

An Expectation Disconfirmation Analysis of Undergraduate Research Supervision: Opinions of Business Students at the University Of Botswana

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ABSTRACT

The preliminary findings of a broader study undertaken to address the recurring problem of high failure rates for the fourth-year research projects, observed at the Faculty of Business are presented. An expectation disconfirmation approach was used to analyse undergraduate business students' satisfaction with the role of the supervisor and the institution/faculty in the research supervision process. The authors used a semi-structured questionnaire to assess the students' level of satisfaction on several variables. Most of the students were specifically dissatisfied (hence negative disconfirmation) with the role of the supervisor regarding the provision of feedback, availability for scheduled meetings and the identification of research training the students need. The students were also displeased particularly with the training on research provided, the adequacy of resources for photocopying, printing, as well as the adequacy of financial resources for research. Several recommendations are suggested to the Faculty to address these observations.

Keywords: satisfaction, dissatisfaction, research supervision, business undergraduate students.

INTRODUCTION

The vision of the University of Botswana (UB) as documented in the Strategy for Creating a Future for the Knowledge Generation, is to be by 2029, 'a distinctive centre of academic excellence in Botswana, Africa and globally' (UB, 2020 p. 22). To achieve this vision, the University established a strategic goal (amongst others), that aims to 'create and deliver high

quality applied research and innovation'. Specifically, the University will 'create, develop, disseminate and apply quality research and innovation in strategic core domains and areas of research strength that will have national impact and regional and global recognition' (UB, 2020, p. 23). Through this strategic goal, the University will ensure that research is recognised as an integral component of teaching and learning.

The University of Botswana's support of the National Vision 2036 and its alignment to the University's Strategy for Creating a Future for the Knowledge Generation as well as the Teaching and Learning Policy, demonstrates commitment to the inclusion of undergraduate research in almost all programmes. However, in June 2018, during the consideration of the final examination results by the University Senate, the Faculty of Business at the University, reported a high failure rate among fourth year undergraduate students who had registered for the research project. The Faculty was then tasked with the responsibility of conducting a comprehensive assessment of this issue.

In the interest of resolving the faculty wide problem, a centralized approach was proposed in August 2018. The centralised approach culminated in setting up of a faculty-wide task team comprising of departmental coordinators for undergraduate research projects. The task team was expected to define the problem of non-submission among fourth year students across the Faculty, explicate reasons for non-submission, and recommend the best way for improving submission and minimising non submission of research projects in the future.

The task team (hereinafter referred to as the authors) designed the research tools for both supervisors and students, collected reports and statistics from their respective departments between January 28th 2019 and March 22nd, 2019. While a comprehensive report was compiled at the end of March 2019, this paper focuses primarily on the assessment of the students' surveys. In particular, the paper, highlights the structure of research at the University of Botswana in general, as well as the Faculty of Business, and explores the students' satisfaction levels with respect to research supervision at the Faculty of Business.

LITERATURE REVIEW

The importance of undergraduate research

Botswana, a developing country in Southern Africa, has seen an increasing interest in the development of human resources. Pillar 2 of Botswana's Vision 2036 emphasises human and social development (Government of Botswana, 2016) and one aspect related to this aspiration is the promotion of 'education and skills development'. The Vision advocates for quality education that is outcomes based and emphasises the attainment of technical and vocational skills and academic competencies. The University of Botswana (UB) supports the national vision in all aspects of education, training and human resources development, but more so, on the development of outcome based academic skills.

To achieve the national aspiration of promoting education and skills development, the Botswana Qualifications Authority (BQA), the main regulator of education and training in Botswana, is mandated with coordinating the education, training and skills development quality assurance system, for all institutions in Botswana. The BQA is also mandated to provide for and maintain the National Credit and Qualifications Framework (NCQF), an instrument that facilitates the coordination of education and training in the country (BQA, 2016). The framework specifies the quality criteria required for qualifications at Level 7 (bachelor's degree), Level 8 (postgraduate

certificate, diploma and bachelor honours degree), Level 9 (master's degree) and Level 10 (doctoral degree), amongst other levels. In particular, upon completion of the bachelor or undergraduate degree at Level 7, the student is expected to 'carry out processes that require the use of specialized basic and applied research skills to solve problems, manage processes within broad parameters for specified activities and work outputs' (BQA, 2016). At Level 8, in the case of the bachelor honours degree, the Framework, expects students to demonstrate (inter alia), 'specialized research and capacity to develop and apply new skills and techniques to identify and solve problems in a range of professional contexts' (BQA, 2016). To achieve these skills, the students require in part, the completion of a research project which may be embedded within the programme or completed as a final year output (Roberts & Seaman 2018). By promoting undergraduate research, the University of Botswana (UB) also ascribes to the BQA mandate of producing graduates with the capacity to carry out processes that require the use of research skills to solve problems.

Globally, research is gaining traction as a tool that can help universities achieve competitive advantage over other universities. Universities benefit from the publications, abstracts, and local, regional, national, or international presentations that increase visibility in the scientific community (Petrella and Jung 2008). At the same time, the provision of undergraduate research can be used as a tool to attract high quality prospective students. At the Northern Illinois University for instance, undergraduate research opportunities (viewed as 'value-added' opportunities) are an expansion of the traditional recruitment tools used, which ostensibly give the University competitive advantage (Spears & Hardy, 2011). Other universities, that have adopted the inclusion of the research project as an integral component of the undergraduate programme include Leiden University (Van Blankenstein *et al.*, 2019), University of Queensland (Zimbardi & Myatt, 2014) and Bournemouth University (Bournemouth University, 2020). At regional and local levels, universities such as the University of Namibia (University of Namibia, 2020) and Botho University (Botho University, 2020) have also included research as an integral component of their curriculum.

Undergraduate research supervision

Despite the motives that exist for institutions of higher learning, such as the University of Botswana, to promote the conduct of research, the supervision of undergraduate research is a practice that remains understudied (Roberts & Seaman, 2018; Brewer, Dewhurst, & Doran, 2012; Todd, Bannister, & Clegg, 2004), especially in developing countries (Peiris, Barbutiu, & Hansson, 2018). Most research in this area tends to focus on postgraduate study (Brewer *et al.*, 2012). Extant literature on research supervision available, is also limited to a few disciplines. For instance, wider research has been conducted in nursing, geography, social work and to some extent, in business management, than in other fields of study (Roberts & Seaman 2018). However, there is no research conducted so far on the practice of research supervision amongst undergraduate business students at the University of Botswana and in particular the students' satisfaction levels with research supervision. This paper sought to bridge this gap by first reviewing the extant literature and secondly, by retrieving relevant information from student surveys. Given the lack of extant research on undergraduate business students, a generic review of undergraduate research projects was pursued.

Extant literature has identified three key stakeholders (the student, supervisor and the institution of higher learning) that play central roles in the undergraduate research supervision

process (Peiris *et al.*, 2018; Chabaya *et al.*, 2009). The roles they play can dictate the success or failure of the process and ultimately have a bearing on the levels of satisfaction with the process.

The role of the research supervisor in the research supervision process

There are different perceptions in the literature about the role of the supervisor (Heinze & Heinze, 2009). From a broader perspective, supervisors have been described as subject experts, gatekeepers, resource persons and advisors, supporters or editors, amongst other titles (MacKeogh, 2006). They are generally responsible for:

devising appropriate projects with clear and achievable aims; ensuring that the necessary resources (expertise, equipment, etc.) are available; offering guidance, advice and instruction on all aspects of the work (including presentation) through example and feedback, but not to complete any part of the project for the student; offering constant encouragement and support; ensuring safety procedures are understood and adhered to by the students; providing an objective assessment of the project which includes both product and processes; providing constructive feedback throughout the project and after formal assessment of the work (Stefani, Tariq, Heylings, & Butcher, 1997, p. 278-279).

In undergraduate research, the supervisor assists the student formulate a clear topic and achievable aims (MacKeogh, 2006). The research supervisor must ensure that the necessary resources in the form of equipment, library or internet resources are available. They should be willing to offer guidance on university or faculty research guidelines, safety and ethical considerations and at the same time, offer encouragement and support. Most importantly, the research supervisor should provide feedback on completed work, throughout the research process.

The lack of motivation is identified as one of the main challenges of research supervision on the students' side (Peiris *et al.*, 2018). This is exemplified by students having problems with time management, study plans and failure to cope with academic workloads. To motivate them and to assist them distribute the workload, students appreciate having timetables and deadlines set for them by their supervisors (Del Río, Díaz-Vázquez, & Maside Sanfiz, 2018). However, for supervision to be effective, students should also take ownership of their dissertation projects (Roberts and Seaman 2018) and plan their time, study and workloads appropriately.

The research supervision process can also be adversely affected by inadequate supervision due to lecturer mobility or supervisors who are unavailable (Chabaya *et al.*, 2009; Hitchcock & Hughes, 1993; Rudestam & Newton, 1992; Sharp & Howard, 1996). New recruitment strategies and liberal immigration policies have favoured an active migration of highly skilled knowledge workers, especially from the academic setting (Kim, 2009). As academics move from one institution to the other, supervisors are replaced, and the supervision process may be disrupted. This situation is accentuated by supervisors who are not available for consultation. Supervision is very critical throughout the student's research project journey because students tend to encounter challenges such as lack of information, lack of familiarity with the research topic, and methodology (Ndayambaje, 2018). To be effective, supervision requires a deliberate and planned two-way interaction between the supervisor and the supervisee with collegiality and open-mindedness (Ndayambaje, 2018). Thus, supervisors should be available, should be open to assist people with different characters, including communication and writing skills, and should be able to provide the much-needed academic guidance (Ismail, Abiddin, & Hassan, 2011).

While the role of the supervisor is critical in the research process, it is important to emphasize that completion of the research work ultimately lies with the student. One key factor noted to have adverse effects on the research process is students' failure to formulate an appropriate research topic (Barratt, 2004; Chabaya *et al.*, 2009). Barratt (2004) noted that students often face difficulties finding relevant information in order to formulate a research topic. Lack of English language proficiency tends to compound this problem. For instance, Sri Lankan students were found to be deficient in inquiry-based pedagogy which was largely compounded by their lack of proficiency in English language (Peiris *et al.*, 2018). Such learners also faced difficulties in reading research papers. Unfortunately, success in research requires learners to attain sufficient subject and research knowledge relevant to the topic they are investigating (Roberts & Seaman, 2018). This lack of knowledge may spell doom to the students and ultimately lead to failure and non completion of research projects.

Although students satisfaction with supervision is a complex concept and there are so many psychological factors, such as coping, stress and well-being, related to its complexity (Del Rio *et al.*, 2018; Martínez-Roget, Freire Esparís, & Vázquez-Rozas, 2020; West, 2020), the concept has been widely used as a benchmark for university curriculum and programmes (Senior, Moores, & Burgess, 2017). For a BA Psychology programme in the UK, almost two-thirds (62.5%) of the students expressed satisfaction with the level of supervision provided (MacKeogh, 2006). In particular, the majority (87.5%) agreed that their supervisor provided timely feedback. In some cases as Vera and Briones (2015) suggested, overall, close to a third of the students were not satisfied with the supervision they received. These findings are consistent with those of Martinez-Roget *et al.* (2020) and West (2020).

The role of the institution/faculty in the research supervision process

The research process is characterized by a complex relationship of autonomy and support (Del Río, Díaz-Vázquez & Maside Sanfiz, 2018). The supervisor's position in the autonomy/support continuum is not clearly defined in literature (Del Rio *et al.*, 2018). As a result, there is a risk of discrepancy between the support provided by the supervisor and the support expected by the student that could have a significant influence on their satisfaction with the supervisor and the final dissertation (Del Rio *et al.*, 2018).

Although the supervisor has key roles to play, Chabaya *et al.* (2009) also noted poor research supervision processes, lack of resources such as reference books to aid research and social and economic challenges as some of the institutional and external factors that could be ascribed to students' failure to submit research projects. Todd *et al.* (2004) after conducting research with social sciences students at a university in the United Kingdom, largely attributed the students' failure to find a researchable research question over their lack of experience of this task. In developing countries as Peiris *et al.* (2018) indicate, the research project is affected by a lack of resources such as access to literature, computers and the Internet. They noted that there was limited opportunity in the curriculum for students to construct their own assignment questions.

In another study, the means offered by the University, for the development of their dissertation were perceived to be fairly or totally suitable by 32.7% of the students surveyed (Vera & Briones, 2015). The students were also not overly satisfied with prior available dissertation information. Forty five percent of them considered this information as poor or very poor. Another 58.5% of the students also noted a mismatch between the credits assigned to the dissertation,

perceiving that more time could be given to correspond to the number of credits carried by the dissertation.

A total of 50% of students surveyed by Vera and Briones (2015) stated that they were able to choose their tutor, while 86.2% considered it important or very important that they can do so. As Todd *et al.* (2004) suggested, there is need for the institution to develop a balance between freedom and structure as this enables student autonomy at the same time, providing contact, support and training.

In summary, whilst some of the factors that contribute to effective research supervision are student, supervisor or institution based and maybe under the control of each stakeholder, there are some factors, such as the lack of access to the Internet, which could be economical and socially constructed.

METHODOLOGY

Research design

The central objectives of this paper were to highlight the structure of research at the University of Botswana and at the Faculty of Business and to review business students' satisfaction with research supervision. The University of Botswana Academic Calendars and the Faculty of Business Guidelines on research and extant literature were consulted. The authors also used questionnaires as the main data collection tool for the students' survey. The questionnaires had questions that were close ended. Questions were adopted from notable literature sources for undergraduate research supervision (e.g. Vera & Briones, 2015; Chabaya *et al.*, 2009; Roberts & Seaman, 2018; Todd *et al.*, 2004; Peiris *et al.*, 2018).

Satisfaction was measured using the expectation-disconfirmation theory. The expectation disconfirmation theory is a common measure of satisfaction (Forero & Gómez, 2017). The theory holds that satisfaction/dissatisfaction is a result of the comparison of performance with predictive expectations (Swamidass 2000). Three possible outcomes can be expected. Positive disconfirmation occurs when performance is perceived to exceed expectation, whilst negative disconfirmation occurs when performance is lower than expectations. Zero disconfirmation occurs when performance is perceived to be exactly equal to expectations and customers are likely to be satisfied (Swamidass, 2000). With positive disconfirmation the customers are satisfied, whilst negative disconfirmation indicates dissatisfied customers. This approach has been used elsewhere to review student satisfaction in higher education (Appleton-Knapp & Krentler, 2006; Rahayuningtyas & Nelloh, 2016). In this study, perceptions (performance) and expectations of research supervision, were both measured on a five-point Likert scale where 1 was strongly disagree and 5 was strongly agree.

To provide a measure of face validity, the questionnaire was first piloted with five students from the Faculty of Business. Minor alterations were made to two questions. Cronbach Alpha tests of reliability were run on the items used to measure expectations and perceptions.

Survey participants

The survey participants comprised conventional fourth year business students registered for the research project course in the academic year 2018/2019, students who had failed the course and were repeating it (hence registered for the academic year 2018/2019) and students who had

failed the course in the previous academic year (2017/2018) but were not registered for the year 2018/2019.

Questionnaire administration

The Faculty of Business has four departments namely, Accounting and Finance; Management; Marketing; and Tourism and Hospitality Management. Departmental research coordinators administered questionnaires in their respective departments. The study targeted a total of 427 students registered for the academic year 2018/2019 in the Faculty of Business. This also included 19 students who had failed in 2017/2018. In addition, 15 students who had failed in 2017/2018 but were unregistered were also contacted via email to participate in the study. Thus, the total target population of students for this study was 452. The majority of questionnaires were distributed during fourth year classes.

Data analysis

Data collected from the questionnaires was analysed using descriptive statistics from SPSS (version 25). The analysis was mainly accomplished using frequency analysis and a gap analysis (of perceptions and expectations) based on means and standard deviation.

PRESENTATION AND DISCUSSION OF MAIN FINDINGS

This section presents and discusses the main findings from the study. The section begins with an overall assessment of the structure of research at the University of Botswana, proceeding to the structure of research at the Faculty of Business. Subsequently, the study presents the results from the survey, where the demographic summaries and the perceptions and expectations of students regarding the role of the supervisor and the institution/ Faculty, were drawn.

The structure of research at the University of Botswana

The University of Botswana has eight faculties: Business, Education, Engineering and Technology, Health Sciences, Medicine, Humanities, Science and Social Sciences. The structure of research for the eight faculties at the University is highlighted in Table 1. In all the Faculties, undergraduate research is emphasised. The research component is taken at varying levels depending on the faculty and programme of study. Generally, the research project is undertaken towards the completion of studies.

Table 1. Structure of Research at Faculty Level

Faculty	Sample Research Component	Semester	No. of Credits
Business	Research Project	7/8	3 /4
Education	Research Project	7/8	2/3/6
	Practitioner Research	7	3
	Action Research	6/8	3
Engineering & Technology	Design/Engineering Project	9/10	6/8/9
	Research Project/Dissertation	7/8/10	3/6/15
Health Sciences	Research Project	8/9/10	3
Medicine	Research Project	8	3 /4
Humanities	Research/Individual Project/Project Work	6/7/8	3 /4
	Research Paper	8/9	3
	Research Essay	7	2
Science	Research Project	8	3
	Research Essay	8	3
Social Sciences	Research Paper	8/9	3

(Source: Compiled from UB, 2018/19)

In some faculties, the research component is attempted in semesters 7 or 8 of a four year programme or semesters 9 and 10 of a five year programme, culminating in a final year research output, in line with most undergraduate programmes across most universities. This approach provides some form of transition between undergraduate and postgraduate study (Roberts & Seaman, 2018). The nomenclature of the research component also varies across the University, assuming the titles of Research Paper, Research Project, Research Essay, Action Research, Practitioner Research or Dissertation. This is expected because the nature of research takes on different forms in the varied disciplines of study (Healey *et al.*, 2014). The most common number of credits for the Research Project across faculties is 3, though other faculties such as Engineering and Technology have higher credits (9 and 15) for their research projects.

The endeavour to include a research project or otherwise, in the curriculum, is extended to the UB Learning and Teaching Policy that advocates that students should be able to apply knowledge to solve real world problems (UB, 2008). The Policy also stipulates the importance of attaining graduate attributes such as research skills for students. This approach is supported by Healey, Jenkins and Lea (2014) who argue that it is imperative that all undergraduate students in all higher education institutions experience learning through and about research and inquiry.

Another notable difference in the structure of research at the University is the disaggregation of the research component. In some faculties the research component is disaggregated into three levels. A Research Proposal course is included in the curriculum in addition to a Research Methods course all culminating into the Research Project. This implies that students are formally assessed on the research component at least, at three levels. In the Faculty of Humanities and in particular with the Department of History, research is assessed using the Research Project Proposal (ARC304, 3 credits), Research Project Field Work and Preliminary Report (ARC471, 3 credits) and Research Project Intermediate and Final Report (ARC472, 9 credits) (UB, 2018/2019). In addition to the three courses, students also take other research methods courses relevant to the field. In other faculties, a research methods course is offered prior

to a capstone research project course whilst in others, only the final research project course is used to assess students' research inquiry skills.

Evidence from the Faculty of Business also indicates disaggregation of the research components. Some departments, such as Management and Marketing, have three related courses, the Research Methods course, a Research Proposal Course and a Research Project course, for some of their undergraduate programmes (UB, 2018/2019). Others, such as the Departments of Accounting and Finance and Tourism and Hospitality Management offer a Research Methods course (with proposal writing subsumed) and a Research Project course. The disaggregation of the research components is not uniform across the Faculty and this could result in dissimilarities in the approach and intensity of research inquiry.

The importance of disaggregating the research proposal from other research components, is captured in an observation made by Abdulai and Owusu-Ansah, (2014, p.3) who opined that:

'A research proposal clarifies the thoughts of the researcher. Furthermore, it aids him to organize his ideas into a coherent statement of research intent regarding what is to be investigated, how it will be investigated, and the significance/importance of what is to be investigated. It also offers him an opportunity to convince an assessor or any other reader that the proposed research can be conducted within a given time frame and resources'.

The design of a proposal therefore improves the preparedness of the student and ultimately, enhances the quality of the capstone project. As such, it may be convenient for the Departments of Accounting and Finance and Tourism and Hospitality Management to consider the levels of disaggregation of the research component.

Undergraduate Business students' survey

A total of 197 students, out of a possible number of 452 fourth year students participated in the study: giving a response rate of 44%. Based on a liberal approach, the sample size can be considered adequate (Nulty 2008). The response rate from unregistered students who were contacted by email was 0%, despite several efforts to solicit for response. Cronbach Alpha tests of reliability were conducted on the items. A value of 0.907 was achieved for the items used to measure expectation whilst a value of 0.915 was attained for perception items, both indicating acceptable levels of reliability (Tavakol and Dennick 2011).

Demographic summaries

The demographic information obtained from the respondents is presented in Table 2. Table 2 indicates that most students were female (62.4%) and were aged between 21 and 30 years (85.8%). Most of the students were from the Department of Management (44.2%). The majority (24.4%) were at the stage of presenting their research findings. Only 11.7% of the sampled students were at the final stage of drafting conclusions and recommendations to their study. The majority (74%) of the students at this stage were from the Department of Marketing.

Table 2. Business Students' Demographics (n=197)

Gender	Female 123 (62.4%)	Male 50 (25.4%)	Missing 24 (12.2%)	
Age	Below 20 4 (2%)	21-30 Years 169 (85.8%)	Above 30 0 (0%)	Missing 24 (12.2%)
Department	Accounting & Finance 59 (29.9%)	Marketing 22 (11.2%)	Management 87 (44.2%)	Tourism & Hospitality Management 29 (14.7%)
Status of Enrolment	Conventional 191	Repeat 6		
Stage of Research	Topic		9 (5.3%)	
	Problem/Gap		6 (3.0%)	
	Objectives/Questions		17 (8.6%)	
	Literature Review		12 (6.1%)	
	Methodology & Data Collection		47 (23.9%)	
	Findings: Presentation		48 (24.4%)	
	Findings: Discussion		7 (3.6%)	
	Conclusions & Recommendations		23 (11.7%)	
	Missing		28 (14.2%)	
Frequency of Research Consultation	Once/Week 41 (20.8%)	Twice/Week 29 (14.7%)	Thrice/Week 2 (1%)	When necessary 108 (54.8%)
	I don't remember 14 (7.1)	Missing 3 (1.5%)		

The main reason that could be advanced for the varying levels of progression in the four departments was the use of disaggregation in the research component. Since the Department of Marketing uses three levels of disaggregation, there is a higher likelihood of students from this Department advancing at a much faster pace than others. With such an approach, students are well prepared and organised for research. However, empirical research is required to support this assumption.

The students also noted varying levels of interaction with their supervisors, with most (54.8%) indicating they consulted their supervisors when necessary, implying some levels of flexibility in the research consultation process.

Students' satisfaction with the role of the supervisor

Satisfactory scores obtained by the difference of expectations and perceptions are displayed in Table 3. Table 3 illustrates dissatisfaction (negative disconfirmation) amongst the students, in all variables, regarding the roles of their supervisors, particularly with the provision of feedback (-0.77), availability for scheduled meetings (-0.55) and the identification of research training students need (-0.54). Generally, there is discontent with the quality of support from supervisors.

Table 3. Students' satisfaction with the roles of supervisors (n=197)

	Expectations of the Role of Supervisors (E)	Perceptions of the Role of Supervisors (P)	Satisfactory Score
	Mean ± Std. Dev	Mean ± Std. Dev	(P – E)
Set(s) targets for meetings	3.90 ± 1.05	3.58 ± 1.26	-0.32
Available for scheduled meetings	4.62 ± 0.68	4.07 ± 1.18	-0.55
Initiate(s) communication	3.74 ± 1.14	3.62 ± 1.32	-0.12
Set(s) targets for research work	3.65 ± 1.18	3.66 ± 1.24	0.01
Meet(s) set targets	4.11 ± 0.95	3.85 ± 1.26	-0.26
Raise(s) any difficulties met	4.79 ± 3.0	4.28 ± 2.46	-0.51
Discuss(es) the type of guidance needed	4.54 ± .722	4.11 ± 1.19	-0.43
Monitor(s) the progress of research work	4.38 ± .821	3.97 ± 1.15	-0.41
Identify(ies) the type of research training needed	4.24 ± .909	3.70 ± 1.34	-0.54
Encourage(s) to submit written work on time	4.07 ± .966	3.97 ± 1.18	-0.1
Provide(s) feedback on time	4.72 ± .633	3.95 ± 1.35	-0.77
Available outside normal consultation hours	4.01 ± 1.06	3.65 ± 1.41	-0.36

Students' satisfaction with the role of the Institution/Faculty

In relation to the research supervision process (Table 4), students were generally dissatisfied (negative disconfirmation) across all areas, particularly with training on research (-1.73), adequacy of resources for photocopying, printing etc. (-1.65) and the adequacy of financial resources for research (-1.64), which all got relatively high negative scores.

Table 4. Students' satisfaction with the Institution/Faculty (n=197)

	Expectations of the Research Supervision Process (E)	Perceptions of the Research Supervision Process (P)	Satisfactory Score
	Mean ± Std. Dev	Mean ± Std. Dev	(P – E)
Students have adequate training on research	4.76	3.03	-1.73
There are adequate financial resources for research	4.73	3.09	-1.64
Access to financial resources for research	4.66	3.23	-1.43
There are adequate computer resources for research	4.70	3.48	-1.22
Access to computer resources for research	4.72	3.57	-1.15
There are adequate library resources for research	4.71	3.71	-1
Access to library resources for research	4.72	3.89	-0.83
Adequate resources for photocopying, printing etc.	4.72	3.07	-1.65
There are guidelines from the department/faculty	4.68	3.96	-0.72
Supervisors are allocated based on the students' area of research	4.59	3.16	-1.43
Supervisors are allocated based on the students' research skills	4.07	2.82	-1.25
Supervisors are allocated based on their areas of specialisation	4.50	3.24	-1.26
Supervisors have the requisite research skills	4.73	3.85	-0.88
Students are allowed to change supervisors during the supervision process	4.18	2.79	-1.39

It can be deduced from the study, that the students are overly dissatisfied with the training they receive for research. In addition, the resources provided for research do not meet students' expectations. Basic resources such as photocopying and printing as well as financial resources were highlighted as major areas of concern. It is worth noting that the University of Botswana is not responsible for the provision of financial resources and photocopying facilities for learners. This is taken care of by the sponsor, a fourth but salient stakeholder in the research process at the University. The Faculty should however ensure that students understand this role and assists facilitate this interaction where necessary.

CONCLUSIONS AND IMPLICATIONS OF THE STUDY

Results have revealed that the Faculty of Business, just like other faculties at UB, has a research project requirement for all its undergraduate degree programs. However, there is no consistency in terms of how the research component is executed across the Faculty. While some departments, notably the departments of Marketing and Management, have disaggregated the research process, other departments have limited levels of disaggregation. It is not clear if these differences noted across the study reflect inherent differences across departments, or it is just a matter of preference. Perhaps these differences could potentially have a bearing in the varying rates of non-submission across the departments. In order to maintain consistency and quality, the Faculty could devise a more standard approach to the student research supervision process. Discipline related differences may be factored to enhance the relevance of the research projects. Nonetheless, a qualitative study to unpack these findings and differences is required in future.

The study demonstrates that students' expectations in all tested areas were not met. Students were dissatisfied with the role of the supervisors as well as the resources availed for the research process. Top among the list of dissatisfaction is research training. Students are not entirely happy with how the training is conducted. Research training goes beyond supervision. Attention should be paid to the different areas of the research process to identify possible gaps and address them promptly. Given that undergraduate learners generally lack the requisite research skills and experience, research training is vital to prepare them for the research projects. As Stappenbelt and Basu (2019) rightly pointed out, undergraduate research should focus primarily on development of research skills and should be process oriented. Thus, without proper training, learners may find it difficult to navigate the unfamiliar territory of academic research.

Another area of concern is with regards to supervision. Students expected to be supervised by someone with requisite knowledge of their area of study. The current practice of allocating students to any supervisor does not sit well with them. The students also expected to be allowed to change supervisors if not happy with their current supervisor. In addition, they wanted to be allocated supervisors based on the research skills of the learner. Supervision is a two-way process that goes beyond the academic interaction process. It requires an individual with good interaction skills, able to deal with learners from different backgrounds and most importantly the supervisor should be open to assist learners with different challenges, including communication and writing skills, and be able to provide the necessary research guidance (Ismail *et al.*, 2011). This is further buttressed by Roberts and Seaman (2018) who emphasise the importance of research supervisors in acknowledging and instilling confidence (through support and encouragement) in their students. While this is the ideal character for a supervisor, we acknowledge the differences that may exist between supervisors. Hence, matching learners with supervisors based on the skills of both parties is worth looking into.

Finally, it may be important for the Faculty or departments to clarify the role of the supervisor beforehand, as this could redefine the perspective the students have of their

supervisor in two ways; by influencing their expectations and by changing the way in which both the students and supervisors behave. This is also accentuated by scholars such as Del Rio *et al.*, (2018), Pérez-Ros, Chust-Hernández, Ibáñez-Gascó, & Martínez-Arnau (2020) and West (2020).

RECOMMENDATIONS FOR FUTURE RESEARCH

A wider range of faculties at both undergraduate and graduate levels could be consulted. In particular, a sample of graduate students at the University should be surveyed, since the University is currently trying to attract more students at that level, as it strives to achieve one of its strategic goals of intensifying and increasing the research output. This would also help the University in identifying areas that it needs to focus on (e.g. resources, supervisory capacities and data analysis tools, etc.) that are needed to support this objective. Discipline specific perceptions should be further investigated. For instance, were there any statistically significant differences amongst the satisfaction levels of Marketing students with those from other Departments (given the three-component approach to research)? More robust statistical tests could be conducted to establish relationships between variables (e.g. rate of completion versus the structure of research and other demographic variables such as gender).

This study was primarily limited to the quantified expectations and perceptions of undergraduate students. It may be beneficial to expand the study methodology by utilizing extensive qualitative methods such as interviews and focus groups. A qualitative evaluation of Business students' satisfactory levels of the research supervision process, is required to identify the underlying challenges and circumstances in detail. A survey of alumni students could also be pursued to establish the influence of undergraduate research supervision on transition and progression at the graduate level. In-depth longitudinal research can also be undertaken with other target populations such as graduate students (e.g. MBA, M.Phil. and PhD), to obtain a broader picture of the problem of non-submission.

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