ASHESI UNIVERSITY

STUDENT CHALLENGES IN APPLIED PROJECT – A CASE OF ASHESI UNIVERSITY BUSINESS ADMINISTRATION DEPARTMENT

Undergraduate Thesis Report submitted to the Department of Business Administration, Ashesi University in partial fulfillment of the requirement for the award of Bachelor of Science degree in Business Administration

B. Sc. Business Administration

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Declaration

I hereby declare that this thesis is my original work and that no part of it has been presented

for another degree in this university or elsewhere.

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I hereby declare that the preparation and presentation of this thesis was supervised in

accordance with the guidelines on supervision of theses established by Ashesi University

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Acknowledgement

Abstract

The Ashesi University Business Administration Applied Project capstone provides students with a unique opportunity to gain real-life experience in the working world as junior consultants. The purpose of this study was to identify challenges students encounter in their Applied Project journeys under a student-led model where students are in control of most of their experience. The study was qualitative, employing interviews and surveys as research tools to gain insight into the student-led experience. The main challenges were student choosing applied projects for the wrong reasons, encountering difficulty in finding a supervisor, working around the high ratio of supervisors to students and the proximity of the deadlines for finding a supervisor, topic and company. The recommendations addressed the challenges in the best interest of the student, that would help them to take better control of their experience. It also includes some methods faculty in charge can employ in organizing the capstone.

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CHAPTER 1 - INTRODUCTION

At the end of the undergraduate education, students must be assessed on their overall learning ability and knowledge acquired in the course of their study. Research by Sum and Light (2010), shows that colleges and universities in the United States are becoming more intentional about meeting educational goals. Although others may argue against the need to assess or measure that the undergraduate education is working, Sum and Light (2010) stress on the importance of assessment which is where the role of the capstone is seen.

The capstone is a common way undergraduate institutions assess their students. According to Acker and Bailey (2011), the capstone is the culmination of a student's study that gives them the opportunity to integrate their knowledge and skills in preparation for the workplace. Durel (1993) describes it as a rite of passage. At the departmental level, the capstone accommodates multiple forms of assessment that could address sometime competing goals (Sum & light, 2010). Its activities, including project-based learning, service-learning, simulations, and case study analysis, among others, often provide experience outside of formal classroom studies (Holdsworth et al., 2009).

Ashesi University, the focus of this paper, gives students in their final year a unique opportunity to experience the working world from an intrapreneurial perspective through a hands-on Applied Project capstone. The Applied Project capstone commonly takes a student-led approach, where students are in charge of developing a project and selecting a supervisor to assist them. This paper seeks to identify and bring to light common challenges that Applied Project students encounter during the process.

1.2 Background

Ashesi University is a non-profit liberal arts university in Ghana. Its curriculum develops skills such as critical thinking, problem-solving, effective communication and ethical reasoning (Ashesi University, 2020). "It combines a rigorous multidisciplinary core with degree programs in Computer Science, Business Administration, Management Information Systems, and Engineering" (Ashesi University, 2020).

The goal for the Business Administration (BA) department is to produce business graduates who will play active, diverse roles, in shaping the growth of African businesses and organizations. For Computer Science it is to produce graduates who have the necessary foundational skills to have life-long careers in technology and information systems management. For Engineering, it is to produce graduates who can see through society's challenges and build solutions to solve them. For all majors, students are required to undertake a capstone project in their final year as a fulfilment of the graduation requirements.

There are three capstone offers; Entrepreneurship which is research into an existing need that results in a solution satisfying the need and for which people are willing to pay. The Applied Project is characterized by engagement with a real-life organization (Ashesi University, 2019) and requires solving an existing problem within the organization. The Undergraduate Thesis is an inquiry into an area of business studies. Each of these capstones is unique in its required skills set and objectives and yet similar in its development of the student and preparation for the real-world experience.

The Applied Project capstone at Ashesi is unique because it provides the most hands-on experience in the working world. It requires that students choose an organization to work

with and act as a consultant, solving an existing business problem. The Undergraduate Thesis and Entrepreneurship do not require that students work with an organization, and that is one of the advantages that students who take the Applied Project have. The Applied Project capstone helps students to get a real-life understanding of business and business problems as well as identify and solve real-life problems (Ashesi University, 2019).

The Ashesi Applied Project guideline requires that students partner with existing organizations such as start-ups that could benefit from the projects. They are also required to research on a specific functional area of their chosen company, such as marketing, finance, operations, among others. During the project, students act both as a consultant and a project manager to their company of choice. The student creates the schedule, detailing activities to be done toward the success of the project and is responsible for managing their project, all of which form part of independent work.

It is important to understand how the organization and design of research project courses can be optimized to create an environment where students can successfully execute and complete their projects (Peiris et al., 2018). Students at Ashesi can have a better understanding of how to successfully execute their projects if they are aware of the possible challenges they may face with the Applied Project capstone, they can work towards avoiding or dealing with them. On the other hand, organizers of the capstone can create an environment that allows students to explore their full potential.

<div align="center">1.3 Research problem</div>

Research by Acker et al. (2014) on the patterns in undergraduate capstone subjects revealed that data on the experiences of students undertaking the capstone course, the views of supervisors or lecturers teaching them and the long-term impact of the capstones in the

work environment all provide untapped areas for further research. There is a gap in the literature concerning the actual capstone process and the challenges encountered by students. Existing literature usually points to assessing the capstone at the end of the course and not during the process itself (Light & Sum, 2010; Berheide, 2007; Hammer et al;, 2018, Kift, et al.,2013). This paper aims to review the Applied Project process and to bring the challenges of students and coordinators to light.

1.4 Research Motivation

Initially, I registered for the Applied Project capstone course, and during that time, I heard contradicting comments about how smooth or tedious the first few weeks of the experience had been for them. I experienced a few setbacks, which led me to this research. I became curious about how seniors experienced the Business Administration Applied Project differently and why. I decide to study the challenges students taking the Applied Project experience so that incoming seniors can avoid or mitigate them.

1.5 Research Question

- What are some of the challenges experienced by the BA Applied Project students?

1.6 Research Objective

The main objective of this is to:

- Identify and outline the challenges of the Applied Project Process.

1.7 Relevance of the Study

This is study will help continuing students better prepare and execute their Applied Projects. It will show them the possible challenges they may encounter, thus giving them a chance to prepare ahead. It will help them avoid making common mistakes which have been made in the past and improve the quality of their work and experience.

From the findings of this research, capstone coordinators can also see some of the challenges experienced by students affect their experience. They can also see the prevailing trends in the form of common themes associated with the preparation and execution of the applied project.

1.8 Methodology

For this research, which is to explore the phenomenology of the Applied Project Capstone experience, the approach that will be used to collect the data is the qualitative approach. The sampling method will be a purposive and stratified sample specific to those who have or are going through the Applied Project Capstone. The sample size was 12, with a focus is on the depth of the information provided by each participant and not the number of responses. There were two categories of participants from whom information was gathered; students and coordinators of the Applied Project.

1.9 Organization of Study

Chapter 1- Introduction

This chapter provides a background of the general capstone and capstone experience as well as provides the theoretical framework that will guide the research. It also states the problem, research questions, research objectives, and the relevance of the study.

Chapter 2 – Literature Review

This chapter gives a review of the literature on the role and importance of the Applied Project Capstone. It also looks at the capstone as a form of assessment to evaluate a student's undergraduate learning experience. Also, it gives a summary of the role of supervisors/ coaches, the capstone structure, and preparation in the Applied Project Capstone experience.

Chapter 3 – Methodology

The methodology details the approach used to sample participants, define the scope of the research, collect data to be analyzed, and determine the methods and frameworks that will be used for the analysis.

Chapter 4 – Results

This chapter shows how the data collected was analyzed and interpreted to develop common themes and answer the research questions.

Chapter 5 – Conclusions

This chapter contains recommendations based on the results of the data analysis and

conclusions on the overall study.

CHAPTER 2- LITERATURE REVIEW

2.1 Introduction

Capstone researchers often assess the capstone in the context of its ability to cultivate in students the learning values or goals of the institution. Research by (Rowles et al., 2004; Light and Sum, 2010; Berheide, 2007) all focus on the capstone as a means to assess the quality of undergraduate education in institutions. Hammer et al. (2018) state that there is no generic framework that fully satisfies the diverse criteria for reviewing the quality of capstones across disciplines. It makes the process of assessing the capstones complex. This chapter provides an overview of the undergraduate capstone in general, its role and purpose. It delves deeper into the Applied Project capstone, its purpose and benefits and the models. It also provides a brief overview of the Undergraduate Thesis and Entrepreneurship capstones offered at Ashesi University.

2.2 Overview of the undergraduate capstone

The capstone is defined by Durel (1993) as the crowning experience or course at the end of a series of courses to integrate pieces of knowledge acquired during the process as a unified whole. It is also defined by Acker and Bailey (2011), as the culmination of a student's study that gives them the opportunity to integrate their knowledge and skills in preparation for the workplace. The capstone can be looked at from two angles; the "integrative academic

experience and real-world preparatory experience" (Rhodus & Hoskins, 1995). The

integrative academic experience approach to the capstone focuses on the synthesis and

culmination of knowledge, while the real-world preparatory approach looks at preparing

students to look towards their careers. Some researchers argue that the capstone should have

more focus on the preparatory aspect to ease the transition from school to the real world.

2.3 Role and purpose of the Capstone

Capstones may take different forms, including internships, study abroad programs,

independent research, and applied projects among others, which in some way follow the

work-integrated learning (WIL) approach. An article by Acker and Bailey (2011) described

the objective of the capstone as a plank that covered a broad measurement of the

achievement of the learning goals of the program. Its purpose is to "cultivate in students,

crucial life abilities that are important both academically and professionally and to allow

them to establish connections within the larger community" (Rowles et al., 2004). It aims to

breed graduates who embody the goals and image of the university.

To determine the success and effectiveness of the undergraduate program, students

must be assessed based on some criteria either developed by the institution or by a higher

body. When seniors are getting ready to transition into the working world, the capstone

provides a means to determine how much a student has acquired in their respective field.

Light and Sum (2010) mentioned in their article, "valid assessment of student learning

requires a significant long-term commitment by faculty and administration, staff and students

alike." They highlight the importance of assessment and the commitment involved for the

long-term.

Berheide (2007), in agreement with this mode of assessment, contributes that "capstones are not just used to assess majors; they can also be used to assess general education." The more popular consensus among researchers is that the capstone is an effective way to assess students. It is also easy to tailor the experience because it takes different forms through which students can reveal what they have learned and acquired over their period of study.

Completing an undergraduate program is often characterized by anxiety and uncertainty for students; some will enter the corporate world immediately, others will pursue further studies and others may opt for self-employment or entrepreneurship (Alstete & Beutell, 2016). It is important that the capstone experience adequately prepares its students for their endeavours post-graduation.

2.4 The Ashesi University Business Administration (BA) Applied Project capstone

2.4.1 Overview

An applied project is one involving in-depth research in an organization to identify and solve any relevant existing problem. The general purpose of applied projects, according to Jankowicz (2013) is to create an opportunity for students to apply the knowledge acquired in their organization of choice and to be of benefit to them. Applied projects are often specific to the area of study, and so project objectives may vary. According to Ashesi University (2019), students are ultimately expected to apply relevant foundational knowledge and skills acquired to solve the problems existing in the organizations. The Ashesi University Applied Project is characterized by its engagement with a real-life organization (Ashesi University, 2019).

2.4.2 Purpose and Goals of the Ashesi University BA Applied Project

Based on a selection of several institutions, Jancowicz (2013) classified the objectives of the project under 4 categories which are "the acquisition and practice of concepts and techniques", "the management environment", "the personal training experience" and "the contribution to the organization." The fulfilment of these objectives often differs across the disciplines with the exception of the management environment which differs across organizations because of the different climates and cultures. According to the Ashesi University (2019) guidelines, the learning goals of the Applied Project are for students to develop and demonstrate a mastery of the subject, apply rigorous research skills, creative problem-solving skills, demonstrate good written and oral communication skills and management of stakeholder relationships, resources and time. These can fall under the broad categories identified above, which cover the student's personal growth, the impact on the organization, the application of knowledge acquired and skills acquired through the experience.

2.4.3 Benefits of Applied Projects

There are many benefits of applied projects to students, supervisors, and especially the organizations. Jancowicz (2005) identifies 4 benefits of a good applied project to the organization which are that the project tackles a relevant issue to the organization, the organization can draw on the back -up of the educational institution and acquires an inexpensive form of consultancy expertise. To students, the Applied Project offers the unique opportunity to immerse themselves into an organization to understand the problems, relationships and solutions that exist (Ashesi University, 2019). It gives them a preview into

the working environment before they graduate and allows them to create a network that could

be potentially valuable to them in the future. Students who pursue applied projects gain a

realistic experience and insight into the working world as well as an opportunity for deeper

learning (Grossman Jr., 2002).

In addition to this, carefully chosen projects are useful to the immediate company

supervisor of the student and provide an opportunity to address an issue of importance to the

company which may otherwise be overlooked as a result of more pressing or demanding

issues (Jancowicz, 2005). This way, the organization can get some things done at little to no

cost to them.

For the faculty, the processes involved in these projects provide insights as to which

mistakes the masses are making to indicate a lack in some area (Grossman Jr., 2002). When

individual students make mistakes, faculty can conclude that the problem is with the student

in question and then identify ways to help them. On the other hand, problems that run across

large numbers of students can be attributed to the faculty and managed on that end.

Other benefits for faculty is the pleasure of facilitating the accomplishments of

another, the opportunity to pass down knowledge and the foundation on which to build

friendships with the students (Malachowski, 1996). As students and faculty work together

during these projects, they can form lasting friendships that benefit both parties. Furthermore,

faculty can pass the knowledge that they have acquired on to students to add value and to

help them in future endeavors. For some, this could be a source of fulfilment of their purpose

and reminder for why they chose to be educators.

2.4.4 General applied project Models

This section focuses on two models of applied projects; the student-led model and the

academic-led model, covering the characteristics, some advantages and disadvantages of

both.

2.4.4.1 The Student-led Model

Knight and Botting identified two models for applied projects which were the

student-led and academic-led models (2016). With the student-led model, students develop

their projects and approach a member of the faculty to be their supervisor (Knight & Botting,

2016). The topic and content are worked on between supervisor and student to come up with

a feasible research project. By this definition, the Ashesi Applied Project can be classified

under the Student-led model. The Ashesi Applied Project model allows students to identify

their projects to be reviewed and approved by the department.

Although this model works better for students who can identify and suitable topic and

a willing supervisor, a majority of students have difficulty choosing research topics (Knight

& Botting, 2016). The Ashesi University BA Applied Project manages this problem by

recommending that students go into their chosen companies with an open mind to assess the

situation and determine what the research will be based on. A disadvantage of this model is

that it results in some staff having to supervise more students than others which increases the

load on the staff, forcing students to struggle to engage with their supervisors (Knight &

Botting, 2016).

In addition, staff may supervise projects about which they possibly possess little

knowledge or interest while students begin to feel disconnect as their nudged towards more

feasible projects for which they have little interest (Knight & Botting, 2016).
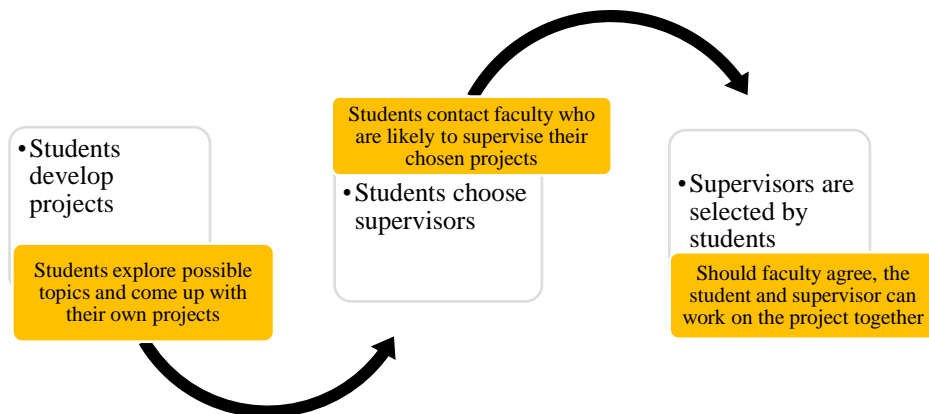
Figure 1. The student-led model

2.4.4.2 The Academic-led Model

   The second model identified by Knight and Botting (2016) was the "academic-led model." This model involves a catalogue of project summaries created by members of staff from which students will be asked to rank their choices, and the supervisors will be assigned based on those choices (Knight & Botting, 2016).

   One advantage of this model is that it is able to trigger and maintain interest for both student and staff because the projects are already pre-designed by the staff. Again, it makes it easier to evenly distribute students among staff available. On the other hand, it could be a stifling factor for students who work well on their own and are high achieving (Knight & Botting, 2016).
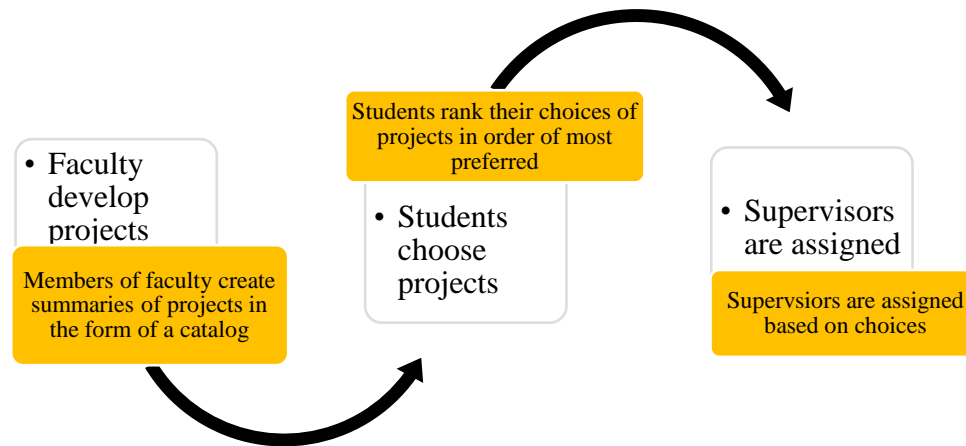
Figure 2. The Academic-led model

2.5 Other capstones at Ashesi University

2.5.1 The Entrepreneurship Capstone

The Entrepreneurship capstone offer is one that seeks to instill some entrepreneurial skills in

its students to equip them to identify market opportunities and exploit those opportunities for

the good of the society. Hammer et al. (2018) describe this capstone as the "ideal

environment in which to learn and apply entrepreneurial skills in the context of the design

process," they go on further to say that "traditional capstones typically prepare students to

become employees of existing companies, rather than preparing them to create their own

products or business opportunities." The Entrepreneurship capstone takes all these into

consideration and gives students the hands-on experience they need by allowing them to

identify and explore real-life problems and creating business solutions for them without

limiting their abilities to work in already existing companies. In already existing companies,

graduates of this course can use the skills obtained to develop solutions to existing problems

in the firm.

2.5.2 Undergraduate Thesis capstone

Overview

Undergraduate research was defined by a group of faculty and administrators during a workshop sponsored by the Undergraduate Research council in 1997 as "an inquiry or investigation conducted by an undergraduate that makes an original, intellectual, or creative contribution to the discipline" (Wenzel, 2000). The key factor of undergraduate research is that it contributes significantly to the area of study or discipline. The Undergraduate Thesis capstone at Ashesi University is done over two semesters and is supervised by a member of the faculty. It is "an opportunity to understand complex questions from diverse business perspectives" (Ashesi University, 2019).

At Ashesi University, the uniqueness of the Undergraduate Thesis is that it does not require students to solve problems or work with another company. Students can make inquiries and explore areas of interest that may not be specific to an organization. The Undergraduate Thesis at Ashesi requires that students embody learning goals such as ethics in pursuing research, critical thinking and quantitative reasoning, innovation, curiosity and skill and ability to communicate ideas clearly (Ashesi University, 2019)

Benefits

The undergraduate thesis has many benefits to students, including beginning to or continuing to plan for further education. Research conducted by the Survey of Undergraduate Research Experiences (SURE) revealed that over 87% of the respondents either began or continued to plan for further education in science or scientific research (Lopatto, 2007). Apart from the general skills and benefits acquired from the capstone

experience, students who go take on the undergraduate thesis often able to analyze data and

integrate theory and practice as well as understand the process of research (Lopatto, 2007).

Aside these, another benefit is the satisfaction of the knowledge of a successful completion

of an inquiry, a chance to put research skills to practice and to improve on written and oral

skills. (Ashesi University, 2019)

2.6 Mentoring and its importance

The role of the capstone coach is defined by Taylor et al. (2001) as a mentor,

mediator, and manager or facilitator providing support to students, guiding teams and

individuals in their journey and "acting as a buffer between external reviewers and

customers." Malachowski (1996) also defines mentoring as a one-on-one relationship where

a mentor provides support and assistance to encourage and guide the student's personal

growth and academic development. Faculty who teach capstone courses tend to facilitate

learning in order to assist students in the transition from dependent to self-led learners (Hall

et al., 2003). Those who do not directly teach these courses, supervise or advise some of

these students as they undertake their projects.

In the bid to further understand and define what the role of the capstone coach is,

Taylor et al. (2001) researched through progressive studies, interviews, and surveys over

three years. The research revealed four key factors that most significantly influenced the

success of design teams. Two of these factors were the "coach's awareness and concern for

the team's success" and "the coach's ability to assist in both team and design processes"

(Taylor et al., 2001). This goes to show that coaching and supervision play a role in the

Applied Project experience of students. Malachowski (1996) also discusses the importance of

"student-oriented" faculty and the positive correlation between almost all measures of

affective and cognitive development, further hammering on the importance of a mentor.

Although mentees benefit more from mentoring relationships, there are significant benefits of

mentoring applied projects for the mentor.

CHAPTER 3- METHODOLOGY

3.1 Introduction

This chapter focuses on the methodology, research approach, and tools used in the collection of data for analysis. It shows the process used in determining the research design, the population and sample frame, mode of collection of the data and the means of analysis. There are many methods under the qualitative approach that could be used for the research. Some of these methods are ethnography, case study, phenomenology, and textual analysis. For this research, the main method is phenomenology, which will study the Applied Project Capstone experience of current and past seniors of Ashesi University as well as the staff who run the Applied Project capstone. The objective is to identify the challenges students encounter during the process of the Applied Project.

3.2 Research Design

For this research, a phenomenological study under the qualitative approach is the most suitable approach to collect data. According to Lester (1999), "the purpose of the phenomenological approach is to illuminate the specific, to identify phenomena through how they are perceived by the actors in a situation." In this case, the actors were the project coordinators and students and who have or are currently taking or running the capstone course under evaluation.

The study focused on student perceptions and journeys throughout the process of the Applied Project capstone under the student-led model. Semi-structured interviews and questionnaires were used. The interviews comprised of open-ended questions to allow the participants some freedom to share their experiences. In the analysis, common themes arising were drawn on. The survey was used for students to rate some points of assessment, e.g. level of preparation and sentiments on skill levels.

The BA Applied Project coordinators were also interviewed to the processes and rationale behind the Applied Project Capstone and the challenges they faced with students. Similar research by Hauhart and Grahe (2010) and Payne et al. (2002) used surveys as a tool to assess the satisfaction of students with the capstone structure. This study seeks to use surveys to assess other similar factors relating to the capstone.

3.3 Research Scope

The population for this research was the Ashesi community. The research focused mainly on BA Applied Project students within the three years beginning from the class of 2020 back to the class of 2018 and current BA capstone coordinators. The scope covered all areas of the project process but not the outcomes, which are the actual projects. The study also explored how well students executed their plans during the "execution" stage and the relationship if any, between the activities they undertake during preparation and level of ease of execution. The "monitoring and controlling" stage in the experience covers how students identify and manage change and deviations from their initial plans.

3.4 Sampling Strategy

According to Marshall (1996), "an appropriate sample size for a qualitative study is one that adequately answers the research question," he goes on further to explain that practically, the number of participants needed for the research becomes clearer only as the study progresses. In this case, the research was conducted with BA Applied Project students from the classes of 2018 to 2020. A sampling strategy made use of two methods which were the stratified sampling method and the purposive sampling method. The stratified sampling enabled selection from each year group, and purposive sampling narrowed the sample down to participants who have experienced this phenomenon. The intended sample size for this research was a minimum of 12 students, with 4 from each year group depending on the limit at which the research generates no new insights. 3 BA Applied Project Capstone coordinators were also sampled and data collected.

3.5 Data Collection and Analysis

The data collection methods used for this research were open-ended interviews and survey question. The interviews were semi-structured, and the line of questioning encompassed every aspect of the experience except the outcome. Surveys were designed according to common themes identified in the interviews and focus groups. The schedule for the data collection was structured around the availability of the participants within a given time frame. The data collected was analyzed thematically, identifying information common in a majority of the different interviews and then grouping them into themes. The analysis consists of generally relevant themes and the specific challenges that run through the experiences.

CHAPTER 4 – RESULTS AND ANALYSIS

4.1 Introduction

The purpose of this study was to identify the challenges students encounter when taking the Applied Project capstone. A sample of students and BA Applied Project coordinators was taken to get both a bullseye and bird's eye view of these challenges. The data was collected through in-depth interviews and short surveys administered to, project coordinators, current and previous students of the Applied Project Capstone.

Data collection revealed that more than 50% of the student respondents begin to think about their capstones in their third year but do not take any action until the deadlines begin to roll in. It also identified some factors student respondents considered before choosing their supervisors and how they manage the relationships with them. Interviews with project coordinators uncovered some issues with students including misconceptions of the Applied Project and wrong motivation for choosing the Applied Project.

Other challenges included difficulty in finding a supervisor and managing supervisor relationships when the ratio of supervisors to students is very high. This chapter shows a thematic analysis of the data collected and themes in the data that are common and relevant to the research question.

4.2 Relevant themes

Preparing for the capstone

As part of the study, student respondents were asked to describe their journey through the experience. One of the common themes that came up in data collection was the level of preparation students had achieved for the experience. The data collected shows that most students prepared themselves for the capstone by asking others and looking at previous work but did not take any actions that would yield tangible progress.

In response to the question, 89% of the respondents reported having almost no actual preparation before beginning their capstones. Some the responses were "I didn't choose a supervisor or company until the deadlines", "I started preparing in the capstone semester because I was completely unprepared before", and I had no preparation whatsoever, none at all" and "I don't think any of us was prepared before we came to school", indicating a trend of inadequate preparation before the semester among students. Some participants spoke about having thought about the capstone but taking no action.

Furthermore, 13% of respondents who stated being unprepared mentioned experiencing some anxiety about the capstone. One of the respondents said ,"I was freaking out during the vacation and did nothing to prepare for the capstone."
The results show that a larger percentage of the respondents did not take any practical actions for their capstones before the semester began.

In spite of this, 56% of the respondents mentioned having spoken to other people to find out about the experiences they have had and considered their opinions to make their choices and to know what to prepare for. Responses like "I talked to previous applied students", "I spoke to previous seniors", and "I spoke to other seniors" were common

throughout the interviews although only 25% out of the 67% mentioned having spoken to a capstone coordinator. From the results above, it can be seen that the opinions and experiences of others, especially seniors who have taken the capstone play a role in the considerations of the majority of respondents.

Again, respondents also mentioned having read previous Applied Project reports by other students so they could get a fair idea of what the project entailed. Responses included statements such as "I read previous Applied papers for direction on marketing and operations plans", "I spoke to some seniors and let them send their Applied projects", and "I went to repository online to look at some papers by other students." In the context of the question surrounding the preparation, they mentioned having done this to get a fair idea of the work they would have to do.

In spite of the respondents no taking any solid action such as contacting a supervisor or company before the semester began, some of them when asked to rate their level of preparation out of 10, rated themselves above 5. Only 11% of respondents indicated having begun preparing for the capstone in 3rd year; the preparation constituted identifying an organization that can be helped and then identifying an area of passion can be applied to improve it. One of the responses was, "I got a head start as a coach during AIX in the summer because I used it as an opportunity to explore my topic and begin my project." Below is a pie chart showing a summary of the activities taken by student respondents in preparation for the capstone in their senior year.
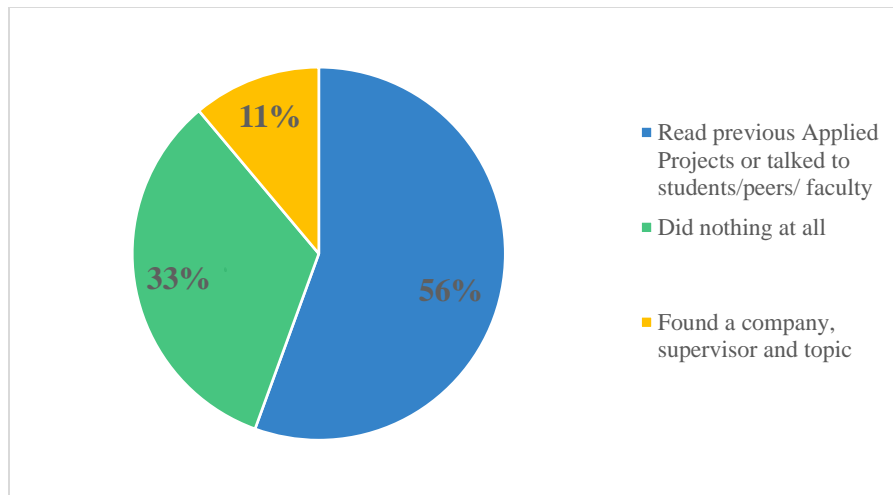
Figure 3. A summary of the activities taken by students towards preparation

Based on the data collected and analyzed, reading the projects of other students is a good enough starting point for preparing towards the capstone but a lot more must be done in the summer before the capstone semester by students so that they struggle less. It would be ideal to explore possible topics/ organizations and run them by faculty who could also be potential supervisors. Even though at that time, it may be more of a rough idea, the faculty can help it to take shape. Doing this makes the work to be done in the first few weeks of the capstone semester less tedious. It also allows the students to deal with unpredictable events such as their chosen organization declining to work with them or not being cooperative, without any impact on the progress of the actual project. Figures 4 below shows the 2019-2020 timelines for the fall semester of Applied Project capstone. A recommended timeline is provided in Appendix C showing which period students can take advantage of. It also shows how capstone coordinators can help students by extending the period for signing with a supervisor, topic and organization by 1 week.

Figure 4. 2019-2020 fall semester BA Applied Project Timeline.

Choosing a supervisor
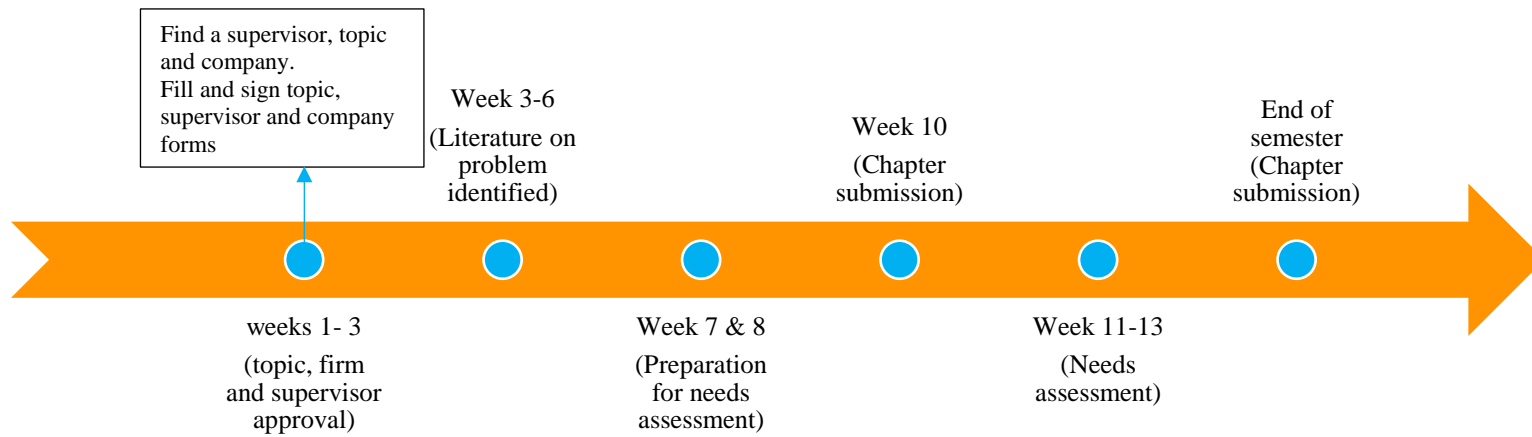
As part of the information given by the respondents on their experiences from the student-led approach, they described the process of finding their supervisors. From the responses provided by the students, there were different factors that influenced their choice of supervisor. The main factors were the number of supervisees already working with the particular faculty, the field of expertise of the faculty, the unavailability of another faculty and the deadline.

Respondents made comments like "I looked at who had fewer supervisors" and "it helped to choose a supervisor with fewer students." 100% of the respondents stated the field of expertise of the supervisor as the main factor influencing their desired choice of supervisor. 50% stated the unavailability of other faculty as a factor that led them to choose their supervisor, 50% mentioned the number of students per the faculty as a factor, and 30% were influenced by the closeness of the deadline. Figure 5 represents a graph showing the factors students considered in choosing their supervisors.

Comments such as "I chose a supervisor who was knowledgeable in the area I was interested in" and "I wanted supervisor A because she was an expert in both fields I was looking to explore." Respondents also made statements such as "I looked at supervisor X and saw that she had no students, so I asked her", "A lot of people had already gone to supervisor Y, so I asked supervisor Z who agreed."

Respondents whose supervisors had only one or two students rated their levels of supervision and its impact higher than respondents who did not on a scale of 1-10. They made statements such as "Because we were only two, she (the supervisor) had a lot of time for us and was constantly making sure that we stayed on track", "I was the only one my

supervisor was supervising, so she always kept me on my toes and made sure I was doing what I had to", "My supervisor was very helpful". Respondents who supervisors had more than 5 students mentioned having challenges with meeting their supervisors. The high number of students per supervisor made it difficult for them to schedule times, as available times did not work for them, and other students may have booked more convenient times. Respondents stated "I haven't even met my supervisor all semester because the only times supervisor X is available, I have classes. I do send her my work, and she provides me with helpful feedback. We just haven't met face to face." Others stated "It is difficult to meet up with my supervisor, although I get feedback when I send my work" and "Sometimes it's hard to get a hold of my supervisor." Based on the responses, 67% of respondents were in a supervision group of 2 or 1 while the other 23% was in a group of more than 5 students being supervised.
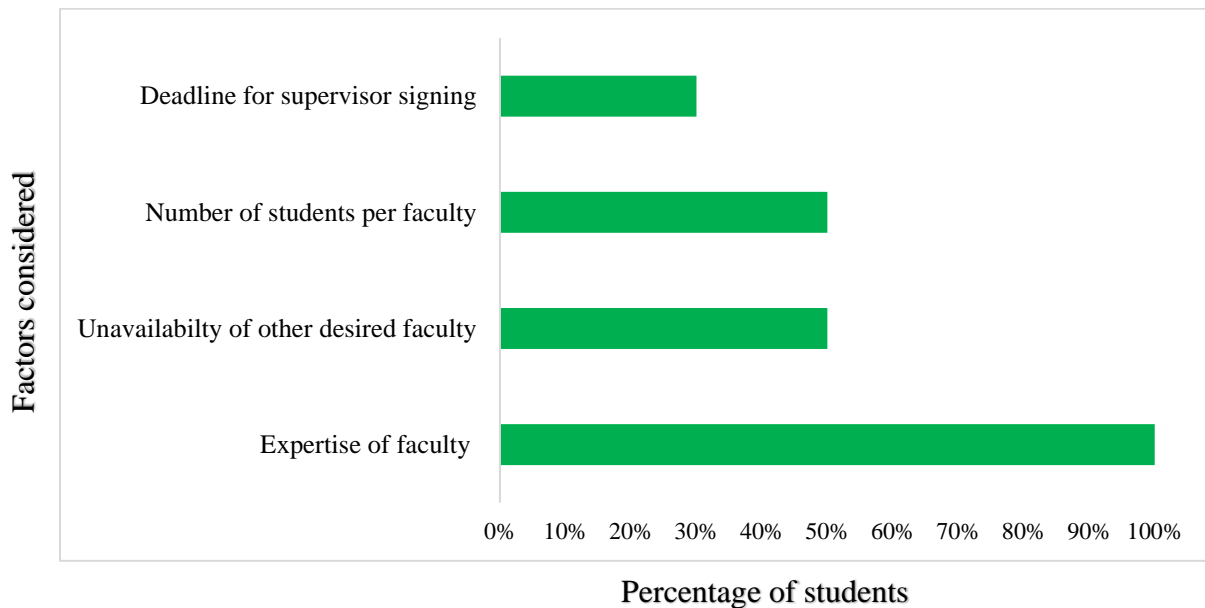

Figure 5. A summary of data showing the factors considered in choosing supervisors

Respondents made suggestions to future capstone students which could be helpful in the process of choosing their supervisors. The recommendations to students included "Choose a supervisor with the right motivation for mentoring your project", "It may help to choose a supervisor with few students", "You should be open to building new relationships with faculty you may not already know."

Further suggestions were "Students should select supervisors based on their interests and not on emotional attachments to the faculty." From these suggestions, it would be wise for students to be objective about choosing their supervisors by basing their choices on the suitability of the supervisor for the project and not on any attachments or other such factors. Fortunately, the Applied Project department helps students who struggle to identify a suitable supervisor by making recommendations. Students should endeavor to take advantage of this.

Supervisor-student engagement, relationship and impact

When it came to engaging the supervisor, the respondents either said they met their supervisors as and when they needed to or weekly. 22% of the student respondents indicated meeting their supervisors only as was necessary. 55% of the respondents mentioned trying to meet their supervisors weekly, and 11% mentioned meeting their supervisors very frequently (more than once a week) to provide updates on the work. Respondent statements included "I met her as often as her feedback was needed" and "I met my supervisor whenever I needed her to review my work." Other respondents made statements such as "I tried to meet my supervisor weekly." 12% of the respondents mentioned rarely meeting their supervisor because of time constraints, among other factors. In answering the question on their engagement with their supervisors, they made statements such as "I haven't even met my

supervisor all semester because the only times supervisor X is available, I have classes" and

"I did most of my capstone myself. Faculty involvement is so important but underestimated."

This indicates that they did not have a strong relationship with their supervisors and did not

frequently engage with them but saw the value and would have liked to.

On the topic of supervisor feedback, 88% of the respondents attested to the

helpfulness of their supervisor's feedback and his/her impact on their project. Evidence of

this can be seen in their statements such as "My supervisor's feedback was extremely

helpful", "I met my supervisor when I needed her to review my work. Her feedback was very

helpful", "My supervisor was great. If I had to do this all over, I would definitely choose her

again" and "My supervisor was actually very good. Feedback from him was very helpful."

The minority of the respondents stated having to work on their project alone at some point in

the semester due to a change in supervisor. One respondent stated "It's hard to find well

informed and practicing supervisors. I didn't do such a good job on my capstone, but even

without the help of the supervisor, I managed to get a B+."

It is worth noting that the respondent who made this statement was part of the 11%

who had found a topic, a supervisor and company in the summer before the capstone

semester. Unfortunately, the chosen supervisor was unavailable in the second semester.

Students should not look at this as an opportunity to neglect their academic relationship with

their supervisors. Engaging with your supervisor is important.

Again, student respondents were asked to rate their perception of the impact their

supervisor had on their projects. They were also asked to provide the frequency of meetings

with their supervisors. The results, shown in Figures 6 and 7 revealed that more than half of

the respondents met their supervisors weekly and believed that their supervisor was
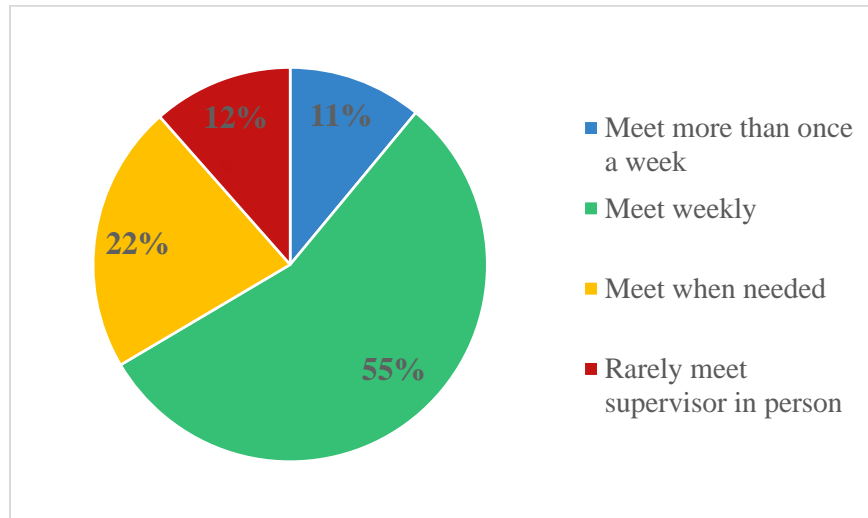
extremely impactful to their project success

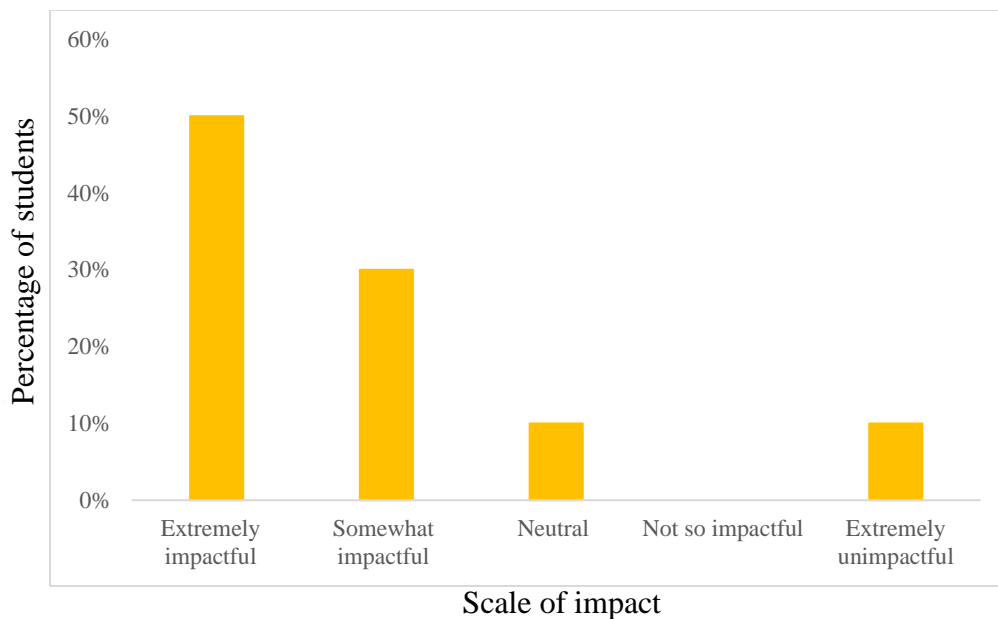*Figure 6.* Pie chart showing the frequency of student engagement with their supervisors

Figure 7. Bar graph showing the impact of supervision on student projects

4.3 Common Challenges

At the end of the interviews, respondents (students and coordinators) were asked to identify some challenges that they faced or have seen students face in going about the Applied Project capstone. Some of the challenges faced by the respondents were consistent with the disadvantages of a student-led approach identified in the literature review. Below are some of the challenges that came across multiple interviews.

"I heard it was easy."

During the interview process, one of the challenges identified by the BA Applied Project Capstone coordinators was students choosing to take the Applied Project for the wrong reasons. One of the reasons given during the interview with the coordinators was students having the wrong perception of the Applied Project Capstone. One of the coordinators in explaining this challenge stated, "Some students think it (the Applied Project) is an opportunity to escape the challenges of working in a team and or do in-depth research." In this case, the challenges of working in a team often arise during the Entrepreneurship capstone while the in-depth research students desire to escape is supposedly the Undergraduate Thesis capstone. This respondent added that "Applied goes further than the thesis in terms of researching on the problem and then coming up with a solution. It involves working towards a specific problem and has a less theoretical approach." It came up as a challenge because the students were believed to have some misconceptions about the project which influenced their attitude towards work and the effort they put in.

When the student respondents were asked what their motivation for choosing the Applied Project capstone was, the responses showed two different motivations. 30% of

respondents indicated having chosen the Applied Project for reasons pertaining to some of

the benefits of the course. They made statements such as "I wanted to make an impact", "I

wanted to gain hands-on experience", and "I wanted to grow in the working world at a good

pace and to improve my strengths." The other 70% indicated having chosen the Applied

Project for reasons aside from the general benefits it provides. The most common responses

were, "I heard it was easy" and "the other capstones did not sound appealing." One

respondent from the class of 2018, in which year the Applied Project was only one semester

stated: "I chose Applied because it was one semester and was the easiest." Figure 8 below

shows a pie chart representing the various motivations and reasons for choosing the Applied

Project capstone. The results show that a larger number of students chose to do the Applied

Project capstone because of preconceived notions arising from the opinions of other people

who may or may not have taken the course.

Misconceptions such as the Applied Project being an escape from group work or

serious research made it seem to be the easiest option. The results from the student interviews

showed that a number of them factored the opinions of seniors and faculty into their

decisions to take the Applied Project capstone. Some of these opinions are biased and not

enough for students to make a well-informed decision. The evidence shows that the

responses provided by the students indicate an informal consultation of some form with other

people. The responses included statements such as "I spoke to a few people", "I started

talking to other seniors", "I spoke to some seniors and let them send their Applied Projects"

and "I talked to previous Applied Project students and started asking around in 3rd year to

avoid stress." By doing this, students open themselves up to any biased opinions previous

seniors and other Applied students may have about the Applied Project from negative experiences and thus misleading them and causing them to have the wrong motivation.
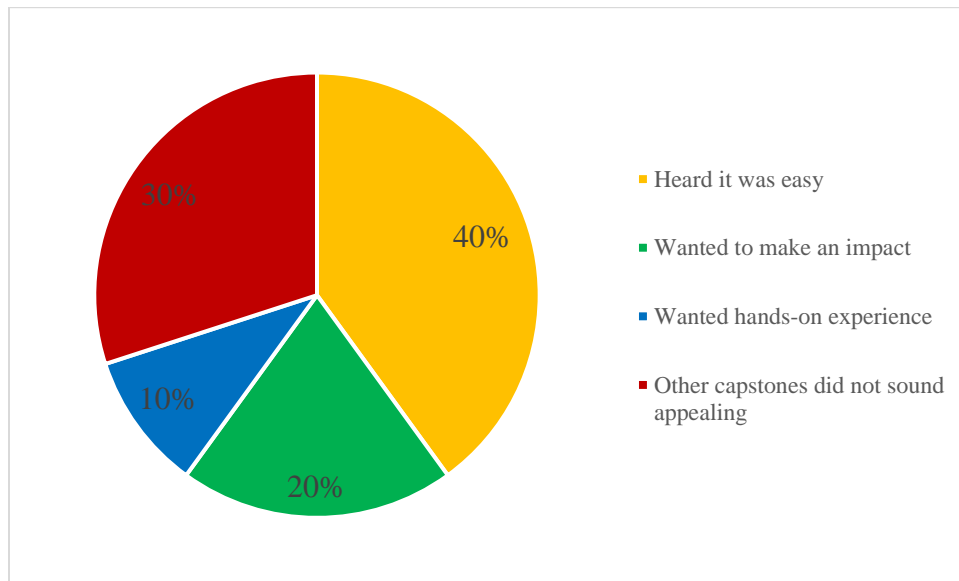
Figure 8. Pie chart showing the different reasons students chose the Applied Project Capstone.

Although 3rd-year students have sessions to inform them of the various capstone choices, it is evident that the opinions of their predecessors play a role in their choices. It is necessary that project coordinators control the narrative so that students can have a wholesome perspective about the capstones. One way could be allowing the current and previous capstone students who have taken different capstones to share their different experiences with the 3rd year students during the pre-capstone sessions. Pre-capstone students may during these sessions ask any questions pertaining to the various experiences and its impact to which the capstone students may provide answers. This way, pre-capstone students can make well-informed decisions about what capstone to pursue and how to go about it. Below are two process charts showing the flow of information and how they affect student motivation for the Applied project capstone based on the data analyzed under this theme.

| Information from faculty and students controlled by capstone coordinators through seminars | Student makes well informed decisions based on information provided | Right Motivation for choosing Applied Project |
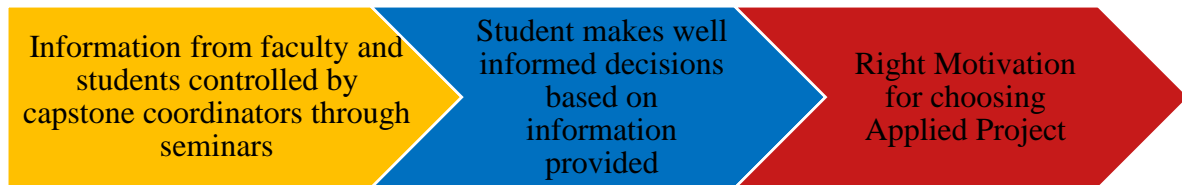
Figure 9. Process chart showing how the flow of factual and positive information through a

controlled environment affects motivations for Applied Project capstone.

| Biased opions of other students and peers | Student forms misconceptions about the Applied Project | Wrong motivation for choosing Applied Project |
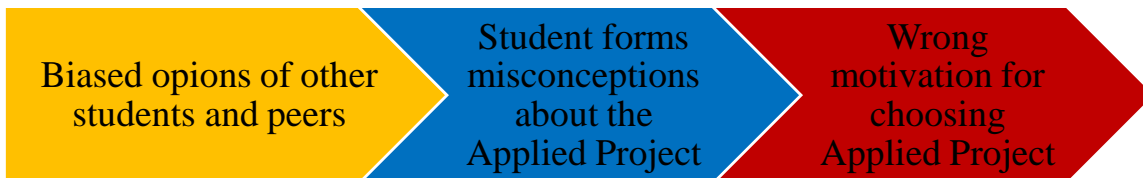
Figure 10. Process chart showing how the flow of biased information through an

uncontrolled environment affects motivations for Applied Project capstone.

Again, for students, it is important that they consider other factors such as their

strengths, passions and plans after school and make a choice that furthers their image

especially to future employers, graduate schools or business partners. One respondent during

the interview mentioned how valuable his applied project was in getting him good job

opportunities after school. He advised students to take their capstones seriously and to

consider it as their entire Ashesi experience. They should choose the appropriate capstone

with the right motivations and be willing to go the extra mile to make their projects successful.

Student commitment and skill development

To assess student attitudes towards the capstone and growth in terms of skill level throughout the experience, a short survey was administered to the respondents asking them to rate their perceived skill levels before the undertaking their projects and after completion. These were in the areas of research and critical analysis, stakeholder engagement, project management and professionalism and communication. They were also asked to provide the number of hours they spent working on their projects each week. These can be seen in figures 11 to 15. Figure 11 below shows that 57% of the respondents spend between 5 and 11 hours weekly working on their projects, averaging at least an hour a day each week. About 16% spend less than 5 hours weekly, meaning that an average, they do not spend an hour a day each week. Again, 16% spend from 11 to 14 hours per week on their projects which would mean they spend an average of at least 1 hour a day each week on their project. Another 11% indicated spending more than 20 hours weekly on their projects. This means about 73% of respondents spend less than 11 hours on their projects each week.
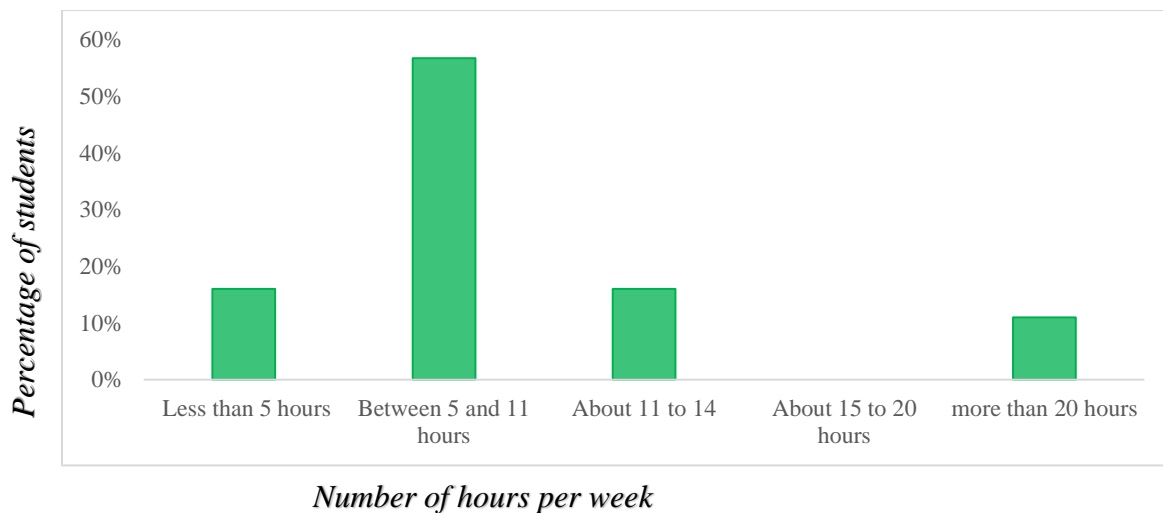

Number of hours per week

Figure 11. Number of hours respondents spend weekly on their projects

Perceived levels of skill development

Overall, the data shows that there was a general increase in students' perceptions of their

skills in the areas of mastery of research and critical analysis in a functional business area,

stakeholder engagement, project management and professionalism and communication.

These are important because they form a part of the skills students should develop during the

Applied Project.

In figure 12 below, the graph shows that before undertaking the Applied Project

capstone, 17% of the respondents were a little confident in their ability to conduct research

and perform critical analysis, 67% were somewhat confident, and 17% were very confident.

However, after completing their projects, 33% were somewhat confident, 50% were very

confident, and 17% were extremely confident in their research and critical analysis skills.

This shows that for 51% of students, there was a growth in their skillset through their
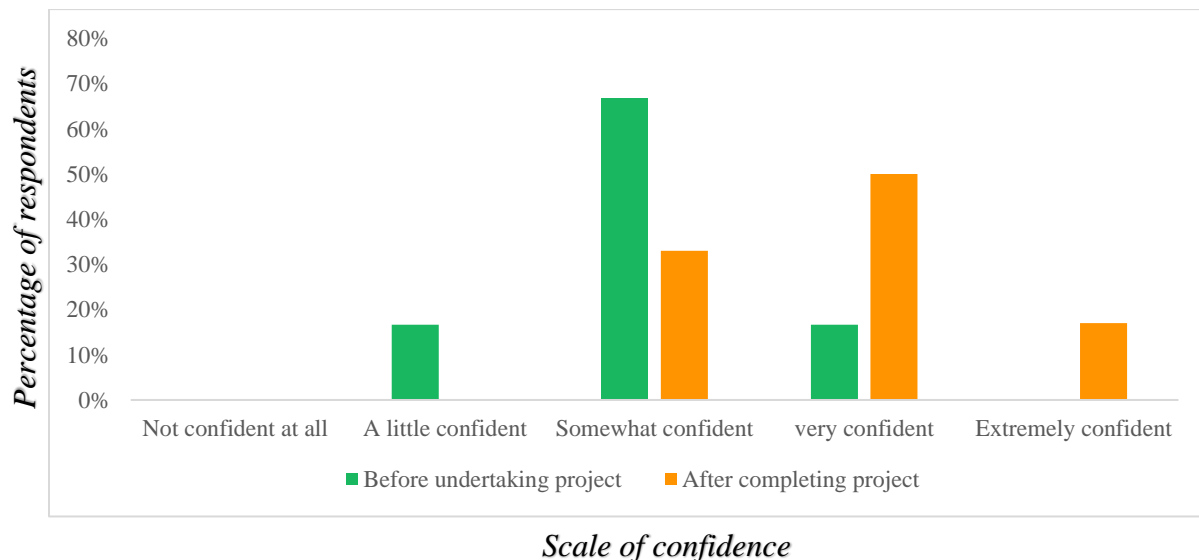
projects.

Scale of confidence

Figure 12. Perceived level of confidence in research and critical analysis

Again, in figure 13, we see that the respondents' perceived skill level in stakeholder management before the project was less than after the project. The results showed that about 17% were a little confident, 52% were somewhat confident and approximately 34% were very confident and extremely confident. At the end of the project however, 33% were somewhat confident, 50% were extremely confident, and 17% were extremely confident. Again, this shows that between the start of the project and its completion, a total of 66% of respondents experienced an increase of confidence in stakeholder management.

Scale of confidence
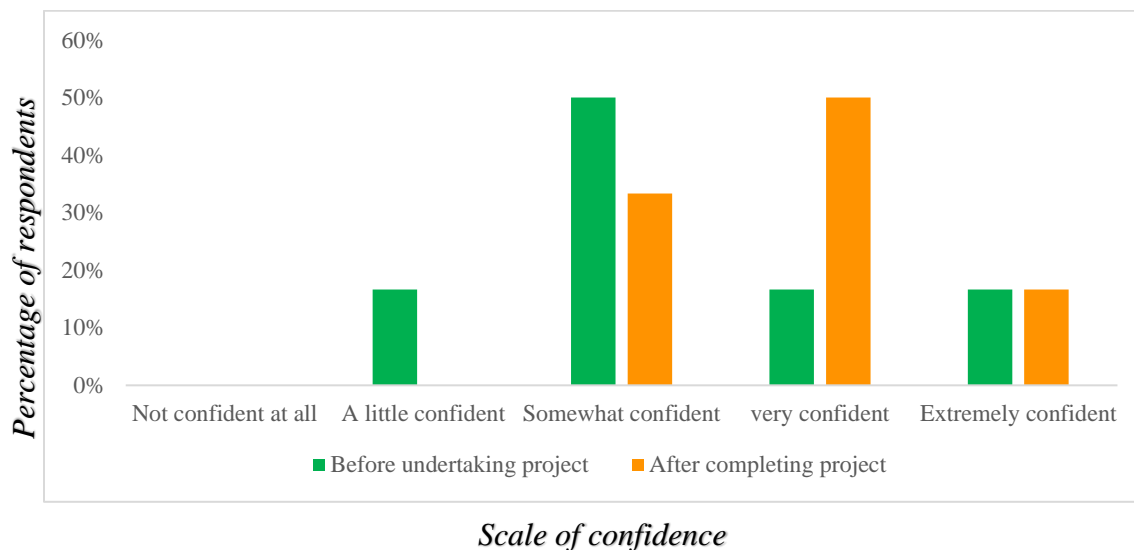
Figure 13. Perceived level of confidence in stakeholder engagement

On the perceived level of confidence in project management shown in figure 14, 16% of the respondents were a little confident, 67% were somewhat confident, and 17% were very confident before the project. At the end, however, 17% of the respondents were somewhat confident, and 83% were very confident, but none was extremely confident in their project management skills at the end of the project. This showed a 66% per cent increase in confidence at the end of the project.

Scale of confidence

Figure 14. Perceived level of confidence in Project Management
         On the perceived level of confidence in professionalism and communication (written

and oral), shown in figure 15, 16% of the respondents were somewhat confident, 67% were

very confident, and 17% were extremely confident before undertaking the project. At the

end, however, the percentage of somewhat confident respondents fell to 16% while very

confident respondents increased to 67%. The percentage of extremely confident respondents

remained the same. This showed a 51% increase in confidence from somewhat to very
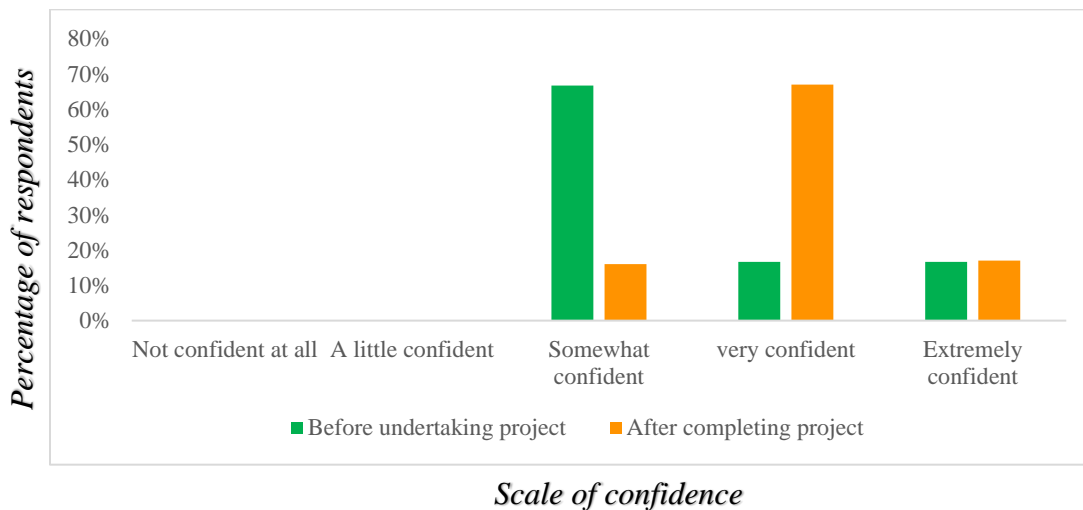
confident in professionalism and communication

Scale of confidence

Figure 15. Perceived level of confidence in professionalism and Communication

"Finding a supervisor was a struggle. I wish the supervisors had been assigned."

Some student respondents expressed some of the struggles they encountered in the process of finding a supervisor for their projects. 56% of the respondents stated encountering difficulty in finding a supervisor for different reasons. 56% of the respondents also stated that their supervisor was not their first choice. Some of the respondents made comments such as " The supervisor I have now is not who I actually wanted, but they were unavailable so", "My current supervisor was not my first choice", and "Finding a supervisor was a struggle. I wish the supervisors had been assigned" and "I struggled to find well informed and practicing supervisors." More than half of the student respondents struggle with finding a supervisor for their capstone project. Figure 16 below represents a pie chart showing the struggles respondents encountered finding a supervisor.

Another challenge identified by both capstone coordinators and student respondents was the high ratio of supervisors to supervisees. For students, it was finding the right supervisor and making time to see them if there were too many of them. Although the data collection revealed only 33% of respondents were in supervised teams of more than 12, this particular challenge can directly affect the quality of a student's work and the quality of supervision. Some respondents who did not fall in this category still made mention of this factor in one way or another.

 On the topic of supervision, some of the respondents whose supervisors had more than 5 supervisees attributed this to some difficulty they faced in the process of finding a supervisor. Some of the reasons given by the respondents included "The supervisor I would have preferred was not available that semester I had to go for Supervisor X", "My current supervisor was not my first choice", "My previous supervisor is not in school anymore, so I

had to go with another supervisor." Another factor that could be the cause of the hiked number of students to supervisors is that most Applied students from my sample are working on closely related areas of interest. It means that there may be pressure on the few faculty who specialize in those areas.

The data collected for the 3-year groups shows that only 11% of the respondents worked in areas pertaining to accounting and finance. 22% worked in areas pertaining to human resource, and another 22% undertook projects in the area of operations management. The other 44% worked on projects pertaining to marketing. This would mean that faculty whose fields of expertise are marketing would have to cater to more students, thus increasing the pressure on them. Since in some instances, faculty teach more than one course, for example, marketing and operations management, it would mean that by this data and for this sample, marketing and operations faculty alone will serve 66% of the seniors offering the Applied Project. This could result in the high number of students to specific supervisors and add to the difficulty of finding a supervisor.

Some respondents in the interview mentioned having being discouraged from choosing a particular supervisor because of the number of students already choosing that supervisor. The respondents made statements such as "I wanted to go to supervisor X, but a lot of people were already going to her, so I chose supervisor Y", "I saw how some of the students were trying to get the same supervisor, and so I looked for a supervisor who didn't have too many students." Aside this, respondents whose supervisors had many other students found trouble making time to meet their supervisors regularly.
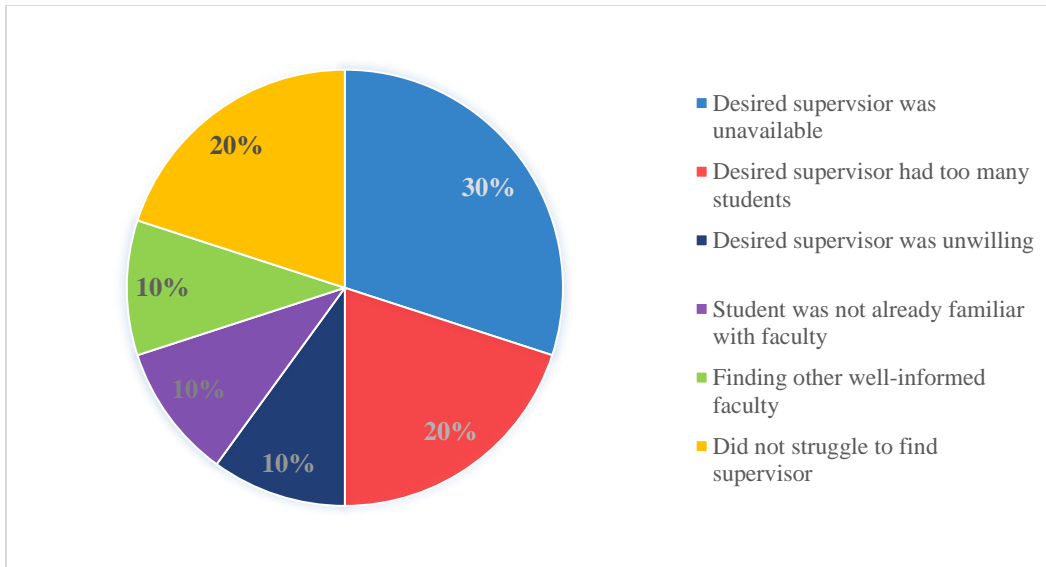
Figure 16. Pie chart showing the various struggles students encountered in finding their supervisors

"We only had about 3 weeks to choose a supervisor, topic and company. It wasn't enough."

Another challenge that came up for student respondents during the interview was the intervals between the deadlines for the choice of topic, supervisor and company. Respondents mentioned during the interviews that the time frame provided for the finalization of the choices of topic, supervisor and company was short. Respondents made statements such as "I would have liked more time in the beginning", "We had only about 3 weeks to choose a supervisor, topic and company. It wasn't enough", "I might have found a better problem or something more desirable without the time constraint." and "I chose my supervisor and company was because of the deadline." It is possible that this is a contributing factor to the difficulty in finding a supervisor.

Some of the respondents during the interviews mentioned having to consult more than 1 potential supervisor or having a potential supervisor agreement fall through. It would mean

that they would need more time to find another equally or better-suited supervisor. Some of

the respondents mentioned having gone for other supervisors just to beat the clock.

Respondents made statements such as "Because I was doing an HR-focused capstone, I

spoke to supervisor X who turned me down. I was a bit surprised, but I thought about it and

asked supervisor Y who agreed", "I wanted to choose supervisor X, but she wasn't available,

so I had to look for another supervisor." This supports the possibility that the reason the

respondents say the deadlines are too close is so they can work around such challenges.

An analysis of the data collected showed that students who indicated some

preparation pertaining to choosing a supervisor, prior to the capstone semester of their final

year did not experience challenges with the time frame. On the other hand, respondents

whose preparatory actions did not include choosing or working with a supervisor experienced

challenges with the time frame for signing with a supervisor. Some respondents

recommended that in-coming seniors take advantage of the break between the beginning of

their final year and the end of their third year and the beginning of their final year to identify

a suitable supervisor and company. Doing this, reduces the work to be done in the first few

weeks and thus relieving students of the initial pressure of the capstone.

On the part of the coordinators, it will be beneficial for students to have an extended

week to finalize supervisor and company choices. The purpose will be to accommodate

unforeseen possibilities such as a change in topic or course during the first few weeks. It will

allow students the time to change supervisors if need be and reduce the struggle.

4.4 Summary of results and findings

In summary, the findings from the data analysis revealed some common challenges faced by the respondents. The challenges included struggling to find a supervisor, the high ratio of students to supervisors, students forming misconceptions about the capstone and the period of time for signing with a supervisor and company as well as finding a topic being too short.

In addition, the analysis of common themes present in the data showed that a higher percentage of the respondents did not do enough to prepare for the capstone. It also showed that supervision played an important role in the capstone experience for more than half the respondents

 The data collected also took into consideration suggestions made by respondents to help other students manage their Applied Project experience. They also made suggestions to capstone coordinators on how some things can be improved. Suggestions made by the respondents to students and coordinators can be viewed in a relationship chart in Appendix C

CHAPTER 5 – CONCLUSION AND RECOMMENDATIONS

This chapter concludes the purpose and results of the study. It covers a summary of the research, including the purpose and objectives, data collection, results, findings, recommendations for the stakeholders and future research.

5.1 Conclusion

The purpose of this study was to uncover the challenges students at Ashesi University who pursue the Applied Project capstone experience during the process. The objective was to identify recurring challenges common throughout the years. Through a qualitative research approach using interviews and surveys, data was collected from10 students across 3 year groups and 4 project coordinators. The findings showed that students have challenges finding the right motivation for choosing the Applied Project, and they struggle in the process of finding a suitable supervisor. Student respondents who ended up being supervised in large teams struggle to engage with their supervisors regularly. Finally, student respondents found it difficult working within the 3-week deadline of finalizing a topic, supervisor and company.

5.2 Recommendations

Firstly, it will be difficult for capstone coordinators to control the kind of information that goes out to incoming seniors, but it is possible to get ahead of the narrative. By including past seniors in the pre-capstone seminars, during and or after they have taken their capstones, they can share their experiences across the three capstones so that students can get an all-

round perspective of the capstone. They can discuss themes surrounding the process, successes and arising issues with the three capstones, as well as the benefits of the various choice and its impact in their lives. It will allow incoming seniors to look at the capstone less as an academic requirement and more as a stepping stone to their futures. This way, incoming seniors can make better-informed choices.

Furthermore, in managing students' choices of capstones, it is important that students take advantage of the period between the end of their 3rd years and the beginning of their final years to fully explore potential capstones, topics and supervisors. If possible, capstone coordinators can allow willing and approved alumni in the most recent capstone classes to be points of contact for incoming seniors who have questions about the capstone (see Appendix C for visual of timeline). It makes it possible to ensure that students are still getting relevant and helpful information after the seminars while also collecting feedback and information on student concerns. At the end of each year, coordinators can collate frequently asked questions and address them during the seminars the following year.

Secondly, the high ratio of students to supervisors arising from possible conditions such as the pursuit of similar areas of interest by students or from a common familiarity with some faculty can be managed. I recommend that a flexible cap be put on the number of students per faculty as per the total number of students in that year. I also recommend an applied project model that combines both the student-led and academic-led approaches.

In this model, students may develop their own projects as is done with the student-led model but should be required to provide project summaries to be collated. These project summaries will be presented to faculty who will rank them in order of preference as is done by students in the academic-led model and based on the cap for the number of student,

faculty can choose a number of projects to supervise (see Appendix C for a visual of this model).

The main benefit of this model is both students and faculty are able to work on projects in which they have an interest. In addition, students are relieved of the struggle of finding supervisors on their own while faculty are unburdened with the possibility of supervising too many projects.

However, in the event that there is a generally high number of students to faculty, I recommend that the supervisors try as much as possible to meet all the students at least once per month to collectively decide what will work for the group and how to move forward. During these meetings, the group can perform peer-to-peer review and students can ask and answer questions pertaining to their projects which may help other students. This way, students get feedback not only from their supervisors but from their peers. It will ensure that fewer students are lagging and there is less competition for the supervisor's time.

Last but not least, to mitigate the effect of the short 3-week period for finalizing the supervisor, topic and company, I recommend that students take the summer of their 3rd year as an opportunity to explore numerous possibilities before the 3-week period is due. A visual representation of this information is provided in Appendix C. The summer gives them more time to look for likely firms and areas of interest, as well as contact supervisors. Through internships and other work experience, students can form relationships with organizations that could become the focus of their projects. Keeping this in mind makes the process easier.

I however recommend also that capstone coordinators provide an additional week to cater for students who may change topics, or capstone course due to unforeseen circumstances that may arise.

5.3 Limitations

The findings of this study are not representative of the whole group. They are specific to the participants of the study.

5.4 Directions for future research

In the future, it will be important to investigate other ways to manage problems associated with finding a supervisor and ensure that the ratio of students to supervisors is moderated. It will also be beneficial to delve into the supervision process and to explore in-depth, its impact of student performance in the capstone

In addition to this, since the Applied Project is not the only capstone at Ashesi University, other students will benefit from studies pertaining to the other two capstones as well as the long-term impact on the students' employability and performance in the workplace. This can help capstone coordinators to assess how the various capstones prepare the students for life after school.

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Appendix A: Interview guide

Draft of Interview question Structure.

- Description of factor(s) influencing choice of capstone

- Description of activities undertaken in preparation beginning in the summer before final year.

- Description of factors and processes involved in the choice of supervisor.

- Person(s) whose advice was sought for guidance during the process

- Identification of challenges experiences during the preparation period.

- Description of ease process experience with regards to time management and stakeholder management

- Level of involvement of supervisor in processes and student's decision making

- Sentiments on student development in terms of skills and ability to do independent work from the beginning of capstone to end of execution.

- Description of challenges or issues arising during the experience if any.

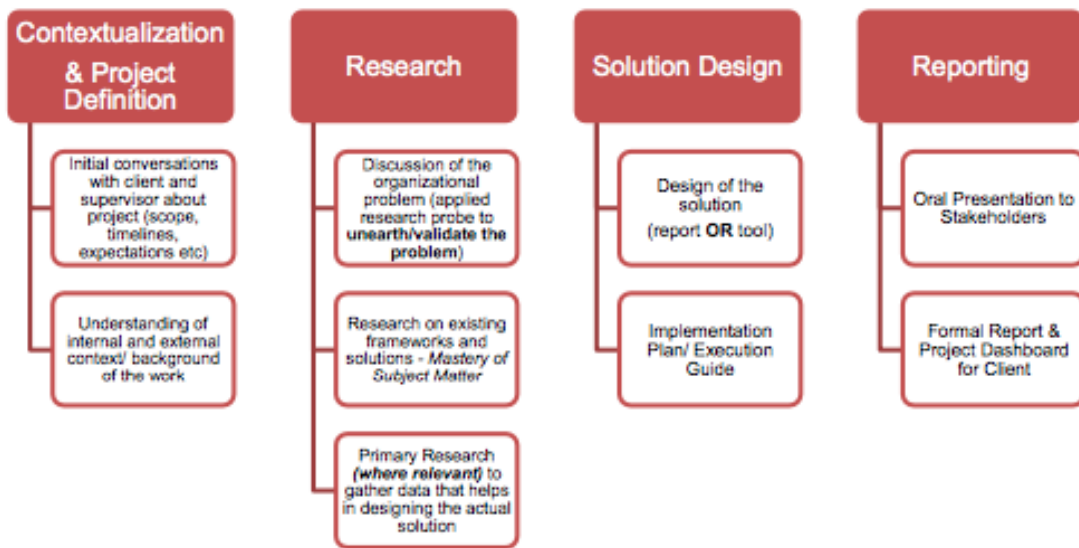Appendix B: Ashesi University Applied Project Process overview

Figure 17. An overview of the Applied Project process
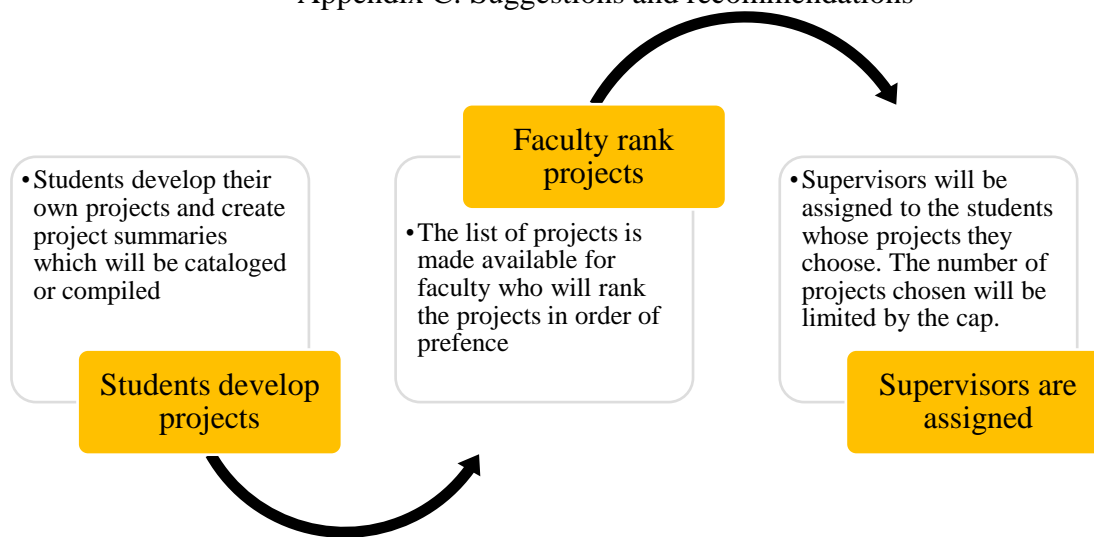
Appendix C: Suggestions and recommendations

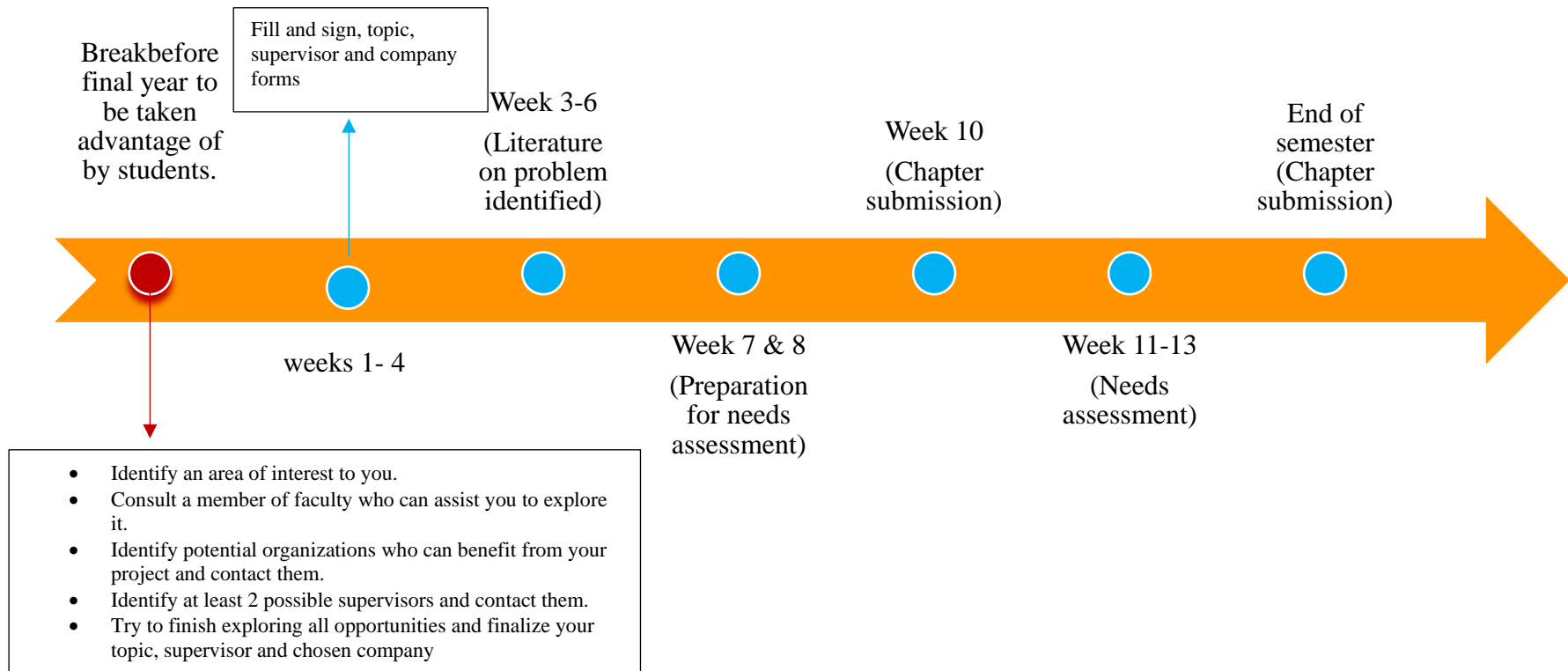*Figure 18.* Process chart of recommended Applied Project Model

Fill and sign, topic, supervisor and company forms

Breakbefore final year to be taken advantage of by students.

Week 3-6

(Literature on problem identified)

Week 10

(Chapter submission)

End of semester (Chapter submission)

weeks 1- 4

Week 7 & 8

(Preparation for needs assessment)

Week 11-13

(Needs assessment)

- Identify an area of interest to you.
- Consult a member of faculty who can assist you to explore it.
- Identify potential organizations who can benefit from your project and contact them.
- Identify at least 2 possible supervisors and contact them.
- Try to finish exploring all opportunities and finalize your topic, supervisor and chosen company

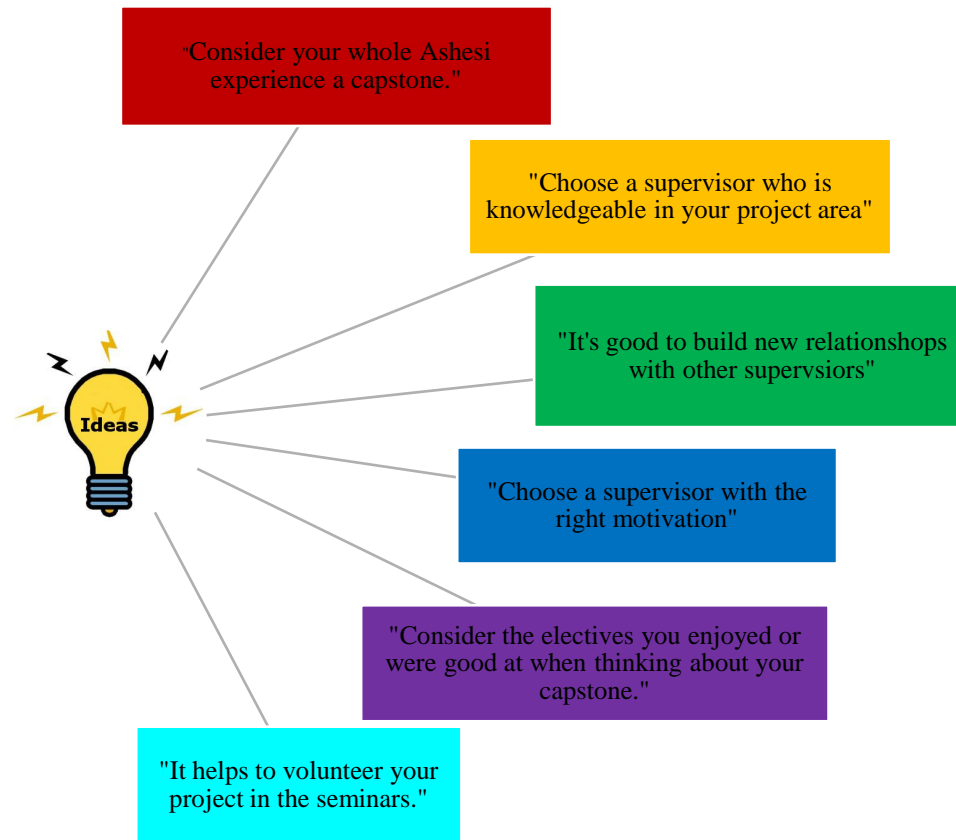*Figure 19.* Suggested Applied Project Timeline

Figure 20. Relationship chart showing suggestions by respondents to students.
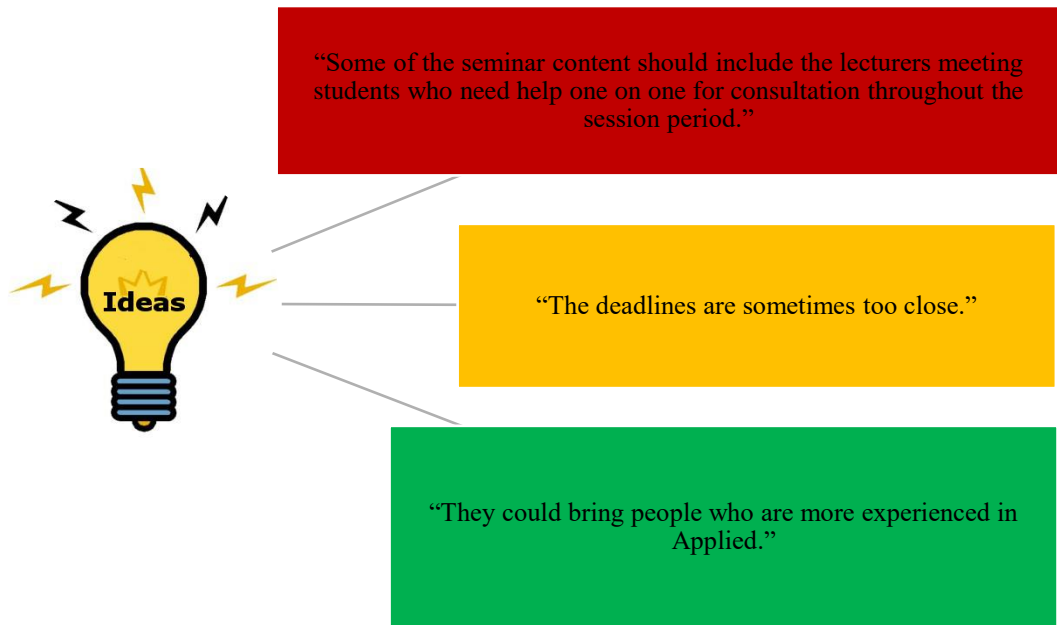
Figure 21. Relationship chart showing suggestions by respondents to capstone coordinators.