflection activities and projects completed in the course. Moreover, students articulated the need to be proactive in the career management process as well as the desire to keep options somewhat open. For many students, these were new concepts that they explored throughout the semester.

Students fostered a stronger sense of optimism and confidence about their futures, despite the uncertain nature of the world of work. The analysis of the interviews indicated that students had not only gained higher level career management skills but had also honed job search and exploratory skills around informational interviewing, resume preparation, and networking. As they completed the assignments, students acquired a greater sense of confidence and empowerment to engage in these activities. They reported being generally optimistic and hopeful about their futures.

The results suggested that students benefitted from interactions with their peers in the class. Several students noted that they enjoyed hearing from others and they realized that they did not feel alone in the career planning process. From this perspective, experiences—and even fears—were alleviated by engaging with classmates in the course. This collaboration was demonstrated in several activities and projects, notably the group-based informational interview and the activities in which students were asked to share their own narratives

with their classmates (e.g., gamification exercises). It should be noted that not all of the comments about the course were positive. For example, one student mentioned, “Some of the articles were redundant” and not as useful. That said, the outcomes of the career course align with what we know about the benefits of career planning courses as outlined in the literature review (Reardon & Fiore, 2014), mainly growth in measures of career self-efficacy, confidence, and career decidedness. The contribution of this study lies in the uniqueness of the student population; all participants were graduate students enrolled in a career management course.

### Limitations

Several limitations of the study exist. The lead author is a strong advocate of career planning courses and has taught career planning classes for numerous years. Potential researcher biases and assumptions that may have influenced the interpretation of findings are acknowledged, even though it is often assumed that bias and subjectivity is inherent in the qualitative inquiry process (Hodges, 2011). Second, member checking was not able to be conducted due to timing issues at the end of the semester. Third, there was not a comparison or control group, although this practice is less common in qualitative research since the goal of inquiry tends to be discovery and *not* difference (Hodges). Finally, students may have been influenced by social desirability, not wanting to share comments that might have been viewed as disparaging or negative. We aimed to minimize this phenomenon by separating the instructor role from the researcher roles (i.e., lead PI had no connection to the students other than

the interviews that were completed after the course). Notwithstanding these limitations, this study adds to the growing body of literature about graduate student career interventions, and, as a qualitative inquiry, allows for a rich understanding of the meaning students made of their experience in the course.

### Implications for Career Development Practice, Policy, and Research

Several implications for career development educators exist based on the analysis. First, the findings from this study suggest that graduate and professional students may benefit from more opportunities to enroll in career management courses. Often, educators may assume that graduate level students do not need career education because they have already made significant career-focused educational choices; graduate students typically are at an advanced level of training. These assumptions are not entirely accurate given what students shared. Based on the analysis of students’ narratives, participants needed and benefitted from the opportunities of a structured forum to engage intentionally in the career reflection process. Administrators who oversee professional programs at universities should consider adding career management courses to the curriculum, especially at the graduate level. These programs would benefit from narrative style interventions designed to foster student reflections on paid, unpaid, and educational experiences in order to identify strengths, desires, personal qualities, influences of others, and future work possibilities.

Second, students mentioned individual course activities as having a positive effect on their

life-career planning abilities. For higher education leaders who may be unable to marshal resources to support a career management course, or who have concerns about enrollment at the graduate level, this study demonstrates a practical alternative. Career development educators can explore ways to integrate or infuse career management planning modules into existing courses. Within existing courses, educators can dedicate one or two class meetings to core career development concepts where the focus is on key career development concepts. Multiple options exist to facilitate these discussions: either provide instructors with career development tools and training on curriculum elements, such as narrative games and web applications tools, or invite the career development services staff into the classroom to facilitate this learning. These infused career modules may provide opportunities for graduate students to engage in the life-career planning process at a critical juncture in their professional training.

Although students did not specifically address policy recommendations in the interviews, there are policy-related suggestions that stem from the findings. The outcomes and implications of this study represent the experiences of 10 students in one course. Yet, based on the mostly favorable experiences reported by participants in this semester-long course, such career initiatives should be offered—and on-going assessment and evaluation can determine how to proceed with career interventions at the graduate level. We recommend that higher education administrators support career-related initiatives, such as semester-long career courses like the one described here. Furthermore, credit-bearing classes can be integrated into career interventions

within other programs at the institution.

Additionally, undergraduate career services garner most of the attention and resources at many academic institutions. However, based on the results of this study, graduate level support focused on career management for graduate and professional school students may be highly beneficial. It is recommended that the current course continue and additional data be collected to assess effectiveness. A movement in career services delivery is occurring that challenges the entire campus community—rather than only career development educators—to support students in their career development processes (Fox, 2018). From a student affairs perspective, professionals can explore new and innovative ways to engage both undergraduate and graduate students in intentional planning, using narrative or storied-based approaches. Career educators can explore partnerships with other groups on campus such as residence hall programming, student counselling and mental health services, multicultural student affairs, orientation, and student life.

The findings of this study suggest several implications for further research on this timely topic. First, scholars can expand research by comparing qualitative themes and results, such as those presented, with quantitative measures. Future studies might employ alternative approaches to gain an understanding of students' experiences in a graduate level career management course (e.g., ethnography, focus groups). As noted in the literature review, there exists a plethora of survey-based studies focused on undergraduate students in career planning courses; less is known about graduate level students primarily because fewer opportunities exist.

Second, future qualitative studies could employ a longitudinal approach to exploring students' career decision-making over a period of time. Narrative scholars might use a life history approach to structure several individual interviews to create a holistic biographical portrait of each student; this study did not allow for the extensive investigation that is required to do this type of inquiry.

Finally, scholars can conduct research on other career initiatives at the same institution and examine differences if they wanted to compare groups and outcomes. Frequently, there are several sections of a career management course offered (in undergraduate career programs) and educators may implement new initiatives in one course while not offering the exact equivalent in the other. For example, at the University of Toronto, the OPTIONS program offers an 11-week program for PhD students and post-doctoral fellows to consider alternative career paths beyond the academy (Diddiano et al., 2019). Embedded in OPTIONS is a two-session component drawing on the same narrative framework that was outlined in this paper. APS1030 is an established course; therefore, it provides a potential 'laboratory' for future research, including insights students share about the rationale for changes in measures over the duration of the course.

Further research could compare results from APS1030 to OPTIONS to explore how different curricula influence students under varying formats. There are numerous choices for exploration and development. This study aims to provide an in-depth qualitative inquiry of one particular course. As is the case in most qualitative scholarly work, the purpose is *understanding*

rather than generating universal generalizations across multiple student populations or using control groups for comparison.

### Conclusion

Students will graduate into an ever-changing world of work, where self-managed, ever-shifting careers will become the norm rather than the exception. Career development educators hold unique opportunities to support students, including graduate students, as they enter new work contexts. A graduate career management course serves as a structured and intentional strategy for students to engage in life-career planning. This qualitative study explored the experiences of 10 graduate engineering students enrolled in a career management course at the University of Toronto. The course used a narrative-based framework and activities stemmed from a narrative career development perspective. Results indicated that students gained greater career awareness and possessed optimism and confidence upon completion of the course. We contend that more opportunities need to exist for graduate students to engage in career reflection and exploration.

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