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UCG Internship Final Report

Liberal Arts and Sciences degree
 Mind and Behavior specialization

Supervisors:
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Preface

This internship represented a great opportunity for me to improve my research skills and enrich my knowledge with regards to the topic. Furthermore, by participating in this internship I expected to closely observe the work of researchers from different domains, and to communicate and exchange ideas that ultimately would contribute to the success of this program. As a future researcher, a creative and abstract thinker, a determined student and last but not least - a woman, I found my participation in this project extremely important in order to improve university's pedagogical methods and ensure equality and inclusion in mathematics courses at UCG.

Professional learning goals: improve my ability to analyze data; write feasible and evidence-based recommendations; learn how to effectively select and understand scientific literature; learn how to enhance my problem-solving abilities; Develop ability to speak with people in a professional setting

Generic learning goals: improve my time management and organization skills; learn to accept, respond and take into account possible criticism and feedback; learn how to interact with my team from a position of leadership; build professional network; Discover my strengths and work on my personal weaknesses

The internship position was placed as an announcement in Buzz – UCG's newsletter. I applied with a personal motivation statement, and soon after my application I received a positive response from one of my supervisors.

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Description of organization

The host organization of the internship is University College Groningen. UCG is one of the eleven faculties of the University of Groningen. Founded in 2014, the college offers a small-scale, intensive education with individual and interactive learning. UCG offers a single bachelor's degree in liberal arts and sciences, and has around 300 students in total. The college offers students the possibility to follow different specializations.

The internship was supervised by two university professors, Maria Ioannou and Oksana Kavatsyuk. The internship consisted of five team members, each coming from distinct academic profiles.

Assignments, tasks and responsibilities

- 1) Managing information;
- 2) Conduct qualitative and/ or quantitative data analysis;
- 3) Recruit and/or interview subjects;
- 4) Maintain accurate records and summarize interviews;
- 5) Attend project meetings and/or seminars and other meetings as necessary;
- 6) Develop an interdisciplinary understanding of the research topic;
- 7) Summarize project results and write progress reports.

Reflection on personal learning goals

Professional

1) Improve my ability to analyze data

As highlighted in my Learning Plan, one of my main objectives was to conduct qualitative and quantitative analyses. I successfully managed to achieve this objective by engaging in the following tasks: 1) Review the results from survey 1 on which we prepared a presentation; 2) Create Survey 2 in Qualtrics; 3) Run statistical analysis on Survey 2 in SPSS; 4) Conduct individual interviews with three UCG students; 5) Create protocol for interviews with teachers; 6) Interview (together with my colleague, Eva) UCG's calculus teacher, Oksana Kavatsyuk. The hardest task for me was conducting analyses in SPSS, as the sample size we had at our disposal was rather small and unrepresentative enough. Nevertheless, we made our way out of it by running simple descriptive and some correlational analyses. Working on this together with Julia was very helpful, as we shared our knowledge and ideas about the most suitable type of analyses.

2) Write feasible and evidence-based recommendations

While working on this task, which ultimately resulted in an extensive glossary, I had to read relevant literature and identify terms related to promotion of inclusivity in classes. This turned out to be an achievable, but still an assiduous task especially in the beginning when the topic was still new to me. To cope with this difficulty I tried to bear in mind the key-concepts of this internship and their definitions. The selected terms were then included in the glossary together with a throughout description and concrete examples.

3) Effectively select and understand scientific literature

Most of the articles were provided by our supervisor, Maria. We then distributed the articles amongst ourselves and later we shared our notes. For a successful understanding of the articles I came up with a personal method on reading scientific papers more effectively and time-wisely. For each article I tried to summarize the most important ideas and results, always keeping in mind our research question. This approach helped me to select relevant information from the articles and to apply it to our recommendations. Moreover, the extracted information from the articles served as good theoretical knowledge for creating the interview protocols and writing the glossary.

4) Learn how to enhance my problem-solving abilities

Although not explicitly, I believe I developed this skill by focusing on finding the best teaching practices for how to promote inclusivity in a mathematics classroom. For accomplishing this task I tried to keep in mind some of the key concepts of this internship namely: gender diversity, inclusivity, science identity, sense of belonging etc. These concepts helped me to bear in mind the problem we were trying to solve (gender diversity in STEM field) and to find the relevant solutions for it. Working in a team definitely helped to the process of finding solutions because each of us contributed with their own critical point of view.

5) Develop ability to speak with people in a professional setting

By taking the position of an interviewer, I became better at facilitating interesting discussions. Conducting semi-structured interviews was a new experience for me, therefore I searched for guidance from our supervisors and also peers for that. In the end, it turned out to be a great experience from which I learned how to collect relevant qualitative data, always keeping in mind the research question. During the interviews I tried to remain neutral, but in the same time support the interviewee to share his/her ideas. A challenge that I encountered along the way was to implicitly guide participants to answer my questions without priming them. Overall I am happy with the results I managed to extract from this

interviews, and in the future I plan on conducting more interviews of such format (for my thesis). Additionally, it was very interesting to participate in discussions with my peers, and find out about their views on certain matters. By participating in such type of discussions I believe I acquired more confidence when it comes to sharing my points of view.

Generic

6) Improve my time management and organization skills

Although at the beginning I found challenging managing my time, later on I came up with a working plan which helped me to distribute my tasks throughout the week. I decided to keep an agenda in which I would keep track of my progress. By establishing a fair distribution of work throughout the week, I managed to do my readings and finish my deliverables in time. As a result, I positively contributed to the success of my team.

7) Learn to accept, respond and take into account possible criticism and feedback

By working closely with my teammates, time to time we shared feedback on each other's work. However, the feedback was rarely negative, fact which I take as a good sign. In general, the feedback was addressed to the certain components of my deliverables. For example, my peers commented on some of the questions proposed for the survey as being too broad or already implying certain responses. Taking into account their feedback really helped me to make the necessary adjustments. I appreciate my peers for keeping their professionalism on this matter. I myself learned from my peers that receiving criticism (if constructive) can help someone achieve better results and thus perfect oneself.

8) Learn how to interact with my team from a position of leadership

Although we did not explicitly nominate a leader, I believe I manifested such qualities during our internship. I organized meetings, and gave updates on what 'needs to be done' in the group chat. Due to Covid-19 most of our meetings were online. We found that the best way to work was to distribute the tasks among ourselves and then give each other updates. For this we used Whatsapp as a main platform of communication and GoogleDrive for sharing folders and information. Of special use was the progress sheet in Excel in which we kept track of our work evolution. Although I do not like myself as being in the position of a leader (I find the responsibility that comes with this position too overwhelming), I believe that a team which has a leader has higher chances for achieving success. Therefore, sometimes I implicitly tried to play this role in order to provide some structure and order. This happened especially towards the end of our internship when I felt a drop of motivation in everyone.

9) Build professional network

The support received from Maria was especially helpful at the beginning when we, as a team, were still accommodating to each other. Her guidance proved to be very effective in establishing goals and prioritizing tasks. Additionally, it was interesting to observe Maria's and Oksana's working style together. Whereas Oksana had the mathematical background given that she has been a teacher of Calculus I for some time, Maria on the other hand has her expertise in social psychology. Therefore I was very curious to observe how they are planning things and taking decisions together given their distinct professional backgrounds. Both have their strengths and they definitely tried put them in play and complement each other's work. I have learned from both of them, as well as from my peers, and I expect to make further collaborations in the future.

10) Discover my strengths and work on my personal weaknesses

During this internship I discovered that I am good at finding participants and facilitating discussions with them. I am also good at structuring information, contributing with innovative ideas, and work on a shared goal with the team. A weakness of mine is that I find hard to gather my thoughts. To solve this, before each meeting, I would come up with a plan on the points that need to be discussed and take notes during meetings. Another weakness of mine is that I can get distracted at times. Sometimes this represented an impediment to keep track of my plans, especially for tasks that required higher concentration and focus (e.g. extracting relevant information from papers, coming up with evidence-based recommendations). However given my personal interest in the topic and my desire to write my thesis on this topic, I managed to allocate the proper time and resources for this internship.

Reflection on the feedback received

The feedback received was positive. I got an overall grade of 8.5 on my mid-term report which made me very proud. My supervisor highlighted how the tasks were of good quality and delivered in time. Indeed, one of my core values as a student is responsibility, therefore I am pleased to know that I succeeded in manifesting this quality during the internship. Keeping everything organized helped a lot to achieve such accomplishments, especially at such times like ours.

My peers did not provide me with any negative feedback, which I perceive as a good sign. Because of the movement restrictions imposed by the pandemic, most of our activities were held online. One of the limitations of working online is that the meetings are not as interactive as they could be. Therefore, we usually worked in pairs or individually. We made an opportunity out of this situation to learn more about each other's working style. Overall, I think I managed to synchronize myself with all team members. As pointed out by the supervisors in our final meeting, all of us were highly motivated to participate in this internship.

The participants I interviewed found our research topic very captivating and interesting. All of them were eager to engage in discussions around this topic. They liked the idea of approaching UCG students to get more insights on their experience in class. After interviews, I kept contact with some of the participants to which I occasionally updated on our internship progress. Afterwards, I also shared with them the "teach me better" video. They even gave complimented my input and found the video creative and, most importantly – useful.

My contribution to the hosting organization

I believe that during this internship I contributed to the hosting organization with the following achievements:

- 1) I have contributed to the collection of qualitative data by conducting four interviews were recorded, transcribed and analyzed afterwards. By doing this, I contributed to the process of acquiring more insights about students' experiences in a mathematics classroom and their views on the best teaching practices.
- 2) I contributed to the creating of a Glossary file, in which relevant to the topic concepts and terms were presented. Moreover I wrote evidence-based recommendations which will ensure inclusivity and boost students' confidence in a mathematics classroom. These recommendations will be implemented in one of the UCG's courses. This, hopefully, will attract more students (and girls) in following STEM related courses.
- 3) Another contribution was that I, together with two other students, managed to deliver was a final product in the form of an informational video about the best teaching practices. My main task was to compose the script for the video, based on the previously collected materials. I also contributed with ideas on how to animate the video and make it more attractive. Ultimately the video can be presented during teaching festivals.
- 4) A personal achievement is that I have participated in the ComeniusFestival2021 that took place on the 1st of March, during which Oksana and I presented the video and answered questions. For me this was a very valuable experience as I encountered myself for the very first time in such a setting, full of professionals and researchers. I am very grateful for the opportunity I was given to participate in this festival which very much inspired and encouraged me to look for further opportunities of this kind.

As a final remark I would like to thank my both supervisors for their time, support and professionalism that they demonstrated during this internship. I am proud to have been worked with such wonderful researchers, who are investing their time and resources on a daily basis, in the name of a good cause - to improve the educational system and present everyone with equal opportunities.

As I recall, in my application letter to UCG, I mentioned my desire to ultimately contribute to the success of this university. By offering me the opportunity to participate in this internship, I believe I have brought a positive input to this university.

Therefore, Thank you! I am looking forward to further collaborations with you sometime, in the future.

Appendices

Example literature notes

Body Projects of Young Women of Color in Physics: Intersections of Gender, Race, and Science

By Maria ONG

Introduction

→ Women use different tactics such as racial or gendered passing, stereotype manipulation, and/or demonstrations of superiority in order to succeed in sciences. Consequently, those lead to identity fragmentation & multiplicity + Body theory as a concept explained in the article.

Conclusion

→ Scientific communities need structural, institutional, interactional and cultural changes so women will not need such tactics.

- 1) Hire more women and 'representatives' of different minorities.
- 2) Acknowledge the social and cultural aspects of doing science by structurally and financially supporting women's participation in local associations, such as formal groups for women. **Look for such type of associations in Netherlands, Groningen**
- 3) Professors, graduate students instructors and tutors should be made aware of subtle cues that often discourage women from feeling they belong. Set a tone of 'zero tolerance' for discriminatory behavior

→ The participation of women in science education decreases with each stage of advanced education.

→ perception of belonging to scientific community is crucial

The new call for supporting women and underrepresented minorities in science

→ Women *of color* who pursue science careers often perceive that their corporal appearances stand as unfavorable odds with their identity claims as scientists. Beings seen as *simultaneously* as ordinary women, minorities, and scientists sometimes requires creative and painfully contradictory practices and performances.

Being ordinary in three realms (Science, Gender, Race/Ethnicity)

→ Challenges of conducting oneself to be considered thoroughly ordinary. Being ordinary can be seen as an achievement – something a person does in order to claim the nature and benefits of membership in a particular community.

→ everyday impression management & identity construction.

Logbook entries

The purpose of the logbook is for the students to reflect on their tasks, activities and learning on a regular basis.

LogBook entry. Week 2. 7-13.09

Statistical analysis of the survey.

In this week I individually worked on the outcomes of our first survey. My task as a team member was to perform statistical analyses and provide an overview of the results. For this I made use of SPSS, which is a program for statistical analysis in social science.

LogBook entry. Week 3. 14-20.09

Meeting with supervisors : 1*Reading, Presentation, note taking, discussion, Meeting with peers to brainstorm further actions

LogBook entry. Week 4. 21-27.09

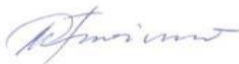
Edit the survey, Meeting with peers to discuss the changes in the survey, contact Clarissa for supplementary material, reading.

LogBook entry. Week 5. 28-4.10

Mid-term evaluation report



Details regarding the student	
Last name & initials	Ostaf A.M.
First name	Adela
Details regarding the internship host	
Name of organisation	University College Groningen
Name supervisor	Maria Ioannou & Oksana Kavatsyuk
Details regarding the evaluation	
Date of mid-term evaluation	24.11.2020
1. To what extent the student has fulfilled the tasks and activities agreed for the first half of the internship?	<p>Please rate the student on a scale ranging from 1 – not fulfilled at all, to 10 – completely fulfilled.</p> <p>GRADE: 8.5</p> <p>Argument why the grade is given: tasks (e.g., analysis of first questionnaire, designing of new questionnaire and interview protocols) were delivered on time and were of good quality</p>
2. How would you grade the quality of the work the student has displayed so far?	<p>Please rate the student on a scale ranging from 1 – very low quality, to 10 – highest quality.</p> <p>GRADE: 8.5</p> <p>Argument why the grade is given: Quality of work is very good and communicated in a very clear manner</p>
3. How would you grade the student's work attitude (e.g. motivation, flexibility, interpersonal skills, etc.)?	<p>Please rate the student on a scale ranging from 1 – very low quality, to 10 – highest quality.</p> <p>GRADE: 8.5</p> <p>Argument why the grade is given: positive attitude, good collaboration with rest of the team members, and meaningful contribution to the project all in all.</p>
Further comments and/or suggestions concerning students learning objectives	<p>Comments specific to the objectives the student identified (e.g., method and analysis skills, organization skills, leadership role, producing evidence-based recommendations etc):</p> <ul style="list-style-type: none"> - Some suggestions/ advice was shared with the group on how to make organization and communication more efficient (e.g., a table of progress where the tasks (to be) completed are immediately visible - The more serious part of data analysis is going to be coming up this block but for now you have hopefully got a useful insight into social sciences methods (e.g., questionnaire and interview protocol design as well as sampling techniques and rationale) - Evidence-based recommendation is our goal in this final block. I hope the bank of recommendations you developed will come handy but your out-of-the-box thinking will be much needed in

	<p>order to come up with evidence-based and yet ground-breaking recommendations</p> <ul style="list-style-type: none"> - Leadership is important; I think the best way to be a leader is to know full-well what your strengths are and put them to good use in your group work.
Date and signature of the supervisor	<p>24.11.2020</p> 

Link to the “ Teach me better” video

<https://www.youtube.com/watch?v=IHuE58AEr3M>

Excerpt from the Script

Script (Draft)

Overview

Comments from meeting with Oksana 10th February

Not focus on the issue but rather on the teaching practices
Take the teachers' side - "what can I do because I am so busy?"
The poster is complementary to the video
idea have a teacher as a character?

Part 1: Introduction

- Animation: Introduce the topic in an interesting way.

Part 2: Present the problem

- Interviewees stating there is a gender disparity in STEM field
- Animation: Elaborate on this by giving scientific facts

Part 3: Presenting best teaching practices, suggestions

- Interviewees providing suggestions (short cuts)
- Animation: Elaborate on that by giving scientific facts that proves them effective

Part 4: Conclusion

- Animation: provide a well rounded conclusion

For the whole version of the script please follow this link:

https://drive.google.com/file/d/1R6_FtvNx4ghkeaWj3YPJiiByUvruXUOw/view?usp=sharing