

**E-Mentoring Student Researchers through an Undergraduate Field
Experience Course - Lessons Learned**

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ABSTRACT

This paper is written by a mentor and mentee pair, sharing experiences from both perspectives. The mentor is an American independent public health researcher currently located in Gaza, Palestine. Her research focuses on Islam and Health, Muslim health, E-mentoring and remote research. The mentee, who co-wrote this paper, was a student in Rhode Island, USA, in a fieldwork experience course. In this paper, the pair reflected on their research e-mentoring experience and offer insights for future research mentor-mentee pairs. This paper is split into 4 sections: (1) the benefits of e-mentoring; (2) lessons learned, and policies developed; (3) effective e-mentoring tools and systems, such as the weekly meeting call notes system; e-mentoring internship syllabus agreement, mentee research orientation, and maximizing Google Workspace; and (4) tips from a mentee. One unexpected benefit to being matched with an international mentor, was being exposed to a religion (Islam) and culture (Middle Eastern) she had not been previously exposed to. While forced to remote online work during the pandemic, the authors conclude that e-mentoring offers an effective means to conduct global research, while offering a unique method for cultural or religious awareness. Therefore e-mentoring should be further explored and promoted beyond the pandemic.

KEYWORDS

E-mentoring, student researchers

Introduction

E-mentoring can provide a rich virtual knowledge-building experience, connecting mentors and students around the world. E-mentoring is a relationship between a more experienced individual from a specific field who works with a less experienced individual (Rowland, 2012, 229).

Communication is facilitated through electronic platforms, such as Voice over IP (VoIP) phone, email, Zoom, and texting or chat apps. The need for social distance during the COVID-19 pandemic made it the more plausible means of mentorship. (Mahayosnand et al, 2021, 4). This paper offered an opportunity for a mentor-mentee pair to reflect on their research e-mentoring experience during the Spring 2021 semester during the COVID-19 global lockdown. The paper shares how the e-mentoring relationship was established, lessons learned, recommended tools and systems, benefits of e-mentoring, and tips from a mentee.

How this mentor-mentee relationship was developed

I, the mentor, am an alumna of Providence College, a Catholic liberal arts college. Having completed a minor in Health, Policy and Management (HPM), I participated in the mandatory senior field experience class in which I gained my first public health research experience at a local hospital. Currently located in Gaza, Palestine, I am a Research Scholar at Ronin Institute. My research focuses on Islam and Health, Muslim's Health, E-mentoring and remote research. I was already e-mentoring 2 graduate students in the USA due to the COVID-19 lockdown. Therefore, I contacted the HPM field experience course instructor to see if they would allow remote research for this class. I also wanted to try e-mentoring undergraduate student researchers which I had not yet done previously. Remote field placements were allowed for the Spring 2021 semester.

The goal of the field experience class is to give students the opportunity to learn real life skills working with partners outside of the university. Students are meant to, "apply concepts and skills from their previous coursework to practical problems." (Providence College, 2022). Based on my internship posting, the instructor matched me with 2 students to interview. During one interview, I discovered that she was a double major in HPM and Global Studies. She was called back 5 weeks into her junior year semester abroad due to the COVID-19 pandemic, so she wanted to secure a global health project for her mandatory senior field experience class. Her skills and interest matched my current projects; therefore, I offered her an internship. She is the mentee and co-author of this paper. Based on her interests and skills, we agreed upon 3 types of writing projects (a case study, grant writing, and a policy recommendation) as her gradable class work.

A field experience course guaranteed a set amount of work hours in a structured timeframe and program with a contact person. This account includes the perspective of a mentee who was one of three students I mentored for school credit compared to 3 volunteer interns. I mentored one of

her HPM field experience classmates as well. I found that all 3 interns-for-credit met or exceeded all semester milestones and outputs. For example, this mentee co-authored 3 papers (1 published, 1 in revision stage, 1 currently in review) (Mahayosnand, et al. 2021). She helped me submit 3 grant applications ranging from \$20,000 to \$230,000 (1 rejected, 1 in revision stage, 1 currently in review). She helped research and assist in numerous other grant proposals and was acknowledged in at least 1 other published paper. Having e-mentored 1 medical student, 1 doctorate, 2 masters, and 2 undergraduates that semester, I believe interning for school credit made a student researcher more successful at reaching semester goals rather than a student's education or skill level.

Lessons Learned – Establishing Policies and Procedures – Tips from a Mentor

As an e-mentor of various students in other disciplines for over 15 years, the technology and teaching style were not new to me. However, I found that e-mentoring student researchers posed some recurring problems that I created helpful internal procedures and recommended policies.

Policy #1: E-mentor students for school credit only, not volunteers.

Tinoco-Giraldo et al. (2020, 2) stated that to conduct a successful e-mentoring program, attention should include good mentor-mentee matching, training of the mentor-mentee, support throughout the relationship, and periodic review of the relationship. For these reasons and from my experience working with universities, I recommend working with universities that offer mandatory or elective classes for practical work experience through courses such as independent study, internship, field experience, or practicum. They help with matching appropriate students, have a set number of work hours a student must work in a semester, have a system with necessary project milestones, and a contact person to help if any problems arise, and much more.

Policy #2: Create a limit to the number of allowable missed meetings, assignments, or deadlines. Once the limit is met, give alternative options to leave on amicable terms.

Based on my experience, my limit is 3 missed meetings, assignments, or deadlines. Although missed meetings are excusable for unanticipated emergencies and personal reasons, I recommend meetings be rescheduled as soon as possible to adhere to a scheduled routine. Also, the mentor-mentee pair must reassess the project timeline and goals and adjust accordingly.

Policy #3: Establish electronic protocols that all team members must adhere to. Do not make exceptions, even if a mentee has different learning styles or working habits.

I have a specific protocol for conducting research with multiple authors, collaborators, reviewers, etc. It includes having an electronic record of the work conducted. One method is to share Google Docs for every stage of the research, with lists of articles, notes, summaries, outlines, and all drafts. If a mentee or collaborator chooses to use offline methods such as handwriting notes or annotating printed articles, they must transcribe their work online to share with the team. I share the benefits of this open data sharing methodology for greater research transparency and accountability. It also prevents time and effort from being unnecessarily lost.

Policy #4: Protect the confidentiality of your work. If a student leaves abruptly, revoke access to all shared documents.

Whether you receive formal notice of a withdrawal, or a mentee is nonresponsive, I recommend revoking access to any Google folder, Doc, Sheet, etc., as soon as possible. If a student wants copies in the future, they may request them.

Policy #5: When a student completes their e-mentorship, agree upon permission and ownership of shared documents and folders.

Options include: continuing to share them until all works are published and finalized, deciding who keeps ownership, or deletion.

Policy #6: Be personable and professional, refer professional counselling to school staff or faculty.

The biggest concern that research colleagues have shared with me about working with student interns is that they are worried about becoming counsellors for these students. To clarify the relationship and set clear boundaries, I advise sticking to a strict meeting agenda (more details in the Weekly Meeting Call Notes section below). I would also argue that one can be personable, relatable, cordial, and compassionate in a way that benefits the development of a mentor-mentee relationship without getting deep into the student's personal life. I created some of the above policies to help avoid getting too emotionally invested. Another advantage of being a part of a school program is having access to staff and resources that the mentor can access or recommend to the mentee should the need arise.

Advise: Treat your mentees as a valuable part of the research team.

Throughout 4 of my recent e-mentoring research internships, my mentees shared their appreciation of how I treated them as peers, as they had not experienced that much trust in a work setting before. Mentors have the unique opportunity to show students how practical their knowledge and training are. Rather than instruct students, mentors can demonstrate how practical and enjoyable it is to apply their knowledge, skills, talents, and even their creative personality within their chosen field of study.

Effective E-mentoring Tools and Systems

In a literature review of 33 higher education e-mentoring articles from 2009-2019, Tinoco-Giraldo et al. revealed that there is a lack of evaluation of e-mentoring programs (Tinoco-Giraldo, 2020, 2). E-mentoring programs were also often inappropriately compared to in-person mentoring experiences. Relationship development through electronic formats is unique and incomparable. As a mentor, I agree. I mentored 2 student researchers in-person during the 2020 fall semester. Afterwards, I decided to e-mentor 2 students for the winter semester but faced some communication problems. This motivated me to create concrete e-mentoring tools and systems, detailed in this paper, to e-mentor 4 more student researchers in the 2021 spring semester. While no formal evaluation has been conducted as of yet, the fact that 5 of the 6 e-mentored students confirmed their interest in continuing with the e-mentoring program the following summer and fall semesters indicates they found the experience beneficial (Mahayosnand et al., 2021).

We found it extremely helpful for both the mentor and the mentee to be meticulous in notetaking to refer back to them. I make a Google Doc for any student I interview that wants to become a mentee. Upon acceptance of a mentee, I make a shared folder with the mentee's Weekly Meeting Call Notes. This Doc serves as the single most important document throughout the internship.

Weekly Meeting Call Notes System

A continuously updated Google Doc was placed in a shared folder titled "[Student's name]'s Meeting Call Notes." (Mahayosnand, 2021a) This Doc serves as the main record of meeting minutes, tasks assigned, pertinent notes, and lists of resources--an all-in-one accountability tool. The document was labelled with the week number, date, and time (with both mentor and mentee time zones). The top of the document always listed the next scheduled meeting.

For each meeting section, we had our own sections for bulleted Agenda notes and To Do's established during these meetings. Agenda notes were meant to bring attention to certain reminders, resources, or questions. The To Do's are to be completed before the next meeting or by their designated deadline date(s). Current working Google Docs, referenced websites, or mentioned applications were directly linked for ease and convenience. Additional files were shared by uploading them to the Shared Folder with a shared link. I discouraged my mentee from emailing attachments, instead she added them onto the shared document because emails could easily get lost in boxes.

Best Practices:

- If there are any specific questions about a certain project, an inline comment in the Doc is the most efficient way of informing the other person. This way, the other person is not inundated with texts or

emails. It is advised to directly tag their Gmail address so that they receive an e-mail notification regarding the comment. This is effective when a timely response is needed, as well as time-efficient, as the question is posed right within the working document.

- Before the next meeting, the goal is to resolve all outstanding comments to keep the Doc “clean.”
- Agenda items can be added during the meeting as well. For example, when the mentor is teaching a new procedure, if the mentee thinks of a question or concern, they can write it as an Agenda item.
- Any To-Do not completed in the previous week is moved to the To-Do list of the current week.
- Establish a set meeting format. Our outline was
 - 5–10-minute check-in
 - Mentee’s Agenda
 - Mentor’s Agenda
 - Write out Mentee and Mentor’s To-Do’s
 - Schedule the next meeting and write out the details

Mentorship Research Orientation

Based on my experience recruiting mentees, the following is an account of my process. Once an internship is offered, a Research Orientation meeting is scheduled. Before the orientation, I shared the Weekly Meeting Call Notes Doc (Mahayosnand, PP, 2021a), which details critical topics, such as how to optimize the e-mentoring experience and other pertinent remote research related training documents.

During the Research Orientation, we discussed time availability and communication methods, such as utilizing the Weekly Meeting Call Notes (Mahayosnand, PP, 2021a). Timesheets are explained, and information and interests were further discussed in greater detail in light of the following agreement form.

E-mentoring Internship Semester Syllabus Agreement

I created a comprehensive E-mentoring Internship Semester Syllabus Agreement that states the overview of the internship organization, program learning objectives, internship plan, and semester timeline for the mentee (Mahayosnand, 2021b). This form served as a general guideline for the semester and kept us on pace and accountable to key performance outputs. Flexibility was allowed. Main learning objectives of the internship are listed. The semester timeline outlines specifically how and when these objectives were expected to be achieved. I also shared appropriate projects that met my current research needs but also fit the mentee’s knowledge, skills, abilities, and interests. On the bottom, we acknowledged and agreed to the form by affixing our signatures.

Maximizing Google Workspace

Since Google Workspace is a free platform, it can be used by anyone. I asked the mentee to set up a Google account and trained her to help maximize Google Workspace's collaboration and productivity apps.

Google Drive was used for cloud storage. Shared Google Docs, PDFs, and other files were maintained within their appropriate folders.

Google Sheets was used for a shared Timesheet (Mahayosnand, 2021c) to keep track of the mentees' work log. She would write down the date, start and stop hours, and what was specifically done. Knowing what is doable in certain time frames, by either an individual mentee or a collective team of mentees, makes planning future work more efficient. Also, time had to be documented for course credit.

Google Voice was used to separate personal and work phone numbers, and therefore our personal and work lives.

Google Calendar was used to schedule meetings. I invited the mentee via Gmail, which synchronized directly to her calendar. My Zoom link was always included in the Notes section as it was sometimes used for its screen-sharing function.

Benefits of e-mentoring: A mentee's perspective

One benefit of e-mentoring is that it is a more economical option for higher education institutions (HEIs) (Ercan et al., 2021). E-mentoring is proven to improve the mentee's skills and performance when they learn directly from a mentor. Other reported benefits of e-mentoring include flexibility, and high levels of satisfaction between both mentor and mentee. E-mentoring also creates more accessible opportunities for mentees to find more diverse mentorship relationships and projects not constricted to either mentor or mentee's geographical location (Mahayosnand, 2000, 2). As a mentee, I found this to be beneficial. My course instructor's mentor-mentee match proved ideal with all that I was able to gain from this experience.

Compared to my classmates who predominantly had local mentors, I gained unique experiences because I had an overseas mentor. One surprising benefit was increasing my religious and cultural awareness. I gained insights to the Islamic faith through the projects we were working on and because my mentor was a Muslim. For example, I helped conduct research for two grants to fund an Islam and Health project. We discussed the similarities I found between Prophetic Medicine and other naturopathic medicinal practices I knew. I also learned that my mentor would fast regularly, and we were both wrapping up the semester early because she was preparing to take the month of Ramadan off.

An unexpected benefit of e-mentoring with an overseas mentor was developing skills such as patience, creativity, and adaptability in a work setting. For example, due to our 7-hour time difference and because of Gaza's workweek from Saturday to Thursday, scheduling ad-hoc meetings meant working during the evenings or weekends. Additionally, Gaza does not have dedicated or reliable internet or electricity. Therefore, in our one-hour weekly meetings, we would often switch from using the phone, to zoom, to phone texting, coworking on the same Google doc, or being cancelled altogether. As a global studies major, I was grateful for this eye-opening opportunity to co-work with a mentor located in a low-middle-income country via an e-mentoring experience.

Tips from a Mentee

Tips for Potential Mentors

I enjoyed starting off working meetings with brief check-ins. This allowed for conversations about each of our interests and lives, which granted a fuller understanding of our motivations. Instead of seeing this time as taking away from real work, it should be seen as an opportunity to further build a mentor-mentee relationship. Especially when never having met in person, there are a lot of conversations that can be missed. This time can be a way to build trust and confidence in the mentee that their mentors care about what they have to say, furthering their own commitment to mutual projects.

Early in the e-mentoring experience, my mentor explicitly asked how I felt about the workload. I admitted to feeling slightly overwhelmed which was not easy for me to admit, but instrumental in learning the importance of communication so that my mentor could make adjustments leading to a productive and enjoyable experience. A learning curve can be expected to learn how to best work remotely, and letting mentees know this may ease their hesitancy.

Tips for Potential Mentees

Future mentees should keep in mind that working one-on-one with a mentor is a different experience than usual professor-student dynamics. There is much more room for critiques, which I had to learn to not take personally. At first, it might feel disappointing or uncomfortable, but it is ultimately crucial to the quality of work and one's own skill development. Research offers an opportunity to improve writing and communication skills and is invaluable to becoming a better professional in one's field.

It is also important for mentees to be wary of over-committing. I felt a desire to agree to all possible projects/tasks. It is important to be realistic about the hours they can commit to. Do not be afraid to communicate this to your mentor because they will appreciate this honesty in contrast to incomplete work.

Conclusion

This report serves as a sample of recommendations currently available for conducting an e-mentoring research internship gained through our own experience. The mentor's research team is exploring ways to evaluate future e-mentoring research experiences by developing surveys that assess e-mentee's knowledge, skills, abilities, curiosity levels, desire to work in the research field, etc. Although constrained by pandemic lockdowns, e-mentoring has proven to be a viable method of gaining practical and rewarding remote global research experience. Possible religious and cultural awareness opportunities may arise when e-mentoring internationally as well. We are committed to the research, development, and promotion of e-mentoring student researchers. To do so, we encourage the reader to explore this pragmatic mode of collaborative research by implementing any of the advice shared in this paper and welcome your input.

Acknowledgements

The authors would like to thank ZM Sabra for her writing assistance and technical editing.

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