Master of Education (M.Ed.) Research Proposal - Exploring the potential of implementing E-Learning practices at the University of Guyana

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RESEARCH PROPOSAL – MED SRP

TOPIC

Exploring the potential of implementing e-learning practices at the University of Guyana

INTRODUCTION

Biggs and Tang (2011) reveal that “Since 2000 there have been dramatic changes in the nature of higher education. It is not just that participation rates are higher than ever […], but that these and other factors have altered the main mission of higher education and modes of delivery” (p. 3). This means that newer pedagogical approaches are being sought, with a view to delivering high-quality education. The Bologna Process (2010) of 1999 has had a profound impact on the delivery of high-quality higher education (HE). Since then, there has been a clamour for teaching effectiveness, which has intensified over the years. It is felt that HE learning and teaching must move away from teacher-centred strategies and embrace student-centred approaches, due to the increased number of tertiary-level students who possess different learning abilities.

E-learning is one significant way to cater for diverse learning styles. It is all about getting students to move away from the full face to face (F2F) modality, in favour of a virtual environment where each and every one would be able to work at one’s own pace. Brown (2005) establishes that since the introduction of Internet-based education, there has been a rapid improvement in student learning outcomes.
The University of Guyana (UG) is cognisant of these rapid technological changes around the world, regarding tertiary learning and teaching. Though the UG is aware of these imminent changes, implementation is extremely slow. E-learning is not yet endorsed as an alternative instructional delivery mode; in fact, F2F teaching is still the only mode of instructional delivery. There is no visible innovation to curriculum and instruction. Teacher-centred strategies are still current. The delivery of quality education (QE) at the UG is still a very big issue, and this is impeding the promotion and enhancement of learning that matters.

Since e-learning is achieving success across the world, at various Universities, it is imperative for the University of Guyana to move in this direction, with a view to embracing a more emancipatory approach by offering technology-based education to its students. According to Hattie (2009), when students are given autonomy of their own learning and learning materials are adapted to suit their diverse learning styles and abilities, student learning outcomes will be maximised.

BACKGROUND AND CONTEXT OF THE STUDY

The UG, established in April 1963 (UG website, 2013), is the only HE institution in Guyana. One of the four goals in the UG Strategic Plan (2009-2012) is “To achieve higher quality learning and teaching aligned with expanded national needs, especially in science and technology”. Regrettably, the UG is not fulfilling its mandate. The University’s curriculum has not been modified in over 30 years. The only existing pedagogical method is the traditional F2F interaction, where the teacher is the sage of the stage, and where students are expected to take in the ‘sagely knowledge’ like sponges. From personal observation, in other words, all learning is teacher-centred. There are no innovative technologies being used to promote diversified learning and teaching.

Through the introduction of the National ICT Development Strategy, ICT has become a familiar name in Guyana (National ICT Development Strategy, 2006). Many educational institutions, both secondary and tertiary, are using computers, in some form, to aid learning. Added to this, Guyana has its own fibre optic cable system that has been servicing its citizens for over five (5) years. ICT is also prevalent at the UG, as it possesses its own Centre for Information Technology (CIT) which monitors the University’s intranet system (UG Strategic Plan 2009-2012).

Though a few E-learning workshops have been held for teaching faculty, there is no evidence of the University of Guyana adopting an E-learning strategy for the HE institution. Some efforts are being made by lecturers to use ‘web-facilitated learning’ (Allen & Seaman, 2007) - Facebook, Email, WordPress, and so on - in their pedagogical practices. The latest research at UG indicates readiness of student and faculty for some form of e-learning (Gaffar, Singh & Thomas, 2011).

Given the fact that Internet-based education is permeating tertiary institutions, these and other factors have resulted in alterations to the key objective of tertiary learning and teaching (Biggs & Tang, 2011). There is a felt need to sensitise the UG that there cannot be ‘business as usual’, and that it is the responsibility of this HE institution to do everything in its power to improve student learning outcomes, considering student learning diversity. Online education is quickly becoming a household name in HE institutions (Laurillard, 2005; Lai, 2011; Laurillard, 2012), and the University must see itself challenged to move in this direction.
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While the UG, based on the research done, is ready for E-learning to be implemented, it is not yet ready for fully online courses and programmes, since it is still in its embryonic stage, regarding technologies in education. Could blended learning be an option for UG (Garrison & Kanuka, 2004; Sheridan, 2009; Raturi, Hogan & Thaman, 2011a; Raturi, Hogan & Thaman, 2011b), considering the changing needs of today’s learner in Guyana? It must be noted that UG is still offering Distance Education (DE) in the traditional print/correspondence form, and this needs to be tailored to suit today’s educational context. Consequently, there is a need to offer courses and programmes via the distance and flexible learning (DFL) modality, in order to promote accessibility, equal opportunity, and student learning diversity, endorsing Education for All (EFA).

AIM OF THE STUDY

The aim of this study is to:

- Explore the potential of using technology in educational delivery and its implementation at the University of Guyana

SPECIFIC RESEARCH QUESTIONS

- Are students ready to embrace technology-based education?
- What form of e-learning do students desire?
- Is it feasible to establish an e-learning programme at the University of Guyana?

OBJECTIVES OF THE STUDY

- Analyse student satisfaction of current pedagogical practices at the University
- Investigate the use of technology in educational practices at the University
- Establish the form of e-learning for University students
- Determine the viability of implementing e-learning at the University
- Recommend technology-based education for tertiary learning and teaching

THEORETICAL FRAMEWORK OF THE STUDY

One of the most important areas in Education is learning and teaching, simply because all that is done in the educational institution has the objective of ensuring that instruction is effective and that students are able to maximise their outcomes. Lunenburg & Irby (2006) affirm that the goal of education is learning, and the vehicle used to achieve that goal is teaching. It is primarily concerned with what students learn and how they learn what they are supposed to.
“Educational practices are based on learning theories whether delivered on campus or at a distance. Learning theories guide the practice and research of education by trying to explain how people learn. They have been the basis for understanding student learning and how best to facilitate the learning process. So, it is very important to understand the nature of learning theories in order to design effective distance education practices” (Simonson, Schlosser & Hanson 1999, p. 61).

In relation to the above, in order to improve learning and teaching, there must be an existence of theories to guide educational practice and research and to determine the best kinds of pedagogical approaches to integrate into the instructional process. These theories are important because they directly affect the practice of the field and, consequently, educators can have a strong foundation for their successful practices by fully understanding the emergence and development of the learning theories. Garrison (2000, p. 1) puts it this way:

“A theory provides people with an explanation to make sense of complex practices and phenomena and can provide a perspective that reduces complexity while suggesting generalisability. Learning and teaching is a complex practice; an examination of a theory will provide us with the understanding necessary to take effective action and can also help to predict what will or what could be”.

The learning process is a highly complex system; it’s not a linear process but rather cyclical. As this process continually changes depending on a person’s experiences and surroundings, instructional designers and educators face a demanding task when producing meaningful and challenging learning experiences for all learners (Kop & Hill, 2008).

Bearing in mind the above, theories also orient this present study on ‘Exploring the potential of implementing e-learning practices at the University of Guyana’. Those theories selected are (1) constructivism [social constructivism], (2) transactional distance [independence and autonomy; interaction and communication] and, (3) connectivism. Each of these will be discussed briefly, in the light of this study, justifying their necessity for quality educational practices at the University of Guyana.

1. Constructivism
In recent times, there has been a shift to constructivism (Ally, 2004). Constructivist theorists (Piaget 1928, 1932; Vygotsky 1930; Dewey 1929, 1938; Dewey & Bentley, 1949; Bruner 1960, 1973; Jonassen, 1999) claim that learners interpret information and the world based on their personal reality, and that they learn by observation, processing, and interpretation, and then personalise the information into personal knowledge. In other words, learners learn best when they can contextualise/situate what they learn for immediate application and to acquire personal meaning. Constructivists see learners as being active protagonists of their learning (Cooper, 1993; Wilson, 1997; Tapscott, 1998). The learner is the centre of the learning, with the teacher playing an advisory and facilitative role. Duffy and Cunningham (1996) postulate that learners should have the opportunity to construct knowledge instead of being the receivers of knowledge through instruction. It therefore follows that learning must move away from teacher-centred instruction to knowledge discovery and construction.
Social Constructivism

“The level of potential development is the level at which learning takes place. It comprises cognitive structures that are still in the process of maturing, but which can only mature under the guidance of, or in collaboration with, others” (Vygotsky 1978, p. 50).

Social constructivism was developed by Vygotsky (1978), a post-revolutionary Soviet psychologist. Its emphasis is on the collaborative nature of learning. Vygotsky, though being a cognitivist at the time, discarded the hypothesis made by other cognitivists like Piaget (1962) that separating learning from its social context was possible. He defended his stance that all cognitive functions originated in society, and should therefore be explained as products of social interactions, since learning was not simply the assimilation and accommodation of new knowledge by learners; in fact, it was the process by which learners were integrated into a knowledge community.

“Every function in the child’s cultural development appears twice: first, on the social level and, later on, on the individual level; first, between people (inter-psychological) and then inside the child (intra-psychological). This applies equally to voluntary attention, to logical memory, and to the formation of concepts. All the higher functions originate as actual relationships between individuals” (Vygotsky 1978, p. 57). This relationship between individuals can blossom into a community of learner, or learning community, where this is mutual interdependence.

Vygotsky’s (1978) four principles of social constructivism are: (1) learning and development in a social, collaborative activity; (2) school learning should occur in a meaningful context and not be separated from learning and knowledge children develop in the ‘real world’; (3) out of school experiences should be related to the child’s school experience and, (4) Zone of Proximal Development. It is important to mention that these principles highlight the critical weight of culture and the significance of the social context which is largely responsible for the development of students’ cognitive skills. His ‘Zone of Proximal Development’ is perhaps his best-known theory, which argues that, with assistance from adults or more advanced learners, the less advanced students can master concepts and ideas that, on their own, might pose challenges to them.

The constructivist approach to learning and teaching is absent from the pedagogical practices at the UG. Educational practices there are still based on the traditional approach (Livingstone, 2013). Teacher-centred strategies are still employed, where the teachers impart knowledge and students absorb it. Students are not the centre of learning; in fact, they are passive learners. It is a very daunting situation, as students are not given the opportunity to have autonomy over their learning. Most learning-teaching activities at the University are still largely individual. There is not much interaction and communication to complete assigned tasks.

Since learning is not static, learning theories must change to suit the broader educational context in which they are found. ‘Quality learning’, as noted by Biggs and Tang (2011), is all about ensuring that learners use the appropriate cognitive skills required to construct knowledge and negotiate meaning during task completion, thus paving the way for creativity, application and life-long learning. They must be provided with a broad-based learning and with a repertoire of learning tools.
and sources. Employing the social constructivist approach will ensure quality learning for all students at the UG.

Integrating e-learning practices into the learning-teaching process at the UG will definitely support constructive learning. Learner-centered, interactive and collaborative practices will be experienced. In these innovative learning environments, learners will have the opportunity to be independent and autonomous over their own learning process. In addition to these, by the integration of Internet to educational settings, traditional forms of distance education at UG will be modified, allowing the new medium for distance education practices – the Internet – to take root.

2. Transactional Distance

Within the last thirty years, there has been a formalisation of distance education as a discipline. This naturally aroused a need to develop a new learning theory for all those involved. Moore (1991) states that the first attempt in English to define distance education and to articulate a theory appeared in 1972 and in 1980 was named as the theory of transactional distance. Looking more carefully at the concept of transaction, he explains that it connotes the interplay among the environment, the individuals and the patterns of behaviours in a situation. This transaction is distance education. Moore (1997) explains that when referring to distance education, there is more than a geographic separation of learners and teachers; there is also a distance associated with understanding and perception also partially caused by geographic distance. Therefore, this ‘psychological and communications space’ is what is known as the transactional distance.

“The degree of transactional distance depends on three variables: dialogue, structure, and learner autonomy. First, dialogue is described as an exchange of words, actions, and ideas between teacher and learner. The important factor involved is communication. The second variable, structure, is the extent to which course elements (learning objectives, content themes, presentation strategies, evaluation activities) change to meet the specific needs of the individual learner. Third is learner autonomy, which refers to a learner’s control over learning activities and processes” (Gokool-Ramdoo, 2008).

Since the UG still embraces traditional learning-teaching, DE at that HE institution has not evolved over time, and it is executed via the traditional print/correspondence mode. In this mode, learner needs are not carefully considered. Course content is sent to students, and they are expected to cover all of the areas within a given time, with little input from the instructor. This is what needs to change and, in fact, technology-enhanced DE will create a paradigm shift, moving the focus from teaching to learning, enabling effective transactions among all parties involved.

In other words, due to transactional distance, the teaching/learning process will be a shared responsibility that occurs through a dialogue between teacher and student. The learner will be aware of the learning activity and think about what is being learned (meta-cognition). The learner will also utilise critical thinking skills to develop a true awareness of the learning process. This will come about with the use of reflective practices, which can be created through dialogues with the instructor and with other students.

Extremely important concepts, relevant to transactional distance, are independence and autonomy and interaction and communication.
Independence and Autonomy

Charles Wedemeyer, a Professor of Education from the University of Wisconsin, considered the independence of the student as the essence of distance education (Wedemeyer, 1981; Keegan 1986). This was reflected in Wedemeyer's preference for the term ‘independent study’ for distance education at the college or university level. He was critical of contemporary patterns of higher education, believing that outdated concepts of learning and teaching were being employed. Wedemeyer felt that these concepts failed to utilise modern technologies in ways that could alter an institution. He challenged university administrators to expand access and opportunity to autonomous learners. He set forth a system of distance education that emphasised learner independence and the adoption of technology as a way of implementing it. Wedemeyer noted four common elements of every learning-teaching situation: a teacher, a learner or learners, a communications system or mode, and something to be taught or learned. He proposed a reorganisation of these elements that would accommodate physical space and allow for greater learner freedom. His definition of independent study provides a clue for understanding the concept of ‘learner autonomy’. The learner studies independently in his own environment free from the constraints of inappropriate ‘class placing’ and develops in himself a capacity and maturity that enables him to carry on ‘self-directed learning’.

In Moore’s (1972) Theory of Independent Study, he addresses learner autonomy. He notes that in traditional school settings learners are very dependent on teachers for guidance and that in most programmes, conventional and distance, the teacher is active while the student is passive. In distance education, there is a gap between teacher and student, so the student must accept a high degree of responsibility for the conduct of the learning programme. The autonomous learner needs little help from the teacher, who may be more of a respondent than a director.

Moore (1994) classifies distance education programmes as ‘autonomous’ (learner-determined) or ‘non-autonomous’ (teacher-determined) and gauges the degree of autonomy accorded the learner by answering the following three questions:

- Is the selection of learning objectives in the programme the responsibility of the learner or the teacher (autonomy in setting objectives)?
- Is the selection and use of resource persons - of bodies and other media - the decision of the learner or the teacher (autonomy in methods of study)?
- Are the decisions about the method of evaluation and criteria to be used made by the learner or the teacher (autonomy in evaluation)?

At the UG, there is a dire need for student independence and autonomy. All learning is teacher-dependent and non-autonomous, since these are characteristics of a traditional pedagogical approach still in vogue at this educational institution. In a teacher-directed setting, independence and autonomy are non-existent, as all learning experiences are chosen for the students. What is required of them is to simply follow the instructions in order to ‘learn’. ICTs integrated into the learning process of students will foster learner independence and autonomy, engendering students with more significant learning experiences. It is all about making learning constructive, where
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students will be the protagonists of the learning process. This is another very important theory to consider, if the UG is to implement e-learning.

Interaction and Communication

Interaction (or interactivity) serves a variety of functions in the educational transaction. Sims (1999) has listed these functions as allowing for learner control, facilitating programme adaptation based on learner input, allowing various forms of participation and communication, and acting as an aid to meaningful learning. In addition, interactivity is fundamental to the creation of learning communities espoused by Lipman (1991), Wenger (2001), and other influential educational theorists who focus on the critical role of community in learning. The value of another person's perspective, usually gained through interaction, is a key learning component in constructivist learning theories (Jonassen, 1991), and in inducing mindfulness in learners (Langer, 1989).

Interaction has always been valued in distance education, even in its most traditional, independent study format. Holmberg (1989) argued for the superiority of individualised interaction between student and tutor when supported by written postal correspondence or by real-time telephone tutoring. Holmberg also introduced us to the idea of simulated interaction that defines the writing style appropriate for independent study models of distance education, programming that he referred to as “guided didactic interaction.” Garrison and Shale (1990) define all forms of education (including that delivered at a distance) as essentially interactions between content, students, and teachers. Laurillard (1997) constructed a conversational model of learning in which interaction between students and teachers plays the critical role.

Anderson (2004) affirms that interaction can also be delineated by the actors participating in it. He goes on to note a number of interactions among the learner, content and teacher which are learner-learner, learner-content, learner-teacher, teacher-teacher, teacher-content, and content-content.

Interaction and communication are critical for meaningful learning, and this is where the instructional practices of the UG are falling short. Learning diversification is absent. There is little or no interaction in the traditional face to face sessions, possibly because some students are fearful of ridicule, or perhaps they are not bold enough to share their ideas in public, or even perhaps they have nothing to say, at that specific moment. Whatever the case may be, interaction is not necessarily encouraged. Teachers make students understand that they are the experts, the ‘sage of the stage’, and that students are to accept what they say, without inquiry.

If students are to develop creative, critical and complex cognitive skills, then they must be able to construct knowledge for themselves, querying and inquiring as they negotiate meaning and derive functioning knowledge. This can only happen when they interact and communicate. Technology-based education can provide students with the interaction necessary to have transformative learning experiences by creating strong learning communities and establishing collaborative learning as a powerful tool for maximising student learning outcomes.
3. Connectivism

Connectivism is a theoretical framework that helps to understand learning. It is mainly concerned with cognitive development. Learning begins when learners join together in a learning community, and knowledge is then put into action by discussing, sharing, and thinking (Downes, 2012). Knowledge comes from a variety of domains and disciplines, and access to the World Wide Web (WWW), makes this easier. Siemens (2008) stresses that the ability to make connections between fields, ideas, and concepts is a core skill. Knowledge does not fit in a pre-packaged curriculum, although formalised education must deliver it to a degree. However, as learners become autonomous and seek information on their own, they come to understand the existence of an endless world of knowledge.

Distance Education makes the formation of learning communities easier and globalises this process, as people from all over the world can become involved. Considering the wealth of information available on the WWW, it is crucial for learners to be able to filter through information and to ensure it is from a valid, reliable source. As stated by Siemens (2004), the capacity to know is more critical than what is actually known.

The traditional approach to learning and teaching, espoused by the UG, does not embrace a connectivist approach. The kinds of learning tasks that students are required to perform do not always cause them to use the appropriate cognitive skills to complete them, because tasks are sometimes disconnected from their realities. Learning is a connected process. It does not exist by itself, as meaning is derived from the relationships between concepts and ideas. Connectedness within the learning process helps students to make sense of the realities which surround them. It is in this light that this theory must also be embraced as relevant to e-learning in these times. Such a theory can only thrive when students are given autonomy to explore the various connections that are involved in the pedagogical process, to the extent that they themselves derive meanings of these connections and seek to foster creativity, application and life-long learning.

It is important to note that at the UG, the role of the tutor will have to change, and perhaps disappear altogether. Students need to move from an environment controlled by the teacher and the institution, to an environment where they direct their own learning, find their own information, and create knowledge by engaging in networks away from the formal setting. They still communicate with others, however their personal interests and preferences – rather than institutional requirements and choices – are the main drives for their engagement with more knowledgeable others in their learning.
CONCEPTUAL FRAMEWORK OF THE STUDY

Accessibility

Equality

Information and Communication Technologies (ICTs)

ICT PRACTICES

ICT TOOLS

METHODOLOGY*

OUTCOME

QUALITY LEARNING & TEACHING

EDUCATION FOR ALL (EFA)

* Please refer to the section below.
RESARCH METHODOLOGY

This study is of an exploratory nature, as the objective is to find out what it would mean for UG to introduce technology-based education. To this end, the methodological approach to be used to conduct this study will be mixed method. The mixed method approach has been chosen, as it “[...] employs strategies of inquiry that involve collecting qualitative and quantitative data either simultaneously or sequentially [...]” (Creswell 2003, p. 18). This author further affirms that “Mixed methods research has come of age. To include only quantitative and qualitative methods falls short of the major approaches being used today in the social and human sciences” (p. 4).

RESEARCH RESPONDENTS/PARTICIPANTS

The research respondents will come directly from the University of Guyana. These will include University administration, teaching faculty and students. The University has over 6,000 students with a staff population in excess of 600 (Bux, 2013). Of the approximately 600 staff members, there are 14 statutory officers who comprise UG’s core leadership (UG website, 2013), 247 lecturers (Gaffar, Singh & Thomas, 2011), and the remainder, other administrative, clerical and ancillary staff.

In light of the above, a sample will be drawn from the more than 6,000 students, the 247 lecturers and the 14 statutory officers. The kind of sampling to be used for this study is purposive sampling. As noted by Palys (2008, p. 697), “Purposive sampling is virtually synonymous with qualitative research”. This kind of sampling technique has been chosen, since the intention is to survey specific groups of individuals – students, teaching faculty and University Administration in this case – to hereinafter make judgments on the information gathered, regarding the specific phenomenon in question: E-learning. In other words, the focus is on these groups of people since they will best enable the researcher to answer the research questions.

DATA COLLECTION METHODS AND RESEARCH INSTRUMENTS

The data collection will involve gathering numeric information (e.g. on instruments) as well as text information (e.g. surveys), so that the final database represents both quantitative and qualitative information. An online survey will be prepared – with open-ended and close-ended questions – in order to gather information from University administration, teaching faculty and students, about the implications of integrating technologies in education at the tertiary institution. Data will also encompass document analysis (previous studies done in e-learning) at the University and reflective historical experiences of the researcher.

DATA ANALYSIS

This data will then be analysed and discussed empirically and objectively, with the aid of figures, tables and graphs where necessary, and conclusions drawn on the information presented. Triangulation will be performed, using quantitative and qualitative data.
SIGNIFICANCE OF THE STUDY

This study is significant, as it will be the first of its kind to be done about the University of Guyana. While the latest research done in the area of e-learning at UG (Gaffar, Singh & Thomas, 2011) sheds light on student and teaching faculty readiness for some form of technology-based education, there is currently no documented research in Guyana that offers blended learning as the instructional delivery mode for the University.

This research can form part of the existing empirical evidence about integrating ICTs in education, and the need to transform HE learning and teaching. It can be used as a guide for those Universities in developing countries which are considering implementing e-learning, and those which are yet to do so.

FOCUS AND LIMITATIONS OF THE STUDY

Since the University of Guyana is still employing the traditional approach to learning and teaching, and since the only instructional delivery mode is the F2F modality, the focus of this study is primarily to highlight the need for technology in educational practices at the University of Guyana and to present a form of e-learning for students. Through the employment of online surveys, it will be determined whether or not students are ready for e-learning, the kind of e-learning they desire, and whether it is feasible / viable for the University Administration to even think of having an established e-learning programme. Since the University has no record or ever having adopted an e-learning strategy, recommendations will be made to this end, given the age of technology in which we live and the fact that may HE institutions are embracing technology-based education as the way forward.

In essence, the main focus is to assess the current pedagogical practices at the University, with a view to suggesting the use of ICTs to improve the quality of learning and teaching.

Given that this is a SRP, and since this is relatively a new pedagogical method for the University, this study will not focus on the actual adoption or implementation of e-learning, or on the specific kind of learning management system (LMS) or course management system (CMS) to be used to deliver course content. Further students can be done, subsequently, to address these issues which are all vital to a successful implementation of E-learning.

As far as can be seen, expected limitations may include the following:

(1) Some students, teaching faculty and University administrators not taking the time to complete the online survey - either partly or fully - which could possibly affect the validity and reliability of the results.

(2) In relation to #1, the time period to complete the online survey could possibly jeopardise the strength of the results as some may take longer than some to complete it.
PROPOSED ORGANISATION OF THE THESIS

The proposed organisation of the thesis is as follows:

Topic
Acknowledgements
Introduction

Chapter 1 – Background and Context
Chapter 2 – Literature Review and Discussion
Chapter 3 – Research Questions, Aims and Objectives
Chapter 4 – Methodology
Chapter 5 – Presentation of Data
Chapter 6 – Analysis and Discussion of Findings
Chapter 7 – Conclusions

References
Appendices

PROPOSED TIME LINE OF THE STUDY

April 14 to April 30 - Commencement of write-up of preliminary chapters
- (Acknowledgments to Methodology)

April 30 to May 30 - Implementation of online survey
- Continuation of write-up (Acknowledgments to Methodology)

May 31 to June 30 - Data analysis
- Compilation of final three chapters (Presentation of Data, Analysis and Discussion of Results, Conclusions)

(I may decide to merge the ‘presentation of data’ with ‘analysis and discussion of results’ to form one chapter, or simply leave them as two separate chapters).

July 1- to July 15 - Final modifications and submission of SRP for evaluation.
REFERENCES


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## RESEARCH BUDGET

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