

Commentary

***Non scholae sed vitae*: Teaching Beyond Classroom Walls Through Group Mentoring**

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Abstract: Mentoring is an ever-growing phenomenon which is manifest within STEM specifically, as well within undergraduate education at large. Despite its centrality to career success, mentoring is not very well institutionalized and is often de-prioritized by university departments. In addition, contemporary mentoring focuses mainly on the dyadic mentor-mentee relationship, while largely neglecting other alternative forms. Based off of these facts, the PI created a new initiative, the *Mentoring Talks*, wherein group mentoring is provided for students and faculty at the American University of Beirut (AUB). The creation and implementation of this initiation at the AUB was designed specifically based on documented educational theory. Furthermore, speakers at said talks stem from a wide range of occupations, yet nevertheless share one aspect in common; their perseverance in the face of adversity. Seminal review papers highlight key qualities of effect group mentoring; these characteristics are detailed in this commentary, as well as an outline of how each one is actualized by the *Mentoring Talks* initiative. These attributes include providing an equitable environment for mentoring, kindling an atmosphere of social support, emphasizing mentee self-valuation and expanding mentees' networking opportunities. It is the intention of the PI that this initiative will inspire similar lectureships in universities across the world, in order to further strengthen institutional mentoring and ultimately help students achieve career and life success. Special consideration is also given to the challenges of providing group mentoring during the COVID-19 pandemic, focusing on the shift from in-person to digital methods of communication and lectureship.

Keywords: Mentoring, Transformative Education, STEM

1. Introduction

In contemporary academia, there has been a noticeable trend towards and focus on mentoring. This phenomenon has been observed at all levels of education, with a specific increase in STEM undergraduate mentorship [1]. Inherent within this trend, however, lies a paradox; despite the importance and centrality of mentoring and career guidance to life success, it is rarely institutionalized properly [1, 2]. This has the unfortunate consequence that students are often left to seek mentorship experiences by themselves, which may not always lead to productive and/or desirable outcomes. Moreover, when the idea of undergraduate mentoring is

invoked, it is referring to a specific relationship between the mentor (dispenser of academic guidance) and the mentee (recipient of the guidance) [1]. Although there is considerable variation within the field of mentoring, there exists certain criteria of a prototypical mentor-mentee relationship which are common to all permutations [1]. These include similarity of characteristics between the two involved parties (including gender, area of expertise, ethnic background, etc.) which helps increase successful interactions, in addition to reciprocity (i.e. bidirectional feedback from both parties), dynamic and fluid communication (to best suit the ever-changing needs of the student), as well as accountability of the mentor for their actions (in order to reprimand abuse and reward selflessness).

2. Mentor-Mentee Dyad and Group Mentoring

To reiterate, although the dyad of mentor-mentee is the quintessential example of a guidance relationship, it is by no means the sole avenue through which mentoring may take place. Indeed, there are a multitude of non-dyadic mentoring relationships which move beyond the pair approach [1]: such as triads (a combination of two mentors/mentees to one mentee/mentor), constellation mentoring (which involves several mentors guiding several mentees simultaneously) and group mentoring (a single mentor guiding several mentees). Of particular importance is the latter approach, because it has been adapted for the purposes of career guidance and life-counseling by the Principal Investigator (PI) at the American University of Beirut (AUB). The theoretical framework of group mentoring, as well as its application by the PI in their *de novo* initiative, will be the subject of the rest of this commentary.

Elaborating on group mentoring, it is to be noted that there is a noticeable lack of research on the topic in comparison to dyadic mentoring. Nevertheless, there is also no research to suggest that one method supersedes another; hence dyadic mentoring is not inherently superior to group mentoring [3]. In fact, group mentoring possesses some unique benefits which are exclusively its own. Namely, the use of collective mentoring has the advantage of creating a suitable micro-environment for mentees who would otherwise be too intimidated to enter their field of interest [1, 3]. Stated in other terms, normal mentoring *milieux* tend to be impenetrable by minority students, due to their long standing exclusivity in historically male or white-dominated fields. In fostering an environment where minority students may congregate *en masse* and form groups with similar goals, under the guidance of a relatable mentor, an inclusive and encouraging environment is created. Pairing said micro-environment with social support and confidence building leads to an effective formula for group mentoring success [1, 4].

3. Mentoring Talks Initiative at the AUB

All of the aforementioned data and research was at the forefront of the PI's mind when introducing the group mentoring approach at AUB. At said institution, each student is assigned an academic advisor at the beginning of their freshman/sophomore year. The role of the academic advisor is more or less reduced to helping the student choose the appropriate coursework for each semester. Bearing this in mind, the PI sought to go further than this and create mentoring opportunities that could give students life-changing advice (akin to the concept of life-coaching). Beginning in the year 2016, a series of renowned speakers have been invited annually to relay their experiences of failure, perseverance and eventual success in their respective fields. This series of seminars has been named the '*Mentoring Talks*', after their purpose and content [5]. The backgrounds of each speaker have been left purposefully diverse, with guests originating

from many fields. Furthermore, students from all majors (in addition to faculty and staff members) are invited to attend the seminars given. The broad range of guest speakers (which includes, but is not limited to: Nobel Laureates, medical doctors, journalists, comedians, entrepreneurs and professors) is intended to inspire students from a multitude of backgrounds. This certainly implies STEM majors, but also non-scientific undergraduates and graduates as well. This is in accordance with the model of group mentoring that tries to create an inclusive environment for as many students as possible. The purpose of these talks, contrary to popular conception, is *not* to create an idyllic or fictitious picture of the pathway to success. *Au contraire*, the main aim of these talks is to provide the audience with advice on how to achieve their goals in spite of the inevitable struggles along the way. Stories of strife, failure and tribulations are the subject-matter of the seminars, allowing students to appropriate a realistic (but ultimately optimistic) outlook towards career and life success. These talks continue concurrently till this day, Figure 1.

4. Theoretical Basis of the *Mentoring Talks*

To be sure, beginning an initiative without proper theoretical grounding would lead to disastrous consequences. Consequently, the PI has highlighted several key aspects of successful group mentoring which were made to become the pillars of the *Mentoring Talks*. Borrowing from child developmental psychology, Lev Vygotsky's Theory of Learning is quite relevant to the principles of mentorship [6]. Vygotsky's theory suggests that a learner may expand their skill set beyond their current capacities (into what is termed the Zone of Proximal Development) if and only if they are supported along the way by a '*More Knowledgeable Other*'. In other words, education is nothing more than providing students with an active and growing relationship with their teachers, in order to continually expand their skills and knowledge. This remarkable overlap of learning with the definition of mentorship has not gone unnoticed, as guests of the *Mentoring Talks* are specifically invited to fulfill the role of the *More Knowledgeable Other*. The guests' encouragement and insight propels the student beyond what they thought they were capable of, into a zone of growth and progress.

Moreover, it is of the utmost importance for the PI to effectively communicate to attendees that this growth into the Zone of Proximal Development is not easy nor simple. Indeed, one of the 'take-home' messages from this lectureship is to persevere and triumph over inevitable failures. Evidence for this stems as far back as the first speaker in the series, Prof. Seth Marder of the Georgia Institute of Technology. In his talk, Marder foregrounded the many hurdles he had faced throughout his rich career by highlighting his failures first [7]. Rather than direct the audience towards the luster of his success, Marder intentionally focused on the arduous journey *en route* to said successes. To him, the question to be asked is

not whether we will be victorious from the first try, but rather if we will continue to try after failure. “We are not perfect; we will from time to time hit a wall. The question is ‘what then?’ Do we learn and grow from the experience, do we get temporarily paralyzed, do we give up or do we persevere?”

During his *Mentoring Talk* in February 2018, Dr. Hussein Tawbi echoed similar ideas when he lamented the absence of rich mentoring opportunities during his undergraduate years. Furthermore, he has attributed a great deal of his success in the medical field to the mentoring he has received over the years (in residency, specialization, *et cetera*). Through delivering

group mentorship vis-à-vis the *Mentoring Talks*, Tawbi hopes to provide students with opportunities he never had [8]. Taking another example from the *Mentoring Talks*, 2016 Chemistry Nobel Laureate Sir Fraser Stoddart delivered a seminar wherein he characterized innovation as taking what you can from the work of your predecessors whilst transforming it into something uniquely your own [9]. Much like Tawbi, Sir Fraser spoke highly of the influence his mentors and research peers had on him, whose constant guidance allowed him to achieve one of the highest human accolades in existence.



Figure 1. Images from *Mentoring Talks* by a) Dr. Hussein Tawbi; b) Nobel Laureate Sir Fraser Stoddart; c) international stand-up comedian Nembr Abou Nassar; d) TV anchor Rima Karaki; e) H. E. Dr. Talal Abou-Ghazaleh; f) Hollywood reporter Raya Abirached; g) H. E. Najat Vallaud-Belkacem; h) Prof. Omar K. Farha.

5. Essential Characteristics of Effective Group Mentoring

Beyond its grounding in educational theory, there are several parameters which must be met in order for effective group mentoring to be achieved. One of the top priorities must be to provide an equitable environment for mentoring [1, 10]. That is, each mentee must be of equal interest and proximity to the mentor, allowing each student to receive the same opportunities to grow. This is well exemplified by international stand-up comedian Nemr Abou Nassar's talk of October 2018. His invitation stands in stark contrast to that of previous mentors, who hailed from predominantly STEM backgrounds. Though the event was announced only a week before it was scheduled to take place, the reception hall was at maximum capacity during the talk. Of interest to note was the wide variety of attendees. Seeing as comedy speaks to all members of society, the audience consisted of children, parents, grandparents, students, doctors and fellow artists like Nemr [11]. Despite their differences in background, each mentee was able to equally grow and enjoy the experience, due to the commitment to creating equitable group mentoring.

Kindling an atmosphere of social support and reinforcement is also essential to encouraging minority mentees, as previously aforementioned. By reaching out to specific demographics (e.g. female and/or underrepresented students) and penetrating each stratum of student society, biases can be mitigated and underrepresented mentees can flourish. H. E. Najat Vallaud-Belkacem, the former French Minister of Education, was invited to AUB during April of 2019. As a North African immigrant to France, her talk focused on the inherent challenges of striving to achieve one's goals whilst also overcoming institutional disadvantages. This talk resonated extremely well with attendees across differences in age, sex and course of study [12]. A mother who had attended the talk appreciated Belkacem's acceptance and pride of her gender and ethnic identity. A separate student attendee mentioned the difficulty of finding a relatable role-model and how Belkacem's talk was the first one to resonate with them in a while [13]. In similar fashion, throughout his talk H. E. Dr. Talal Abou-Ghazaleh displayed a commitment to becoming relatable to his student audience members [14]. Abou-Ghazaleh shared a typical sentiment found among undergraduates; namely the disconnect between one's postsecondary education and their career efficacy. Supporting this conviction, Abou-Ghazaleh advised students to '*march to the beat of their own drum*' and focus on becoming innovative creators, rather than rote memorizers. This talk generated significant relatability among the audience, emphasizing the importance of fostering an environment of support.

Furthermore instilling the virtue of self-determination is key in group mentoring, as the group relationship is often ephemeral and does not last as long as a typical dyad. Hence it is of the utmost importance for the mentee to become a self-reliant and self-confident learner. One method of how this

can be achieved is by promoting self-valuation by the mentee [1, 15]. Prof. Omar K. Farha (hosted in September of 2019) epitomized this quality through his acceptance of failure and an iron will of perseverance [16]. In student interviews held post-talk, several interviewees cited Farha's view on failures as inspirational, indicating that choosing a speaker who promotes healthy self-valuation helps facilitate a fruitful mentoring experience [17]. Similarly, a standout moment from TV anchor Rima Karaki's *Mentoring Talk* (February of 2019) was when she admitted, in front of a crowd of 200 guests, that she was in currently unemployed. Karaki did not succumb to the typical stigma of unemployment, because she accepted that this phase is transitory and that true success arrives only after much tribulation [18]. Audience members found her confidence and determination contagious [19].

All of these group mentoring guidelines have been incorporated as foundational stones of the *Mentoring Talks*. What's more, students who attend several mentoring talks transform into novice mentors, enabling them to engage in peer mentorship [1, 20] and expand the influence of the More Knowledgeable Other beyond the walls of the lecture hall. Finally, networking opportunities represent another crucial way that group mentoring helps mentees [1, 21]. By allowing individual communication with the mentors after their public address, mentees are able to ask specific questions and reflect on personalized concerns, as well as allowing students to expand their connections and access professional resources (internships, publications, laboratories, etc.) Of particular relevance to networking is the tenth *Mentoring Talk* at AUB, presented by Hollywood reporter Raya Abirached. The talk extended well past its allotted time of one hour, as students in similar career tracks were very eager to voice their questions to Raya. Students appreciated the opportunity to access what they consider to be "*insider information*", while Raya was excited by the initiative students showed and their drive to seek out information they can utilize in their careers [22].

The arrival of COVID-19 and subsequent safety precautions has made it near impossible to continue with our modus operandi of *Mentoring Talks*. The platform that is being currently explored is to bring the same type of experience for the audience but through WebEx Events. The first lecturer to spearhead this new era is Prof. Jen Heemstra of Emory University. Prof. Heemstra is scheduled to give her talk during September of 2020. The event garnered attention moments after it was advertised on social media, appealing to an audience beyond those of the previous mentoring talks extending to a global reach. Experiences from this initial event will undoubtedly shape the form of future *Mentoring Talks* at the AUB and abroad.

6. Group Mentoring to Young Minds by IgNobel Prize Winners

Though the aforementioned mentoring talks target college students, a new initiative launched by the *Transformative*

Education drive [23] strives to provide mentorship to children (ages 6-15), in hopes of observing similar benefits as the *Mentoring Talks*. This series of lectures is specifically oriented to younger audiences, with the hosts being IgNobel prize winners [24] presenting their work in novel and avant-garde ways. The first of these talks was given by Prof. David Hu in 2019. Hu was impressed by the size and engagement of the child audience, Figure 2. The children's excitement was palpable, suggesting that when mentorship is engaging, it interests old and young minds alike. This hypothesis needs further testing for validation, however [25].

7. Conclusion

In summary, although the area of collective mentorship is not as well studied as the more common dyadic form, there is nevertheless supporting evidence for its efficacy. Indeed, collective mentorship even carries with it unique benefits which are not found within the dyad. This is especially

effective in regards to underrepresented minorities, which often constitute large populations in Middle Eastern institutions. The series of *Mentoring Talks* created by the PI serves as a pioneer for the institutionalization of group mentoring, which prioritizes the success and self-confidence of its mentees above all else. Other universities in the region (and beyond) may use the model of the *Mentoring Talks* in order to generate similar initiatives, which may ultimately provide better guidance opportunities for undergraduate and graduate students worldwide. Further studies in the field could also help provide feedback on how to improve the existing model, which can only serve to strengthen the positive results that are already being observed.

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Figure 2. Pictures from the first talk by an IgNobel prize winner hosted at AUB.

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