



MAURITIUS RESEARCH COUNCIL

A STUDY OF ONLINE SOCIAL NETWORKS IN MAURITIUS: IMPACT ON SECODNARY EDUCATION

Final Report

January 2012

MAURITIUS RESEARCH COUNCIL

Address:

Level 6, Ebène Heights,
34, Cybercity,
Ebène 72201,
Mauritius.

Telephone: (230) 465 1235
Fax: (230) 465 1239
Email: mrc@intnet.mu
Website: www.mrc.org.mu

This report is based on work supported by the Mauritius Research Council under award number MRC/RUN-1103. Any opinions, findings, recommendations and conclusions expressed herein are the author's and do not necessarily reflect those of the Council.

A Study of Online Social Networks in Mauritius: Impact on Secondary Education

Principal Investigator:

Associate Professor Kavi Kumar KHEDO

Investigators:

Sheik Mohammad Roushdatt Ally ELAHEEBOCUS

Rajen SUNTOO

Research Assistant:

Asslinah MOCKTOOLAH

This material is based on work supported by the Mauritius Research Council under award number **MRC/RUN/1103**.

Any opinion, findings and conclusions or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the views of the MRC.

PI Name and Address

Associate Professor Kavi Kumar Khedo
Rm 2.21, Phase 2 Building
Faculty of Engineering,
University of Mauritius, Reduit

MAURITIUS RESEARCH COUNCIL FINAL REPORT

PART I- PROJECT IDENTIFICATION INFORMATION

1. Type the name of the MRC Scheme under which grant is made
Unsolicited Research Grant Scheme

2. Award Dates (MM/YYYY) From: 06/2011 To: 01/2012

3. Organisation and Address
University of Mauritius, Reduit

4. Award Number: MRC/RUN/1103

5. Project Title
A Study of Online Social Networks in Mauritius: Impact on
Secondary Education

Mauritius Research Council

Table of Contents

List of Figures	vi
List of Tables	viii
Abstract.....	ix
Acknowledgements	x
Chapter 1: Introduction	1
1.1 Online Social Networking	1
1.2 Project Summary	1
1.3 Hypothesis	2
1.4 Objectives of the Proposed Work	2
1.5 Proposed Methodology	3
Chapter 2: Literature Review	6
2.1 Types of Online Social Networks.....	6
2.1.1 Profile-based	6
2.1.2 Content-based.....	6
2.1.3 Hybrids.....	7
2.2 Some Examples of Online Social Networks.....	9
2.3 Online Social Networking and Youth Culture	10
2.3.1 OSNs as an Agent of Socialisation.....	10
2.3.2 OSNs as a Tool for Personality Development for Introverts	10
2.3.3 OSNs and Cultural ‘Shocks’	11
2.4 Online Social Networks in Education	11
2.4.1 OSNs as Knowledge Management Systems and E-Learning Platforms.....	13
2.4.2 Online Social Networks in the Mauritian Context.....	15
Chapter 3: Methodology.....	17

TABLE OF CONTENTS

3.1 Purpose of the Study	17
3.2 Instrumentation	17
3.2.1 Chosen instrument: Survey Questionnaire	18
3.3 Target Population and Sampling	18
3.4 Questionnaire Design	18
3.4.1 Types of Survey Questions	18
3.4.2 Chosen Question Types	21
3.4.3 Types of Questionnaire	23
3.5 Pilot Survey	23
3.6 Ethical Issues	23
3.7 Data Collection	24
3.7.1 Site Visits to Colleges.....	24
3.7.2 Web-based Survey	24
3.7.3 Overview of Data Collection	25
3.8 Problems Encountered	25
3.9 Data Coding	25
3.10 Data Entry and Storage.....	27
3.10.1 Managing Missing Variables.....	29
Limitation of the Study	30
3.12 Data Analysis.....	30
Chapter 4: Results and Discussions.....	31
4.1 Students' Profile	31
4.2 Purposes of Using Computers	33
4.3 Use of Internet by Students	34
4.4 Relationship between Respondents' Age and Types of Online Communication....	35
4.5 Knowledge on Online Social Networking.....	36
4.5.1 Relationship between Age and being a member of OSNs	38

TABLE OF CONTENTS

4.5.2 Relationship between Internet facilities at home and Member of OSNs.	38
4.6 Purposes for which students make use of OSNs	40
4.6.1 Relationship between Age and Purposes of OSNs	41
4.7 Who Introduced Students to OSNs.	42
4.8 Accessing OSN accounts	43
4.9 Relationship between places where students use computers and the frequency they access their OSN accounts.	44
4.10 Relationship between Respondents' Age and No. of hours they spend on computers per day.	45
4.11 Relationship between Respondents' Age and Personal Information they share on their OSN Profiles.	47
4.12 Impact of OSNs on Students	48
4.13 Negative Experiences students have encountered on OSNs.	49
4.13.1 Relationship between Respondents' Age and the negative experiences students have encountered on OSNs	49
4.13.2 Relationship between Respondents' gender and the negative experiences students have encountered on OSNs	50
4.14 OSN features used by students for studies	52
4.15 Relationship between Respondents' Age and the types of educational activities they make use of on OSNs	53
4.16 Frequency of Accessing OSNs	54
4.17 Use of OSNs by Parents	57
4.18 Relationship between the Privacy of using computers and Parents	58
4.19 Relationship between students' Age and Parental monitoring of OSN activities.	59
4.20 Online Social Networks and School Education.	59
4.21 Knowledge on the Connection of teachers and students on OSNs.	62
4.21.1 Relationship between Educational activities students do on OSNs and whether they are connected to their teachers	62

TABLE OF CONTENTS

4.21.2 Relationship between the connection of students and teachers on OSNs and the view of students on whether OSNs are beneficial for their studies	63
4.21.3 Relationship between the connection of teachers and students on OSN and the communication of school work by teachers to students on OSN.....	64
4.22 Desirable Features of OSNs to Help in Education	64
4.23 Need for Field Test	66
Chapter 5: Experimentation	67
5.1 Overview	67
5.2 Case Studies.....	67
5.2.1 Case Study 1: Floreal SSS	67
5.2.2 Case Study 2: MGSS (Flacq).....	72
5.2.3 Summary	78
Chapter 6: Conclusion and Recommendations.....	80
6.1 Conclusion	80
6.2 Recommendations	81
6.2.1 Policy for Government	81
6.2.2 Incorporating OSNs in formal education to improve student involvement	82
6.2.3 Teachers' Training in Online Social Networking.....	82
6.2.4 Sensitisation of Parents	83
6.2.5 Application of Online Social Networking in Classrooms	83
6.3 Future Works	87
References.....	88
Appendix A: Pilot Questionnaire	92
Appendix B: Survey Questionnaire.....	99
Appendix C: Approval From Ministry of Education	110

TABLE OF CONTENTS

Appendix D: Experimentation Questionnaire (Students)	111
Appendix E: Experimentation Questionnaire (Teachers).....	112

List of Figures

Figure 2.1: World Map of Social Networks	8
Figure 3.1: Open-ended questions	19
Figure 3.2: Multiple choice questions	20
Figure 3.3: Categorical questions	20
Figure 3.4: Likert scale questions	21
Figure 3.5: Assigning codes to Questions	26
Figure 3.6: Coding for Multiple Responses Questions	26
Figure 3.7: Microsoft Access Form	27
Figure 3.8: Value Labels Dialog Box (SPSS)	28
Figure 3.9: SPSS Database Preview	28
Figure 3.10: Missing Value Declaration Dialog Box	29
Figure 4.1: Purposes of Using Computers	33
Figure 4.2: Use of Internet	34
Figure 4.3: Percentage of participants being members of OSNs	36
Figure 4.4: OSN Sites	37
Figure 4.5: Purposes for which students make use of OSNs	40
Figure 4.6: People who introduced students to OSNs	42
Figure 4.7: How respondents access their OSN accounts	43
Figure 4.8: Age v/s No. of hours students spend on Computers	46
Figure 4.8: Impact of OSNs on Students	48
Figure 4.9: OSN features students use for their studies	52
Figure 4.10: Parents have an OSN account	57
Figure 4.12: Students and teachers connected on OSNs	60
Figure 4.12: Teachers communicate school work to students	60
Figure 4.13: Students connected to their classmates on OSNs.	61
Figure 4.14: How OSN can help in studies	65
Figure 5.1: French Exercise on Facebook	68
Figure 5.2: Sample answers of students	69
Figure 5.3: Go Ahead Group	72
Figure 5.4: Sample answers of a discussion topic	73
Figure 5.5: Shared link on educational group on Facebook	74
Figure 5.6: English Literature Group	75

LIST OF FIGURES

Figure 5.7: Discussion on Literature Group _____	75
Figure 5.8: Sharing of resources on Literature Group _____	76
Figure 6.1: Sharing links on Facebook _____	86

List of Tables

Table 3.1: Description of Questionnaire Sections	22
Table 4.1: Profile of Respondents	31
Table 4.2: Students' age of different classes	32
Table 4.3: Features that can be included in OSN in the future to help in studies	66
Table 5.1: Summary of responses	78

Abstract

During the recent years, Information and Communication Technologies (ICTs) have been identified as beneficial tools for the educational system. The Government of Mauritius has been actively promoting ICT since the last decade. Students are embracing ICTs at an unprecedented rate and given that Internet penetration is increasing within the Mauritian households, more and more young people are getting access to it. The most visited online services among Mauritian youths are Online Social Network (OSN) sites. It has been found that OSNs have tremendous potential for enabling collaborations and social interactions. Harnessing this potential for learning can be the spark to ignite educational transformation in Mauritius. However, no study has been carried out yet in Mauritius on the usage pattern of online social networks among young people and the impact on their education and social life.

Therefore, this research project has investigated the roles that online social networks play in teaching and learning at secondary school level. The impact that OSNs has on communication and social needs of students has also been examined. Large scale surveys have been carried out on the use of OSNs among the Mauritian students. In addition, experiments have been carried out on the use of OSNs to conduct classes and observations have been reported.

Around 4500 responses were collected from the survey and the findings showed that Mauritian students are using OSN sites extensively on a daily basis. It was found that students are already making use of OSNs to discuss school works and teachers also are communicating with students through these online sites. The use of OSNs in secondary education is currently done informally. The main reasons are that these sites are blocked in schools due to the privacy and security concerns for the students. The majority of teachers are also reluctant to adopt this new method of teaching and learning.

Results from this study have clearly shown the benefits of using OSNs in learning. Students were eager to make use of this new way of learning and therefore this can act as a motivating factor in the learning process. A few negative issues with respect to the use of OSNs have also been pointed out. Policy makers can thus consider the results of this study in order to take decisions regarding the use of OSNs in secondary education. A number of recommendations based on the study have been made on how OSNs can be integrated in formal education.

Acknowledgements

First and foremost, we would like to thank the Mauritius Research Council (MRC) for funding this research project.

We are particularly grateful to the Ministry of Education and Human Resources for granting permission to visit secondary schools to collect primary data on a large scale. We would also like to thank all the rectors and teachers of the different colleges visited for their support.

We extend our thanks to Dr. Boojhawon and Dr. N.Mamode Khan for having provided their expertise in the area of statistical methods of data analysis.

We appreciate the assistance given by the Consultancy & Contract Research Centre (CCRC) and the Finance Section of the University of Mauritius.

Chapter 1: Introduction

1.1 Online Social Networking

Online Social Networks (OSNs) are Web-based services where users can create profiles with varying degrees of openness (such as public, semi-public and private), connect with individuals they know or wish to know and interact with other users of the system through messages, comments and various other simplified communication techniques made available [1, 2]. With an increasing number of people having access to the Internet, OSNs have been attracting millions of users, with Facebook alone reporting more than 500 million active users as at July 2010; a 100 percent increase from its 200 million users in April 2009 [3, 4] making it the most popular OSN at the moment. The main motivations for individuals to use OSNs have been summarised by Shi, Na. et al [5] as: (i) Maintaining offline contacts; (ii) Meeting new people; (iii) Information seeking; (iv) Entertainment.

According to a survey by Pew Internet [6], it was found that 55% online American teenagers aged between 12 and 17 use OSNs. The survey also revealed that 48% of those young OSNs users visited the sites on a daily basis. Since most youngsters in the age group mentioned above are students, therefore, understanding the impact of OSNs on students is important so as to mitigate risks and encourage beneficial usages. In addition, numerous studies around the world indicate that stable social networks among students are a key factor for students' achievement in the course of the studies [7, 8] and prevent drop outs.

With an increasing number of Mauritian households getting connected to the Internet, the international craze about OSNs has inevitably been reaching our youngsters, most of whom being students. Their engagement on such sites has indeed been impacting on their social and academic life. This can in turn affect their behaviour towards others in the society.

1.2 Project Summary

This research project focuses on analysing the role that Online Social Networks play in students' learning experiences in the secondary school environment. This project will also investigate the impact that OSNs have on communication and social needs of secondary school students. Large scale surveys will be carried out on the use of OSNs among young people in Mauritius. Other data collection methods will consist of classroom observations and interviews with teachers.

Both quantitative and qualitative analysis of collected data will be carried out using a thematic framework. Qualitative modes of data analysis will be used for examining, comparing and contrasting, and interpreting meaningful patterns in the collected data. Quantitative data analysis will also be used and will contain both descriptive statistics and inferential statistics.

Since no research has evaluated these OSNs and their impact on students in Mauritius, this project is aimed at evaluating: (a) what are the different uses the secondary school students are making of Online Social Networks, (b) what are the impact of OSNs on the secondary students' learning experiences (informal and formal education), and (c) what gratifications are met by using these OSNs. This research focuses on analysing the role that Online Social Networks play in students' learning experiences. The construction of students' Online Social Networks, the evolution of these networks, and their effects on the students' learning experience in secondary school environment will be examined.

Indeed, this project will investigate the impact that OSNs have on communication and social needs of secondary school students. Based on the results obtained, a number of recommendations will be made with respect to how OSNs can be integrated in our education system to prepare students to acquire competencies like autonomous learning, collaborative working, authentic problem solving and an ability to adapt to a rapidly changing world. Recommendations about policies and strategies for integrating OSNs as a tool for e-learning, which is crucial for the life-long learning, will be made.

1.3 Hypothesis

This study is based on the hypothesis that integrating Online Social Networking at secondary level education will improve the students' learning experiences.

1.4 Objectives of the Proposed Work

The objectives of the project are as follows:

1. To collect information about the current usage pattern of Online Social Networking by secondary level students in Mauritius.
2. To analyse the impact of Online Social Networking on students' behaviour and education.
3. To come up with a set of recommendations regarding the usage of OSNs in secondary institutions.

1.5 Proposed Methodology

Below is the proposed research methodology that will be followed to carry out this project.

1. Study of Online Social Networks Sites

A detailed study of available Online Social Networks (OSNs) will be carried out. Existing literatures in the field will be reviewed. The characteristics, functionalities and operation modes of different OSNs will be evaluated.

2. Formulation of hypothesis and identification of objectives

The hypothesis for the study will be established and the independent and dependent variables to be studied will be identified. The nature of the relationship that exists between these variables will be specified. The detailed objectives of the project will also be laid down.

3. Sampling and Sampling Method

A sample is simply a small group drawn from the survey population. All care will be taken to select the sample for it to be representative of the larger population. Consequently, findings of the survey could be used to make generalisations and statements about the whole secondary student population. In this project, respondents will be selected using a randomising technique which ensures each member has an equal chance of being included in the sample. The sample will be selected from the enrolment list of all secondary students in Mauritius.

4. Data Collection on the use of OSNs in Mauritius

A mixed methodology framework will be adopted for this study, involving both quantitative semi-directive questionnaires addressed to students and a qualitative content analysis on the different OSNs platform used by the students. Data collection will consist of surveys, classroom observations and interviews with teachers. The classroom observations will be beneficial in the identification of interaction patterns among firstly, the students themselves and secondly, between teachers and their students. This will be useful when designing OSN-based applications that can emulate or even provide functionalities that will enhance the existing interaction patterns.

5. Development of a framework for analysing collected data

In order to analyse the different information collected on usage of OSNs among Mauritian students a thematic framework will be adapted or developed. The thematic framework will provide a versatile means for both quantitative and qualitative analysis of collected data.

6. Classification and analysis of collected data

Qualitative modes of data analysis will be used for discerning, examining, comparing and contrasting, and interpreting meaningful patterns in the collected data. The data will be analysed and synthesised from multiple angles depending on the different evaluation questions being addressed. Quantitative data analysis will also be used and will contain both descriptive statistics and inferential statistics.

7. Experimentation on the use of OSNs embedded into formal education

An experiment will be designed and implemented to firstly, demonstrate how OSNs can be embedded into the formal education curriculum of the secondary school levels and secondly, to gather additional data for the consolidation of our earlier findings. The experiment will normally take the form of a coursework set by a teacher to his/her students on an OSN platform. The students will then be informed about it and advised to work on same through the OSN platform at their respective places of residence. After the completion of the coursework by a set deadline, focus group interviews will be carried out with both the teacher and the students to gather their experiences in using the OSN platform for that specific coursework. The students' work and online collaboration will also be analysed.

8. Interpretation of Results

The results obtained from the analysis of data will be interpreted to have better understandings of relationships between important variables of OSNs, student perceptions, and impact factors. Students' perception of OSNs based on the analysis of collected data for the Mauritian context will be explored and the impact of the OSNs on students' learning experiences will be investigated.

9. Recommendations

The relationships identified in the interpretation of results section will be further developed and critical observations for policy intervention and implementation of guided OSNs in schools for enhanced learning will be made. Connecting factors for improving students' networks by means of curricular design as well as in single courses would be identified.

Recommendations for engaging students in authentic problem solving through OSNs student-driven, communities of learning will be made.

Chapter 2: Literature Review

2.1 Types of Online Social Networks

Following the popularisation of Web 2.0, the online community has witnessed the emergence of several websites offering online collaboration as a major feature to their users. Interaction between the web users has been significantly simplified and diversified offering them a variety of ways to communicate such as through commenting, chatting, tagging, private messaging, etc.

Digizen [9], an organisation promoting “awareness and understanding of what digital citizenship is”, has proposed that OSNs be classified under two main categories: Profile-based and Content-based. However, in most cases setting specific guidelines to differentiate between the two is complicated by the fact that both of them exhibit properties of the other up to a certain degree. The level of hybridisation will vary from one OSN to another.

2.1.1 Profile-based

OSNs falling under this category are usually people-oriented whereby each member maintains an individual profile, sharing details about themselves. Those details, which can be referred to as attributes, include pictures, demographic data such as gender, age, etc as well as other information that characterises a person in a social setting such as education level, hobbies, interests, etc. Sharing of information and opinion through commenting, tagging, chatting and other ways among members is also a key aspect of profile-based OSN since it facilitates the socialisation process that the users are looking for on such sites. These profile-based OSNs are the ones most readily accepted as Online Social Networking Sites mainly due to the fact that they are the most popular among web users. Facebook, Hi5, MySpace, Orkut and LinkedIn are among some of the most popular examples. Some profile-based OSNs target specific audience, which is the case for LinkedIn, attracts mostly professionals by gearing its user-attributes towards what potential employers and clients search for.

2.1.2 Content-based

On the other spectrum, there are sites offering social networking features but put more emphasis on the sharing of content, often uploaded or published by the users themselves. This has often been touted as major difference between the Web 1.0 paradigm and that of Web 2.0 where users are not merely consumers of

information on the Web but also active producers for peer consumption. OSNs classified as content-based still enable users to create profiles but with usually limited and few basic attributes such as name, gender and location. The most common kind of content uploaded and shared by users online are pictures with Flickr being an OSN example for it and videos on Youtube. Other site members can respond to those contents through comments and more recently through 'Likes'. Unlike Profile-based OSNs, on Content-based ones, users can choose to follow through subscription to the stream of updates by particular users rather than necessarily adding them as friends.

2.1.3 Hybrids

2.1.3.1 Multi-user virtual environment

In addition to attributes, a virtual world, usually in 3D, is used to visually represent a context. Users are immersed into those artificial environments through models often referred to as 'Avatars' which can be customised according to the users' tastes and can range from gender, skin pigmentation, and hair-style to clothing. SecondLife [10] is an OSN falling under this category; however, high-bandwidth requirement has hindered its popularity.

2.1.3.2 Mobile OSNs

With smart-phones becoming more and more ubiquitous, OSN platforms have started to adapt to the situation by providing light-weight mobile applications that enable users to interact with OSNs from their phones. Several such applications exist for using Facebook for example.

2.1.3.3 Micro-blogging/ Presence Updates

Used through both the Web and mobile platforms, micro-blogging/ presence updates such as Twitter [11] or Facebook's Status enables users to broadcast or reply to broadcasted short sentences to other users who follow them. This has gained popularity mainly due to its simplicity of use and low bandwidth requirement.

Twice yearly, an updated world map showing the most popular OSNs in different part of the world is published on Vincenzo Cosenza [12] provided below:

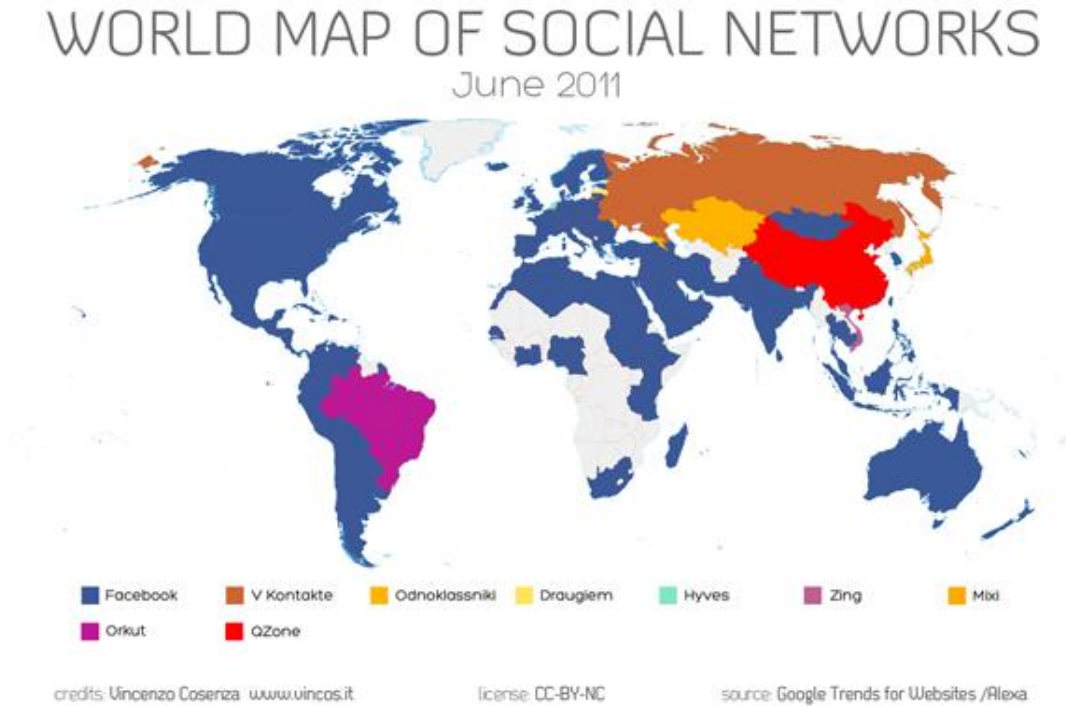


Figure 2.1: World Map of Social Networks

Currently it can be seen that Facebook is the most dominant OSN worldwide.

2.2 Some Examples of Online Social Networks



Facebook is currently the most popular OSN, with more than 800 million active users [13]. It was originally created for students of Harvard College and was then launched to other universities and colleges and finally to the public in 2006 [14]. In addition to creating profiles on Facebook, users can also join networks organised by their workplaces, schools or colleges. Facebook provides its user with different features, the main one corresponding to the 'Wall'. This is a space on every user's profile wherein friends can post messages which everyone on their friend list can view. The users can also upload photos which can be organised in albums.



MySpace is an online social community which allows the user to meet his friends' friends. It was the most popular social networking site in June 2006 but was overtaken by Facebook. [15] In MySpace, users can customise their profiles using themes and can also decorate their pages using HTML and CSS.



Twitter is referred to a microblogging website and is also known as the 'SMS of the Internet'. It enables its users to post and receive messages known as tweets. These messages are up to 140 characters long. Twitter is communication in a new shape, but it's also a platform for listening to the communication of others in new ways. [16]



LinkedIn is not just another online social website but a powerful tool for business networking with more than 75 million users. [17] Users set up their profile and develop a network to keep contact with people they know in business. The profile contains detailed employment history, the positions held by the users and the groups they are in. Job seekers can use this site to find jobs while employers can search for potential candidates.

2.3 Online Social Networking and Youth Culture

Globalisation, with its advancement in communication and technology, has a very profound impact on youngsters and the youth culture. Internet and the various online social networking facilities have become the new opium for youngsters. Social networks such as Facebook, Twitter, Skype and others have become a craze among young people. Many of the latter are addicted to social networking as it is a means of both entertainment and learning. In this modern industrial society, we cannot deny the fact that a great majority of youngsters are glued to the computer. They spend most of their time surfing and browsing, watching online or offline videos, listening to music, playing games and other stuff.

Online social networking has a great influence on youth. The constant increase in the number of youth using OSNs and the increase in the time spent online has led to a change in youth culture and lifestyle. OSNs have become part of the culture for young people the world over. It is a way of life for the majority. What they eat, how they are dressed, the way they communicate emotion, who are their friends, what they believe in and what are their value system, their norms, their folkways and their mores have all been influenced by the Internet and more particularly by OSNs.

2.3.1 OSNs as an Agent of Socialisation

Socialisation is the process through which human beings learn the culture of the society. Online social networking has become a major agent of the socialisation process. Family, as a socialising agent, seems to be losing its roles as regards to decision making in the purchase of dress and food. Young people rely more on OSNs for consumption purposes. To remain trendy and up to date, the Internet and online services are more effective for them. The impact of Facebook, Twitter and Myspace, amongst others, on changes on youth lifestyles cannot be underestimated whatever be the class, ethnicity or religious appurtenance of youngsters. Bradley Maseko (2011) argues that the social media has become an important aspect of the youth culture and given that more youth are becoming addicted to social networking, many companies are targeting the youth through this means, due to its great viral effect.[18]

2.3.2 OSNs as a Tool for Personality Development for Introverts

In the past, young people with introvert personality were facing many problems to communicate and voice out their opinions. Online Social Networks are instruments which can potentially facilitate introverts in promoting their ideas and interacting with the world. In a way OSNs help in personality building and development. According to Bradley Maseko (2011) the youth of today are very opinionated and they want to be able to express themselves. Through Internet and OSNs, introvert youth find it easy to

post opinions, share ideas and seek advice with a view to improve their communication skills.

2.3.3 OSNs and Cultural ‘Shocks’

Cultural shocks occur when people come across certain behaviours, attitudes, ways of life and information that are often unknown to them. People encountering cultural shocks face dilemma and anxiety. According to an article in the 2011 global library of free learning [19], it has been stipulated that technological revolution has brought about a digital youth culture where young people regularly use computing technology to interact with each other online without always knowing what is appropriate, factual, or legal for them to view or use. The digital world impacts on the behaviour of the youth. Teens are often exploited, bullied, abused and harassed not only by strangers but also by friends. Unnecessary messages, pictures and information are posted to them. Although many traditional youth are culturally shocked and feel emotional discomfort yet not all of them report such cases to parents and authorities for fear of reprisal and often because they are ashamed of themselves. Online Cultural shocks may affect youth behaviour and cause disturbances in education and life.

In a study entitled *Social consequences of the Internet*, Pathi M. Valkenburg and Jochen Peter (2009) [20] arguing that online communication technologies are useful to youngsters seem to be cautious in their conclusion by claiming that further studies need to be carried out to find out conditions under which adolescents may experience positive and adverse potential effects of online communication. To avoid or mitigate the effects of cultural shocks, children should be educated on the effects of online social networking.

2.4 Online Social Networks in Education

Information and communication technologies (ICTs) have been touted as potentially powerful enabling tools for educational change and reform around the world. When used appropriately, different ICTs are said to help expand access to education, strengthen the relevance of education to the increasingly digital workplace, and raise educational quality by, among others, helping make teaching and learning into an engaging, active process connected to real life.

The Internet is showing great potential for enhancing education and the role of Online Social Networks has become increasingly relevant in recent years. Indeed, Online Social Networks (OSNs) have tremendous potential for enabling collaborations and social interactions [21]. Harnessing this potential for learning can be the spark to ignite educational transformation. Since most youngsters aged between 12 and 18 are students, it makes sense to assume that the statistics presented in the section above

about young people apply to student. Therefore, understanding the impact of OSNs on students is important so as to mitigate risks and encourage beneficial usages.

Despite anecdotal evidence in the popular press that OSNs is the root of image management problems experienced by students, the findings of Ellison et al [22] contradict it and demonstrate how OSNs help students in maintaining relations as they move from one offline community to another. For example, when students graduate from college, they can keep in touch with the college community through their profile and these connections can provide them with opportunities such as jobs, internships and many others. The research concluded that instead of removing people from their offline world, OSNs in fact, support these relationships. Fovet [23] conducted both a quantitative and a qualitative study through semi-directive questionnaires addressed to students with Social Emotional and Behavioural Difficulties (SEBD) and a content analysis of the Facebook platform respectively. Its main objective was to find out whether OSNs could help these students in the classrooms. It concluded that OSNs are indeed having an impact on students' behaviour and learning and must be monitored. It was also noted that the awareness of teachers about the complexity and subtle mechanisms involved in OSNs usage was important.

According to a report by Ofstead, Britain's Office for Standards in Education, Children's Services and Skills [24], blocking access to some websites by schools made students more vulnerable since they could not learn how to assess and manage risk for themselves when away from schools. Among some of the recommendations made in the report, training of staff to better understand the implication of new technologies and encouraging schools to switch from "locked down" (blocking access to some websites) to managed systems were the most prominent ones. In managed systems, incentives can be used as proposed by Deng et al [25] who studied the incentive mechanisms and online behaviour of virtual communities which in our case consist of OSNs as platforms for such communities. Among its conclusions, it pointed to the fact that a set of incentive mechanisms can be used to affect youngsters' behaviour so as to help them in their character development and moral educational level.

The National School Boards Association (USA) in partnership with research firm Grunwald Associates LLC [26] has published a data-rich survey dissecting social and education related activity patterns by American students. Below are some of the findings of the survey:

- Students (9 to 17 years old) spend almost as much time using social networking services and Web sites as they spend watching television. Among teens, that amounts to about 9 hours a week on social networking activities, compared to about 10 hours a week watching TV.
- Beyond basic communications, many students engage in highly creative activities on social networking sites – and a sizeable proportion of them are adventurous nonconformists who set the pace for their peers.

- Almost 60 percent of students who use social networking talk about education topics online and more than 50 percent talk specifically about schoolwork. Yet the vast majority of school districts have stringent rules against nearly all forms of social networking during the school day – even though students and parents report few problem behaviors online.
- There has been explosive growth in creative and authoring activities by students on social networking sites in recent years. With words, music, photos and videos, students are expressing themselves by creating, manipulating and sharing content online.

The data that has emerged from the NSBA survey leaves no doubt as to how important social networking is today for young adults and how potentially effective this could be if there was a synergy, rather than a friction, between the online social interaction drivers of the new generations and the goals that schools in general are trying to achieve.

Christine Greenhow [27] argued, based on a select review of the research literature as well as the author's explorations of young people's online social networking practices within MySpace and Facebook, that young people's online social networking can serve as sites for and supports for student learning in ways not currently assessed. As per the study social network sites can serve as direct and indirect supports for learning, such as providing an emotional outlet for school-related stress, validation of creative work, peer-alumni support for school-life transitions, and help with school-related tasks; and online social networking can stimulate social and civic benefits, online and offline, which has implications for education. The study furthermore concluded that students used their online social network to fulfill social learning functions within and across informal and formal learning spheres of activity. These social learning functions included:

- obtaining validation and appreciation of creative work through feedback on their profile pages;
- peer/alumni support – that is, reaching out to former classmates to give or receive help in managing the ups and downs of high school or college life; and
- help with school-related tasks.

2.4.1 OSNs as Knowledge Management Systems and E-Learning Platforms

Waters [28] investigated the role-behaviour of students in online communities and found that these can be modelled as both a knowledge management system and as a social network. This is an interesting possible usage of OSNs: as platforms for collaborative knowledge building especially by students.

Figl et al [29] focused on real-world Social Networks and how Computer Science students benefited from and maintained them. Details and descriptions were gathered from students and analysed using network analysis measures. Results showed that university courses provided good opportunities for building such networks and the students were using Internet technologies such as e-mail and chat for maintaining contacts with their peers. The main benefit that the students derived from such Social Networks was that they could obtain support especially in relation to their studies from their peers and that the amount of support was proportional to the number of contacts they had and the strength of the ties they had to them. We hypothesise that this real-life social network could potentially be supported with a virtual one through OSNs which will provide participants with a variety of communication tools such as chat, comments, group messages etc.

Li [30] proposed the concept of associating E-learning with OSNs. An online survey was conducted among Chinese students who were registered on Xiaonei (one of China's most popular OSN) to find out about their main activities on the site, the factors that they care most while exploring it and potential applications for Xiaonei that they expect most as students. It was found that equivalents of tools used in E-learning platforms are often provided in OSNs as well in addition to the fact that OSNs by their nature encourage users to work as parts of larger communities thus breaking the isolation of conventional E-Learning platforms. However, the main disadvantage of using OSNs in E-Learning is the privacy concerns for user data.

A recent library research class at the University of Florida (UF) experimented with the use of the social networking site Facebook as an online course management software solution for their research methodology class [31]. The UF faculty found that the tradeoffs between the appropriation of Facebook as an online classroom management solution and using a conventional CMS were relatively few and in many ways worth the necessary workarounds. Facebook allowed instructors to distribute documents (via posting and messaging), administer discussion lists, conduct live chat and handle some assignment posting. Areas where Facebook had difficulties in competing with other CMS were in grading, assignment uploading and online testing. For these aspects of conventional CMS functionality, the instructor had to rely on e-mailing, spreadsheets and other non-integrated tools. However, it was reported that the inconveniences for instructors outweighed by large gains in classroom communication and particularly in the areas of student online participation and buy-in. For the purposes of UF's research methods course, the sheer popularity of Facebook and a willingness to make the first move gave the research methodology class a greatly improved level of communication that was reflected in student interest and in all classroom interactions, both real and virtual.

Traditional academic institutions have generally resisted the influence and increasingly pervasive presence of social networking activities in the life of their students, but recently, the same institutions have had to look with new eyes at all of the aspects and

consequences of this new modes of technological socialisation sweeping the younger generations [26].

The positive effects of social networking sites in education are profound. According to a study conducted by the University of Minnesota [36] on student use of social media, students who are already engaging in social networking could benefit from incorporating it into curriculum. Use of social networking not only benefits students, but also provides new opportunities for communication amongst teachers and administrators. Social networking sites aim to capitalise on the enormous popularity of online social networking while simultaneously providing a more secure and regulated platform for social networking activities.

2.4.2 Online Social Networks in the Mauritian Context

Internet penetration has constantly been increasing in Mauritius. The number of Internet subscribers at the end of 2008 stood at 199, 511 and as at September 2009 it had reached 251,453 [32]. With this increase more and more young people are getting access to internet and the related services. One of the preferred online services among young people in Mauritius is unquestionably Online Social Networks (OSNs). However no study has been carried out yet in Mauritius on the usage pattern of online social networks among young people and the impact on their education and social life.

In Mauritius lots of emphasis has been laid on the use of ICT in Education. In the National ICT Strategic Plan (NICTSP) [33] it is emphasised that education in Mauritius must be such as to inculcate in students an acumen of tackling the untoward and staying prepared for challenges in an increasingly professional and knowledge-driven world. ICT must be used as a key enabler in this endeavour, and education must make the transition from “Education about ICTs” to “Education through ICTs” in a larger effort to make education more creative and less pedagogical and subject to rote. ICT would be a key enabler to effect this transformation.

The NICTSP highlighted that the education process must imbibe in the students a spirit of lifelong learning and must instill in them capabilities that help them tackle the untoward. Schools and institutions must make the transition from being providers of well-defined educational services to becoming learning organisations that prepare students to acquire competencies like autonomous learning, collaborative working, authentic problem solving and an ability to adapt to a rapidly changing world.

Indeed, the Internet is showing great potential for enhancing education and the role of Online Social Networks has become increasingly relevant in recent years. In Mauritius, the increased use of the Internet as a new tool in communication has changed the way people interact. Moreover, Online Social Networks (OSNs) have gained massive popularity among Mauritian students during the past few years.

Although researchers have been studying the impact of Social Networking Sites on the educational sector, particularly on students, their findings do not necessarily apply to

the Mauritian context. While the Mauritian Government, spear-headed by the National Computer Board (NCB) has been making efforts to sensitise students as well as the general population about the dangers of the Internet [34, 35], including the engagement in Social Networking Sites, very little has been done to understand the impact that OSNs are having on students. We believe that resorting to an outright banning of such sites in educational institutions as is the currently the case is inappropriate without a thorough study of the impact on the different stakeholders when using OSNs as this has been the case in Britain as reported by Ofstead [24]. Beside, students are still able to bypass the ban through the use of proxy-servers and accessing the sites from home.

Chapter 3: Methodology

Methodology is the systematic and scientific way of producing and analysing data so that theories can be tested, accepted or rejected [37]. In other words, it simply means a plan that describes how, when and where data are to be collected and analysed. The real payoff in research is determining how variables are related. Researchers are normally interested to know not only how variables change, that is correlations between variables, but also why, that is the causal connections. The cause and effect relationship between different variables help to understand that a change in one variable causes change in another. A knowledge of the causal connections is valuable as it helps researchers to predict how one pattern of behavior will produce another [38]. In this study, use of both primary and secondary data has been made. Secondary data have been obtained from books, internet search, journals and government documents and reports. Primary data have been mainly collected by the means of a questionnaire containing both open ended and closed ended questions.

3.1 Purpose of the Study

The purpose of the study is to find out how Online Social Networks (OSNs) can be integrated in the secondary education in Mauritius. The study thus developed and implemented a survey so as to determine the usage of OSNs by the secondary level students.

3.2 Instrumentation

There are different types of data collection techniques including interviews, questionnaires, direct observation of behaviour, focus groups, etc. To select a survey instrument, some factors have to be considered. These factors are listed below:

1. Technical adequacy which involves reliability and validity.
 - Reliability is usually concerned with stability over time.
 - Validity is concerned with whether or not the item actually elicits the intended information.

2. Practicality

This factor involves cost, political consequences and duration of the survey.

3. Ethics

Ethics refer to the protection of human rights, privacy and legality.

3.2.1 Chosen instrument: Survey Questionnaire

The survey questionnaire was used as the main instrument for this study. It can be found in Appendix A. This instrument was chosen out of other data-gathering techniques for the reasons stated below:

- Questionnaires can be used to obtain information from a large number of people.
- Questionnaires can be used to collect quantitative data with the use of close-ended questions.
- Questionnaires can be distributed manually or electronically.
- Questionnaires can reach a vast number of people regardless of physical location.

3.3 Target Population and Sampling

The survey population includes all secondary students in Mauritius which is approximately 80,000 from 200 colleges. Given that the survey population is very large, it is nearly impossible to question or interview each and everyone as this will involve a very high cost. Therefore, sampling will be important to be carried out so as an observational study can be performed. The most common sampling designs are simple random sampling, stratified random sampling, and multistage random sampling. In this study, a simple random sampling has been used. Simple random sampling is the basic sampling technique where a sample is selected for study from a larger group (a population). Each individual is chosen entirely by chance and each member of the population has an equal chance of being included in the sample. For this study, a random sample of 5% of the total population will be taken.

3.4 Questionnaire Design

The questionnaire was designed to be quick and easy for students to complete with several questions involving a choice of tick boxes, with a minimum amount of written response required. Simple wordings were used and clear instructions about how questions should be answered were provided.

3.4.1 Types of Survey Questions

1) Open-ended questions

This type of questions allows participants to respond in their own words the way they choose.

Example

Suggest some features that you think can be included in online social networks in future to help you in your school work.

.....

.....

.....

Figure 3.1: Open-ended questions

2) Close-ended questions

Close-ended questions require participants to choose from a limited amount of responses predetermined by the researcher. This type provides primarily quantitative data and is used in confirmatory research. There are 5 types of close-ended questions as stated below:

a) *Multiple choice*

Multiple choice questions are used when the researcher wants the respondents to choose the best possible answer.

Example

How often do you access your online social networking account?

- ☐ *Daily*
- ☐ *Weekly*
- ☐ *Fortnightly (every two weeks)*
- ☐ *Monthly*

Figure 3.2: Multiple choice questions

b) *Categorical*

The possible answers for the question are categories and the respondent must belong to one category.

Example

For how many years have you been using computers?

- ☐ *< 1 year*
- ☐ *1-2 years*
- ☐ *3-4 years*
- ☐ *>5 years*

Figure 3.3: Categorical questions

c) *Likert Scale*

A Likert scale is used when the respondent is asked to indicate their degree of agreement with a statement.

Example

	<i>Strongly agree</i>	<i>Agree</i>	<i>Neither Agree Nor Disagree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
<i>OSN is beneficial for my studies</i>					

Figure 3.4: Likert scale questions

3.4.2 Chosen Question Types

Mostly close-ended questions were asked because firstly, the research is mainly a quantitative research, secondly this method may improve the response rate of the survey and finally, it will be easier to code and analyse the data. However, two open ended questions were provided at the end of the questionnaire so as to allow the students to voice out their opinions. A Likert scale was also used in the questionnaire.

A summary of the purpose of the survey was provided at the start of the questionnaire together with a short description about what is online social networking and the participants were assured that their answers will be treated with confidentiality and anonymity. A contact email address was also made available so as if the participants have any queries, they could get in touch with us. There were in total 33 questions asked in the questionnaire.

A respondent profile was recorded containing demographic characteristics of the respondents such as age, gender, residence area, name of college, class and email address. The email address was included so as to facilitate the researcher if he has to contact some respondents after the data collection phase. However, this field was made optional.

The questionnaire was divided into eight different sections. Table 3.1 describes each section.

<u>Sections</u>	<u>Description of Sections</u>
A: Computer Literacy	The aim of this section is to find out if students possess a computer and if they have internet facilities at home. The places where they make use of computers and also the privacy they have at home to use their computers were recorded. The number of years they have been using computers was also noted.
B: Computer Usage	This section focuses on the use of computers by students. The number of hours they spent on computers per day and the purposes for which they use computers.
C: Communication through Computer	Students were asked if they make use of the Internet and for which purposes they use the Internet. The types of online communication use by students and the hours they spend on online communication were recorded.
D: Online Social Networking	Information about the use of online social networks (OSNs), the number of years students are members of an OSN account, the different OSN sites they are members of, the person who introduced the students to OSNs, how often and how the students access their accounts, the personal information they share on their profiles, the purposes of using OSNs, the impact of OSNs have on the students and some negative experiences which students encountered on OSNs.
E: Online Social Networks & Education	This part emphasises on the types of educational activities students currently make use of on OSNs and what features they use on their accounts. The students were allowed to rate how far they agree with statements such as 'OSNs are beneficial for my studies' and 'OSNs interfere in my studies'.
F: Online Social Networks & Parents	In this section, the relationship between the parents and students concerning their OSN accounts were explored.
G: Online Social Networks & School	Section G allows us to know if students have access to OSNs at schools, if their teachers are members of OSNs and if teachers make use of OSNs to communicate school work to students.
H: Desirable Features of Online Social Networks	The last section concentrates on how OSNs and which new feature on OSN accounts can help in studies.

Table 3.1: Description of Questionnaire Sections

3.4.3 Types of Questionnaire

Two types of questionnaires were designed namely copies and web-based survey forms. The online survey forms were created using the web survey tool namely SurveyMonkey.com.

3.5 Pilot Survey

A pilot survey (see Appendix A) was carried out to evaluate the competency of the questionnaire and finalise the survey questions. It was observed that the respondents understood the purpose of the survey and that the wordings of the survey were mostly clear. In addition, the answer choices given were compatible with the respondents' experience on the matter. The answers collected reflected what was expected in regards of the purpose of the survey and according to the test audience, no other important issues have been overlooked.

However, the respondents were asked for feedback to identify ambiguities and difficult questions and based on their responses, some changes were conducted and questions that were not answered as expected were re-worded as described below:

1. The answer choices were written more clearly so that the respondents do not face any difficulties in understanding them.
 - The choices for residence area were changed from Urban and Rural to Town and Village respectively.
 - The answer choices for question 22 were re-phrased.
2. The statements which guided the respondents in answering the questionnaire were altered.
 - The statement "Please tick all that apply" was changed to "You may tick more than one answer".
 - The statement " If the answer is No, please move to Question" was modified to " If the answer is No, skip Questions ... and continue with Question ..." .
3. A question was added asking the respondents for their email address but this response was optional.
4. A contact us note was added.

3.6 Ethical Issues

Since this research required the participation of human respondents, therefore certain ethical issues were addressed. The consideration of these ethical issues was necessary

for the purpose of ensuring the privacy of the participants mainly. The four ethical concerns that were considered when conducting the survey research are as follows:

- i. Participation was voluntary.
- ii. Care was taken to avoid embarrassment or feeling uncomfortable about the questions addressed.
- iii. The respondents' identity was protected by exercising anonymity and confidentiality.
- iv. Every participant was aware of the purpose of the survey.

3.7 Data Collection

After conducting the pilot survey, the final questionnaire (see Appendix B) was administered to the secondary level students from August 2011 to the end of September 2011. The questionnaires were distributed all over Mauritius using personal contacts and to have a wider range of population, visits to colleges mainly in zone 2 and zone 4 were done.

3.7.1 Site Visits to Colleges

The colleges in which questionnaires were distributed in zone 2 are as follows: Mahatma Gandhi Institute, Mahatma Gandhi Secondary School, Ebène SSS (Boys), Ebène SSS (Girls), Belle Rose SSS (Girls), Queen Elizabeth College, Beau Bassin SSS and John Kennedy College and those in zone 4 are Dr. Regis Chaperon SSS, Gaetan Raynal State College, Sodnac SSS, Quatre Bornes SSS, Palma SSS, Dr. Maurice Cure Sate College, Mahatma Gandhi Secondary School Solferino, Vacoas SSS (Boys), Vacoas SSS (Girls), Phoenix SSS and Sir Abdool Raman Osman State College. To have access to these colleges, permission from the Ministry of Education and Human Resources was sought. The letter can be found in Appendix C.

Before distributing the questionnaires in each class, students were explained about the study that was done and how their responses will be used. Most students took an average of 10 minutes to fill in the questionnaire.

3.7.2 Web-based Survey

The Web-based Survey was conducted using SurveyMonkey, a survey software program offered online. For a small fee, the program offered some features including unlimited questions, custom survey design and URLs, enhanced security (SSL/HTTPS) included, skip logic, excel imports and printable PDFs. Responses to the survey were recorded and exported in a spreadsheet.

3.7.3 Overview of Data Collection

After the data collection stage, it is important to organise the set of data gathered and store them. In total, 6000 questionnaires were printed and 4472 forms were received. From the web survey, about 100 responses were obtained. Some forms had to be discarded since it was noticed that they were not properly filled or in some cases, working people or primary level students answered the survey. In total 4545 responses were finally collected.

3.8 Problems Encountered

The main problems encountered during the data collection are as follows:

- It took some time to receive the permission from the Ministry of Education and Human Resources which delayed the data collection phase.
- Some rectors were not very willing to allow the distribution of questionnaires in their respective schools since this will cause a disruption to the classes and we had to leave the questionnaires at the school and collect them another day.
- When leaving the questionnaires at the colleges and collecting them afterwards caused a loss of many questionnaires.

3.9 Data Coding

The first step of data analysis is data coding. Data coding refers to the transformation of the questionnaire data in another format so that the computer can understand so as the statistical software that will be used, that is, SPSS can use the data effectively to do analysis. Each segment of data is marked with symbols, descriptive words or category names. During coding, a master list of all codes is kept.

Codes are assigned as shown in the figure below:

- q16** *How often do you access your online social networking account?*
- 1.** ☐ *Daily*
 - 2.** ☐ *Weekly*
 - 3.** ☐ *Fortnightly (every two weeks)*
 - 4.** ☐ *Monthly*
 - 99.** *Missing*
 - 88.** *NA (Not applicable)*

Figure 3.5: Assigning codes to Questions

In other words, a number is assigned for each option of the question and two other numbers are assigned in addition namely 99 for missing and 88 for Not Applicable. 99 is used when the respondent has not answered the question while 88 is assigned when the question has been skipped. This depends on how previous questions have been answered since if the answer to some questions is No, the respondent is asked to skip some questions that followed. Therefore, in this case, the value 88 is assigned to those skipped questions.

However, for multiple responses questions, coding is applied differently, as shown in Figure 3.6.

- q5** *Where do you usually make use of computers? (Please tick all that apply)*
- ☐ **q5a** *Home*
 - ☐ **q5b** *School*
 - ☐ **q5c** *Public places (e.g. library, cyber café, etc)*
 - ☐ **q5d** *Others*
- q5_specify** *Please specify:* _____
- q5_missing**

Figure 3.6: Coding for Multiple Responses Questions

Since respondents are allowed to choose more than one option, the coding has been done in a different way. Each option is given a descriptive word and care has been taken to tackle blank responses for these types of questions too as shown above.

3.10 Data Entry and Storage

Microsoft Access was chosen for the data entry part since it provides the facilities to create forms so that the process can take place more quickly and errors can be avoided compared to entering data directly into the database of the statistical software SPSS. In addition, validations were added to each field to minimise data entry errors. Figure 3.7 shows a preview how the access form has been implemented:

The screenshot shows a Microsoft Access form titled "frmSurveys : Form". The form is divided into several sections, each containing a set of questions. The sections are:

- Respondent Profile:** Includes fields for Age (19), Gender (Male), Res. Area (Home), College (15), Class (7), and Email.
- Section A: Computer Literacy:** Questions about computer use at home, frequency of use, and purposes.
- Section B: Computer Usage:** Questions about daily computer use and purposes.
- Section C: Communication through Computer:** Questions about internet use and online communication.
- Section D: Online Social Networking:** Questions about OSN membership, frequency of use, and purposes.
- Section E: Online Social Networking & Education:** Questions about educational activities on OSN.
- Section F: Online Social Networking & Parents:** Questions about parents' knowledge of OSN and their use.
- Section G: Online Social Networking & School:** Questions about OSN use at school.
- Section H: Desirable Features of OSN:** Questions about features that should be included in OSNs.

The form also includes a "SurveyID" field at the top left and a "Records" bar at the bottom showing 14 records out of 4545.

Figure 3.7: Microsoft Access Form

After the data entry on Microsoft Access, the responses obtained from the web survey were merged in the same database, which was finally exported to SPSS for further analysis. In SPSS, labels had to be initialised for some questions since data coding has been previously done. Figure 3.8 shows an example of how labels were assigned to the values of question 2.

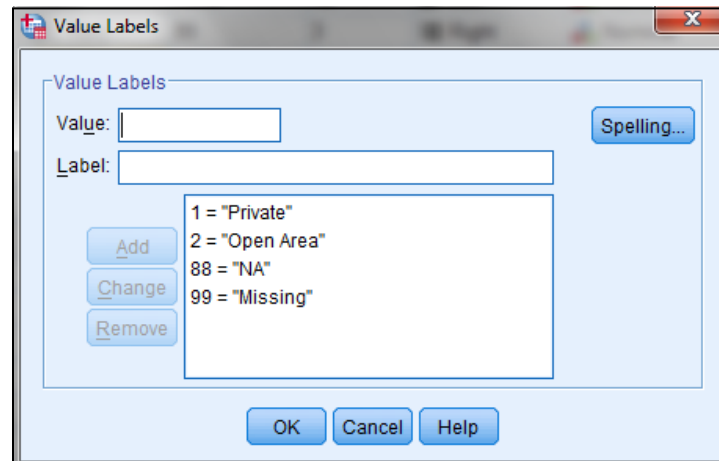


Figure 3.8: Value Labels Dialog Box (SPSS)

As it can be seen from Figure 3.8, the number 1 has been assigned to correspond to private area and number 2 to open area. The number 99 has been allocated when the respondent did not answer the question while the digit 88 was assigned when the question was not needed to be answered. (i.e. if for question 1, the respondent had answered "No", therefore he was asked to skip questions 2 and 3)

The data was stored in SPSS as shown in Figure 3.9.

The image shows a preview of the SPSS database. The table has 29 rows, each representing a respondent. The columns include demographic information (SurveyID, age, gender, residence, college, college_specify, class, email) and a series of questionnaire items (q1, q2, q3, q4, q5a, q5b, q5c, q5d, q5e, q5f, q5f_specify, q5_missing, q6, q7a, q7b, q7c, q7d). The data shows various responses, including 'Yes', 'No', 'Private', 'Open A...', 'Missing', and specific time durations like '>5 years', '<1 year', '1-2 hours', '3-4 hours', and '>5 hours'.

Figure 3.9: SPSS Database Preview

3.10.1 Managing Missing Variables

As it has been seen in previous sections, missing values were assigned to most questions. A missing value declaration is essential so as to ensure that SPSS does not take these values into consideration in any procedures. Failing to define the missing values will lead to SPSS using invalid values of variables thus biasing the results. Figure 3.10 describes how missing values have been declared in SPSS.

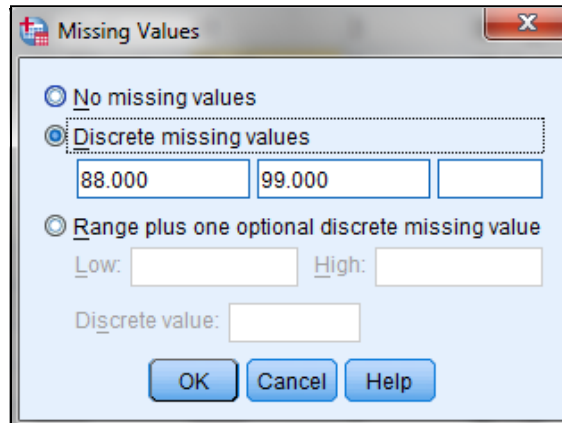


Figure 3.10: Missing Value Declaration Dialog Box

Limitation of the Study

The methodology used, as in all studies, has its limitations. Since the student population size is very big ($n = 80,000$), it would be difficult and costly to survey the whole population. Consequently, a sample size of 5% was used which is representative of the student population. Although the sample size seems to be relatively small, yet, it does provide reliable and valid results. Thus the findings of the study can be safely used to make generalisations.

3.12 Data Analysis

Since for the data collected from the survey, mainly relationships were to be found between different variables, therefore the Pearson Chi-Square test has been chosen. The Pearson Chi-square is the most common test for significance of the relationship between categorical variables. This measure is based on the fact that we can compute the expected frequencies in a two-way table, i.e. frequencies that we would expect if there was no relationship between the variables. This test allowed us to observe if there are connections or not between different variables.

Chapter 4: Results and Discussions

In this chapter, the results of the data analysis are presented. The frequencies of some variables are displayed together with the relationships of some variables.

4.1 Students' Profile

Table 4.1 gives an idea of the profile of the secondary level students from the different classes.

Respondent Profile		Class							Total
		<i>Form 1</i>	<i>Form 2</i>	<i>Form 3</i>	<i>Form 4</i>	<i>Form 5</i>	<i>Lower 6</i>	<i>Upper 6</i>	
Gender	<i>Male</i>	25	114	534	628	156	228	114	1799
	<i>Female</i>	33	44	863	782	298	479	234	2733
	<i>Total</i>	58	158	1397	1410	454	707	348	4532
Residence Area	<i>Urban</i>	25	71	886	915	197	396	129	2619
	<i>Rural</i>	33	83	482	467	248	303	211	1827
	<i>Total</i>	58	154	1368	1382	445	699	340	4446

Table 4.1: Profile of Respondents

It is noticed, from Table 4.1, that a larger number of responses were obtained from Form 3, Form 4 and lower 6 students. The lower level students, that is, Form 1 and Form 2 students were not requested to fill in the questionnaire since they were quite young, being mostly below 13 and according to most online social networking sites, the policy is such that individuals should be at least 13 years old to be able to create an account.

Therefore, while visiting the colleges mentioned in chapter 3, we took that policy into consideration and omitted these two classes. Little responses were received from Form 5 and Upper 6 classes due to the fact that during the period August to October, most of these students were absent from school for revision purposes.

However, as we can notice from Table 4.1, a total of 58 and 158 responses were received from Form 1 and Form 2 respectively. These were collected mostly from the distribution of questionnaires by personal contacts. The standard age groups of students from the different classes are displayed below in Table 4.2:

Class	Age
Form 1	11-12
Form 2	12-13
Form 3	13-14
Form 4	14-15
Form 5	15-16
Lower 6	16-17
Upper 6	17-18

Table 4.2: Students' age of different classes

Ages greater than 18 were also collected since some respondents may have repeated some classes. The highest age collected during the survey is 21.

The sections that follow present the results obtained during the data analysis phase and the interpretation of results are also discussed.

4.2 Purposes of Using Computers

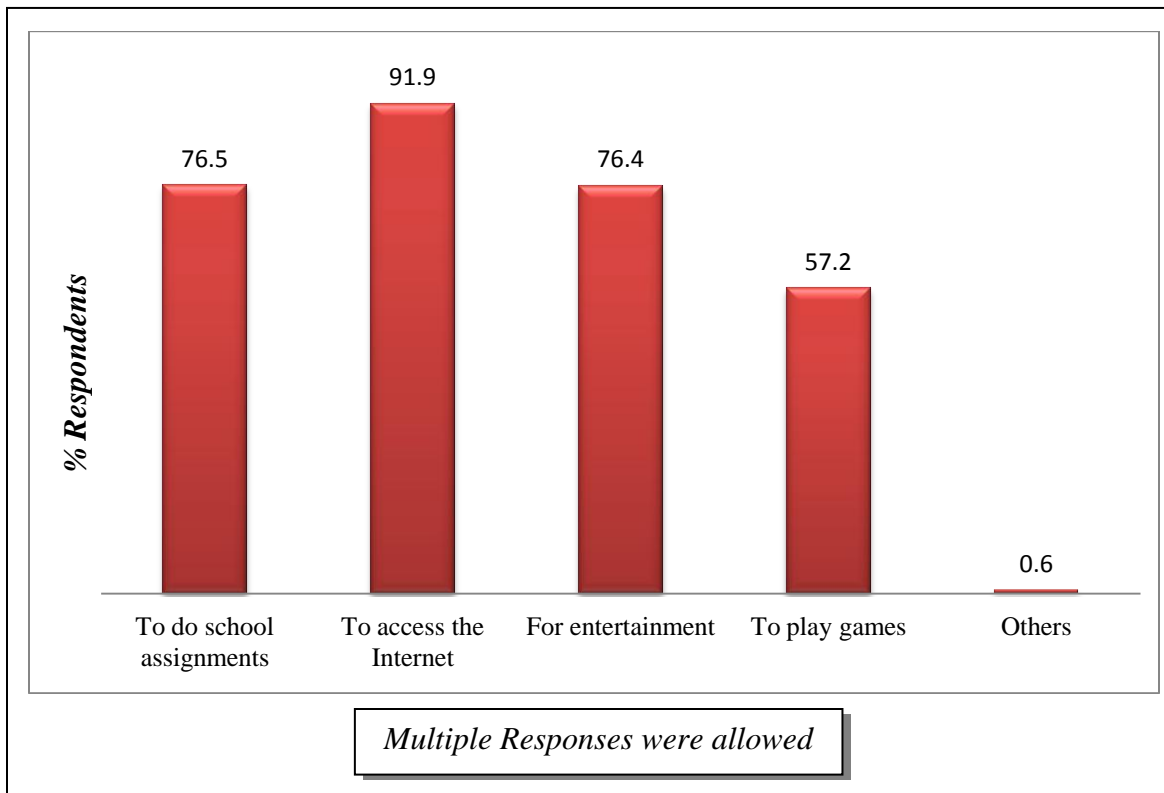


Figure 4.1: Purposes of Using Computers

It can be observed as in Figure 4.1, many students are using computers for educational purposes (76.5%), that is, to do school assignments. It is becoming more and more common to study with the help of computers and Internet nowadays. Since multiple answers were allowed, it is noticed that students using computers for entertainment purposes (76.4%) are also using computers to do their school works (76.5%). If there would have been a more formal use of ICT for school purposes, students would have been more encouraged to use computers for educational purposes. Since a large number of students (91.9%) are using Internet, Online Social Networking can be one of the Internet tools to enhance learning and to help students in their studies.

4.3 Use of Internet by Students

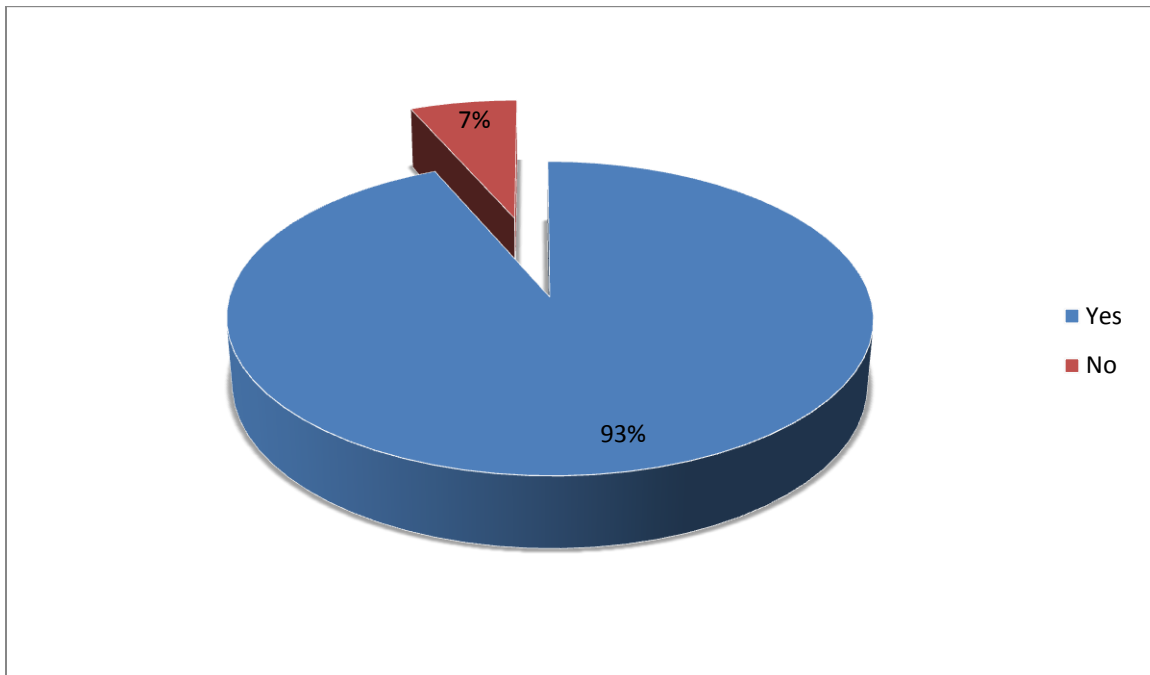


Figure 4.2: Use of Internet

It is observed that most of the students (93%) do make use of the Internet. This is so since having Internet facilities at home is more common these days and even though students do not have a computer or internet facilities at home, they are using mobile phones or even visiting public places such as cyber café to have access to the Internet.

However, some respondents (7%) do not have access to the Internet. Some reasons behind this may be that they do not have the financial means to afford a computer or Internet facilities at home. The government should look into this so that Internet access is provided to everyone.

4.4 Relationship between Respondents' Age and Types of Online Communication

age*\$online_communication Crosstabulation

			\$online_communication ^a					Total
			Email	IM	OSN	Skype	Others	
age	11	Count	10	4	10	5	0	12
		% within age	83.3%	33.3%	83.3%	41.7%	.0%	
	12	Count	21	18	38	19	0	54
		% within age	38.9%	33.3%	70.4%	35.2%	.0%	
	13	Count	140	103	238	124	1	274
		% within age	51.1%	37.6%	86.9%	45.3%	.4%	
	14	Count	618	474	966	479	2	1107
		% within age	55.8%	42.8%	87.3%	43.3%	.2%	
	15	Count	609	493	946	456	3	1054
		% within age	57.8%	46.8%	89.8%	43.3%	.3%	
	16	Count	311	259	473	228	2	522
		% within age	59.6%	49.6%	90.6%	43.7%	.4%	
	17	Count	403	333	547	301	0	595
		% within age	67.7%	56.0%	91.9%	50.6%	.0%	
	18	Count	180	162	231	138	1	263
		% within age	68.4%	61.6%	87.8%	52.5%	.4%	
	19	Count	57	42	77	45	0	82
		% within age	69.5%	51.2%	93.9%	54.9%	.0%	
	20	Count	14	7	20	14	1	23
		% within age	60.9%	30.4%	87.0%	60.9%	4.3%	
	21	Count	1	0	0	0	0	1
		% within age	100.0%	.0%	.0%	.0%	.0%	
Total		Count	2364	1895	3546	1809	10	3987

Percentages and totals are based on respondents.

a. Dichotomy group tabulated at value 1.

It is found that the most used online communication is Online Social Networking regardless of the respondents' Age.

4.5 Knowledge on Online Social Networking

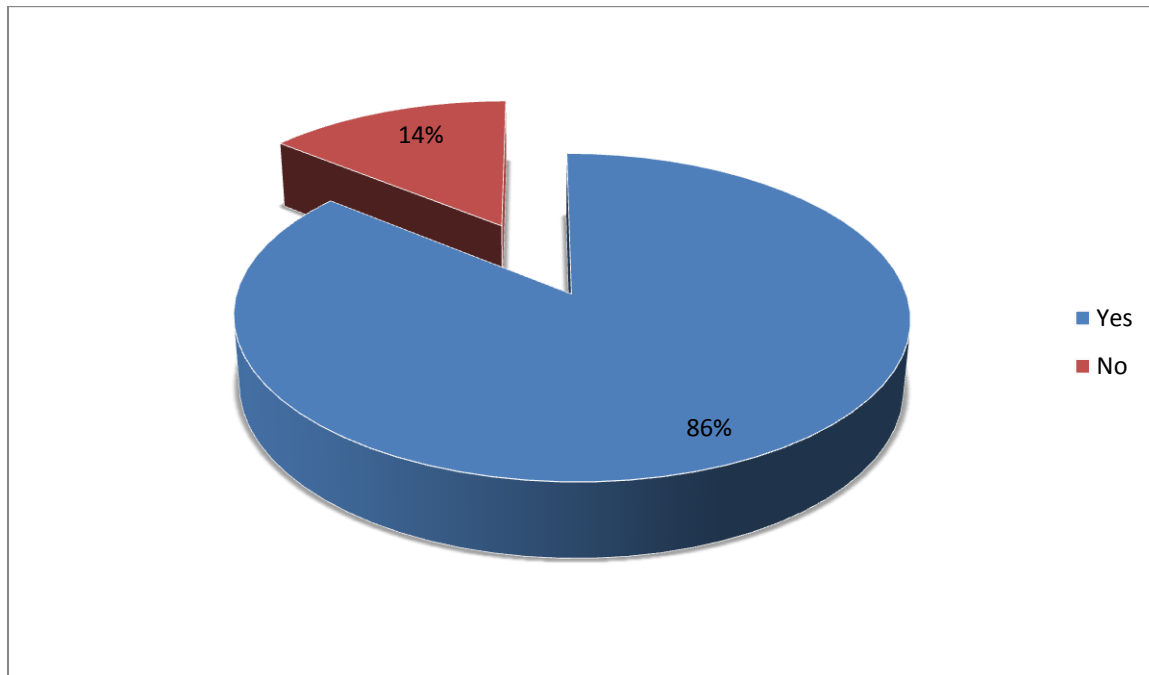


Figure 4.3: Percentage of participants being members of OSNs

As presented by the pie chart in Figure 4.3, a large percentage (85.9%) stated that they are members of at least one online social networking site. This illustrates a great popularity of OSNs among Mauritian students and confirms other studies, one of which is a survey in America by Pew Internet which states that 55% of teenagers use OSNs [6]. Given an increase in popularity among students using OSNs, there is a scope to use OSNs in education since we have seen that most of the students (75%) are already using computers for school assignments. Our country may use this potential tool to promote education among secondary level students.

Some respondents, on the other hand, (14.1%) stated that they do not use OSNs and as we have seen in section 4.3, a few (7%) are not even using Internet. This results in only a small number of students (7.1%) not being a member of any OSN in Mauritius.

We have further widened the survey by asking the students which OSN sites they are members of. Figure 4.4 below shows the frequency distribution of the respondents

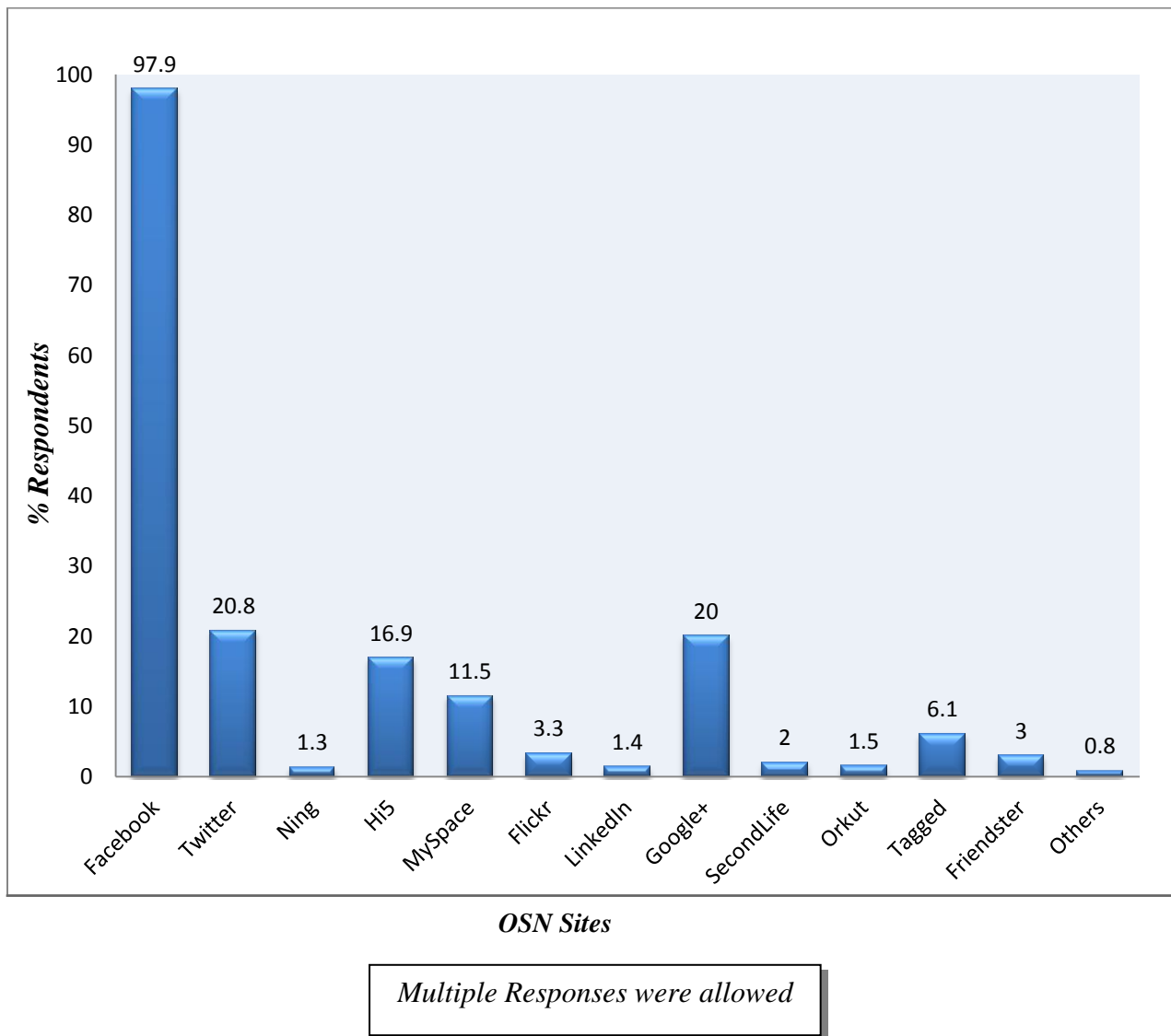


Figure 4.4: OSN Sites

It is observed that the most popular online social networking site is Facebook with 97.9% of respondents being members of this OSN site. Other most used OSN sites in Mauritius among secondary levels are Twitter, Google+ and Hi5 with 20.8%, 20.0% and 16.9% respectively. An important note on this is that Google+ has been launched in July 2011 and we can notice that as soon as this OSN site was launched, it attracted many people including Mauritian students. Another option was provided to the respondents so that they could specify other social networking sites that were not cited in the questionnaire. The sites respondents mentioned were mainly Skyrock (9 respondents), Badoo (6 respondents), Maurispace (4 respondents), Habbo and IMVU (both having 3 respondents).

4.5.1 Relationship between Age and being a member of OSNs

A chi-square test was carried out to determine whether there is a relationship between the respondents' age and if they were member of at least one OSN site. The test value of 0.000 obtained indicated that being a member of OSN(s) was dependent on the respondents' age.

age * Member of OSN(s) Crosstabulation

% within age		Member of OSN(s)		Total
		Yes	No	
age	11	78.6%	21.4%	100.0%
	12	62.9%	37.1%	100.0%
	13	80.7%	19.3%	100.0%
	14	82.4%	17.6%	100.0%
	15	87.8%	12.2%	100.0%
	16	87.7%	12.3%	100.0%
	17	90.3%	9.7%	100.0%
	18	89.1%	10.9%	100.0%
	19	92.9%	7.1%	100.0%
	20	83.3%	16.7%	100.0%
	21	0%	100.0%	100.0%
Total		85.9%	14.1%	100.0%

The responses for ages 11 and 12 are being ignored in the interpretation of the above results since the OSN policy stated in section 4.1 is being taken into consideration. Even though OSNs have a policy to prevent young teenagers below 13 years old to join these sites, we can still observe that these students are using OSNs. The response for respondents being aged 21 is also overlooked since there was only one response collected for this age. From the table above, we can notice that as the respondents' age increases, the students are more attracted to OSN sites.

4.5.2 Relationship between Internet facilities at home and Member of OSNs.

A Chi-square test was carried out to find out whether students having Internet facilities at home are more likely to create accounts on OSNs. The tables and figure below show the statistics:

Internet Facilities * Member of OSN(s) Crosstabulation
% of Total

		Member of OSN		Total
		Yes	No	
Internet Facilities	Yes	79.7%	10.8%	90.4%
	No	7.8%	1.8%	9.6%
Total		87.4%	12.6%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	13.020 ^a	1	.000		
Continuity Correction ^b	12.430	1	.000		
Likelihood Ratio	11.752	1	.001		
Fisher's Exact Test				.001	.000
Linear-by-Linear Association	13.016	1	.000		
N of Valid Cases	3848				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 46.19.

b. Computed only for a 2x2 table

The test value of 0.000 obtained shows that an Internet facility at home is dependent on being a member of an OSN. Students having Internet facilities at home are freer to create OSN accounts. However, the 7.8% of respondents cannot be ignored. Even though these students do not have such facilities at home, they are still interested in OSNs. They make use of public places or even friends and relatives places to use OSNs as demonstrated in section 4.13.2.

4.6 Purposes for which students make use of OSNs

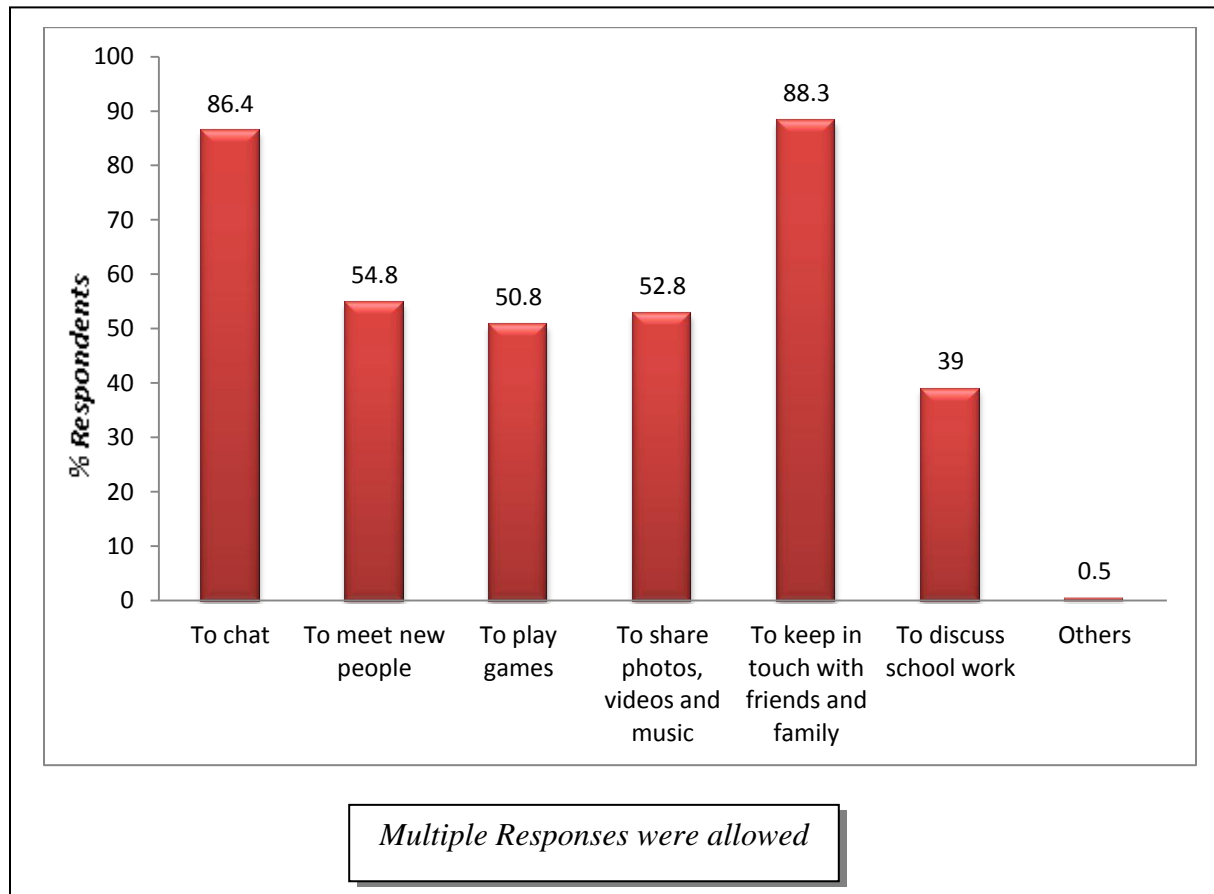


Figure 4.5: Purposes for which students make use of OSNs

The purposes for which students make use of OSNs are mainly for communication purposes, that is, keeping in touch with friends and family (88.3%) and to chat (86.4%). Others include as a pastime and to have fun. However, we can notice that many of the students (39%) do make use of OSN to discuss school work. This shows that OSNs have a positive impact on their education.

4.6.1 Relationship between Age and Purposes of OSNs

age*\$OSN_Purposes Crosstabulation

			\$OSN_Purposes ^a							Total
			q20a	q20b	q20c	q20d	q20e	q20f	q20g	
age	11	Count	10	6	8	5	9	5	0	11
		% within age	90.9%	54.5%	72.7%	45.5%	81.8%	45.5%	.0%	
	12	Count	32	11	21	14	26	14	0	39
		% within age	82.1%	28.2%	53.8%	35.9%	66.7%	35.9%	.0%	
	13	Count	204	131	144	116	194	86	0	236
		% within age	86.4%	55.5%	61.0%	49.2%	82.2%	36.4%	.0%	
	14	Count	829	488	516	467	839	334	0	965
		% within age	85.9%	50.6%	53.5%	48.4%	86.9%	34.6%	.0%	
	15	Count	811	532	494	512	827	356	3	941
		% within age	86.2%	56.5%	52.5%	54.4%	87.9%	37.8%	.3%	
	16	Count	408	279	228	266	425	196	6	474
		% within age	86.1%	58.9%	48.1%	56.1%	89.7%	41.4%	1.3%	
	17	Count	481	310	258	312	506	251	5	547
		% within age	87.9%	56.7%	47.2%	57.0%	92.5%	45.9%	.9%	
	18	Count	208	133	98	133	222	105	2	238
		% within age	87.4%	55.9%	41.2%	55.9%	93.3%	44.1%	.8%	
	19	Count	68	42	31	40	67	29	0	78
		% within age	87.2%	53.8%	39.7%	51.3%	85.9%	37.2%	.0%	
	20	Count	14	11	5	10	18	9	0	19
		% within age	73.7%	57.9%	26.3%	52.6%	94.7%	47.4%	.0%	
Total		Count	3065	1943	1803	1875	3133	1385	16	3548

Percentages and totals are based on respondents.

a. Dichotomy group tabulated at value 1.

From the table above, it is observed that most students use OSNs to chat (86.4%) and to keep in touch with friends and family (88.3%). However, only 0.5% of the students use OSNs for school purposes, that is, to discuss their works.

4.7 Who Introduced Students to OSNs

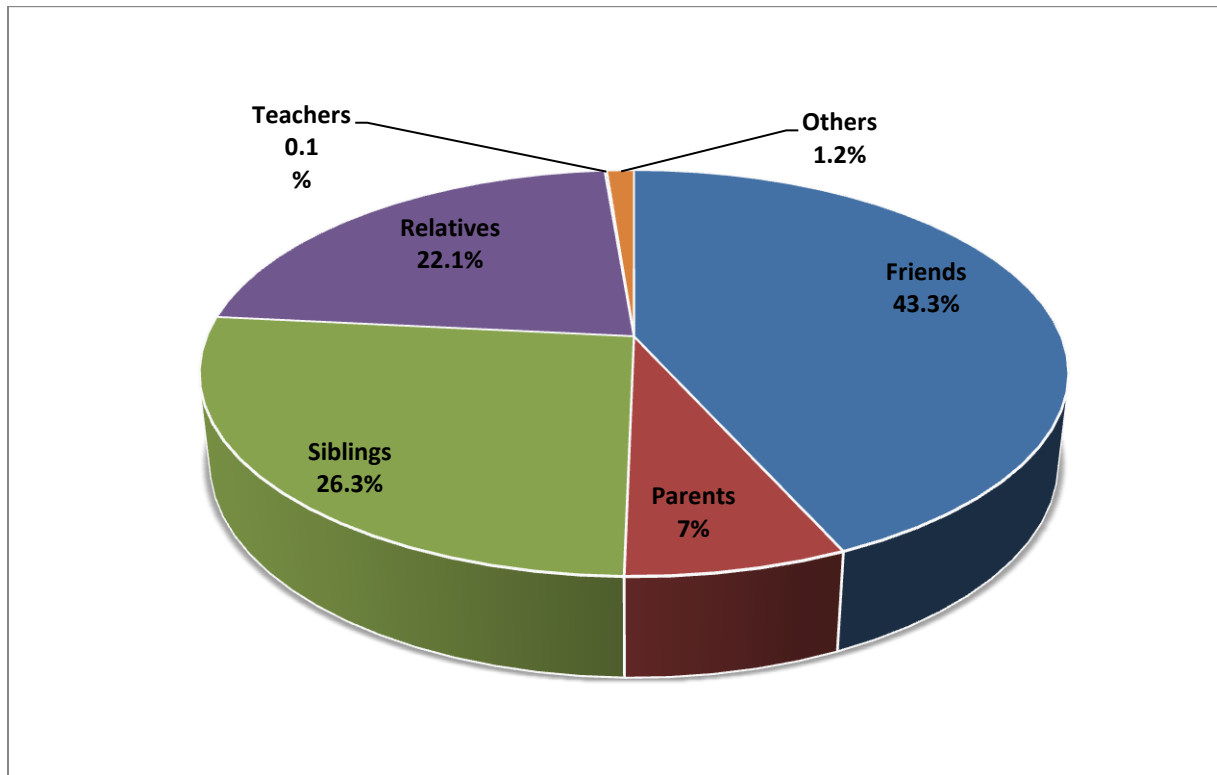


Figure 4.6: People who introduced students to OSNs

From Figure 4.6, it is found that the majority of participants (43.3%) were introduced to OSNs sites by their friends. It shows that teenagers are greatly influenced by peer groups and this can be used for a good cause, for example, ideas can be exchanged in education among friends and they can work collaboratively.

The pie chart shown above indicates a minimal role of teachers introducing students to OSNs (0.1%) since it is not actually a formalised system in school. This tool can be used in education, therefore allowing more teachers to encourage students using OSNs for their studies.

4.8 Accessing OSN accounts

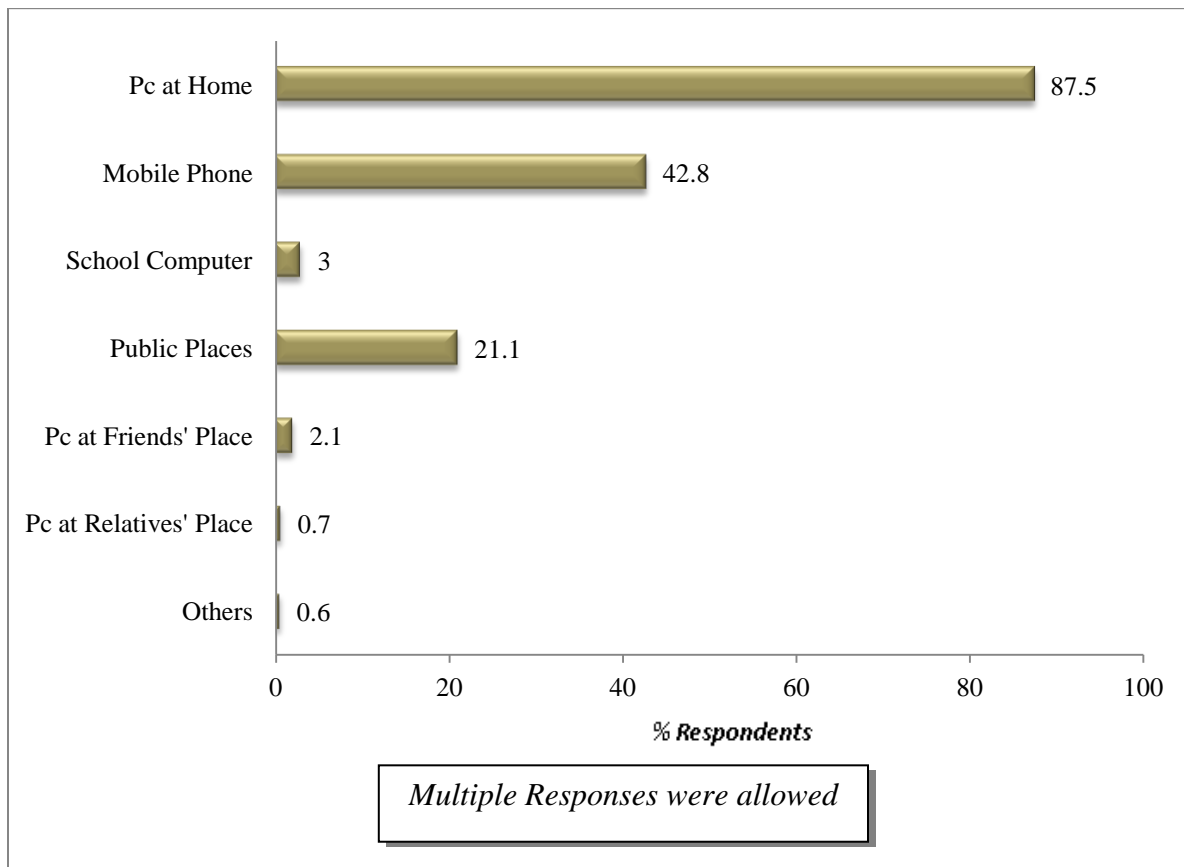


Figure 4.7: How respondents access their OSN accounts

It is seen that many respondents (87.5%) use their personal computer at home to access their OSN accounts since there is an increasing awareness of ICT in Mauritius and using mobile phones to access OSNs is also quite common among students (42.8%). The majority of students are not able to use OSNs at school since most of the schools have blocked OSN sites in their computer labs. However, in some schools, OSNs can be accessed but only students of computer studies.

It can also be observed that numerous students (21.1%) are going to public places to access their OSN accounts. The most visited public places are cyber-café, post offices and social welfare centres.

4.9 Relationship between places where students use computers and the frequency they access their OSN accounts.

It is observed that regardless of the places where students make use of computers, they are most likely to access their OSN accounts on a daily basis.

Places*Frequency Crosstabulation

			Frequency				Total
			Daily	Weekly	Fornightly	Monthly	
Places ^a	Home	Count	1777	1138	191	193	3299
		% within Places	53.9%	34.5%	5.8%	5.9%	
	School	Count	663	444	76	95	1278
		% within Places	51.9%	34.7%	5.9%	7.4%	
	Public Places	Count	535	370	65	89	1059
		% within Places	50.5%	34.9%	6.1%	8.4%	
	Relatives	Count	58	55	11	13	137
		% within Places	42.3%	40.1%	8.0%	9.5%	
	Friends	Count	36	12	8	2	58
		% within Places	62.1%	20.7%	13.8%	3.4%	
	Others	Count	16	11	3	5	35
		% within Places	45.7%	31.4%	8.6%	14.3%	
Total		Count	1833	1246	216	243	3538

Percentages and totals are based on respondents.

a. Dichotomy group tabulated at value 1.

4.10 Relationship between Respondents' Age and No. of hours they spend on computers per day.

Age * No of hours Crosstabulation

			No of hours				Total
			<1 hour	1-2 hours	3-4 hours	>5 hours	
Age	11	Count	9	6	0	0	15
		% within age	60.0%	40.0%	.0%	.0%	100.0%
	12	Count	44	25	3	1	73
		% within age	60.3%	34.2%	4.1%	1.4%	100.0%
	13	Count	144	139	42	18	343
		% within age	42.0%	40.5%	12.2%	5.2%	100.0%
	14	Count	450	537	199	80	1266
		% within age	35.5%	42.4%	15.7%	6.3%	100.0%
	15	Count	348	468	215	107	1138
		% within age	30.6%	41.1%	18.9%	9.4%	100.0%
	16	Count	154	224	116	61	555
		% within age	27.7%	40.4%	20.9%	11.0%	100.0%
	17	Count	156	262	145	64	627
		% within age	24.9%	41.8%	23.1%	10.2%	100.0%
	18	Count	60	100	73	43	276
		% within age	21.7%	36.2%	26.4%	15.6%	100.0%
	19	Count	24	37	21	8	90
		% within age	26.7%	41.1%	23.3%	8.9%	100.0%
	20	Count	10	9	3	4	26
		% within age	38.5%	34.6%	11.5%	15.4%	100.0%
	21	Count	1	0	0	0	1
		% within age	100.0%	.0%	.0%	.0%	100.0%
Total		Count	1400	1807	817	386	4410
		% within age	31.7%	41.0%	18.5%	8.8%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	151.749 ^a	30	.000
Likelihood Ratio	156.434	30	.000
Linear-by-Linear Association	107.288	1	.000
N of Valid Cases	4410		

a. 9 cells (20.5%) have expected count less than 5. The minimum expected count is .09.

A test value of 0.000 is obtained when the Chi-square test has been carried out showing that the respondents' Age is dependent on the number of hours they spend on

computers. The bar chart below gives a detailed view of the cross-tabulation of this relationship.

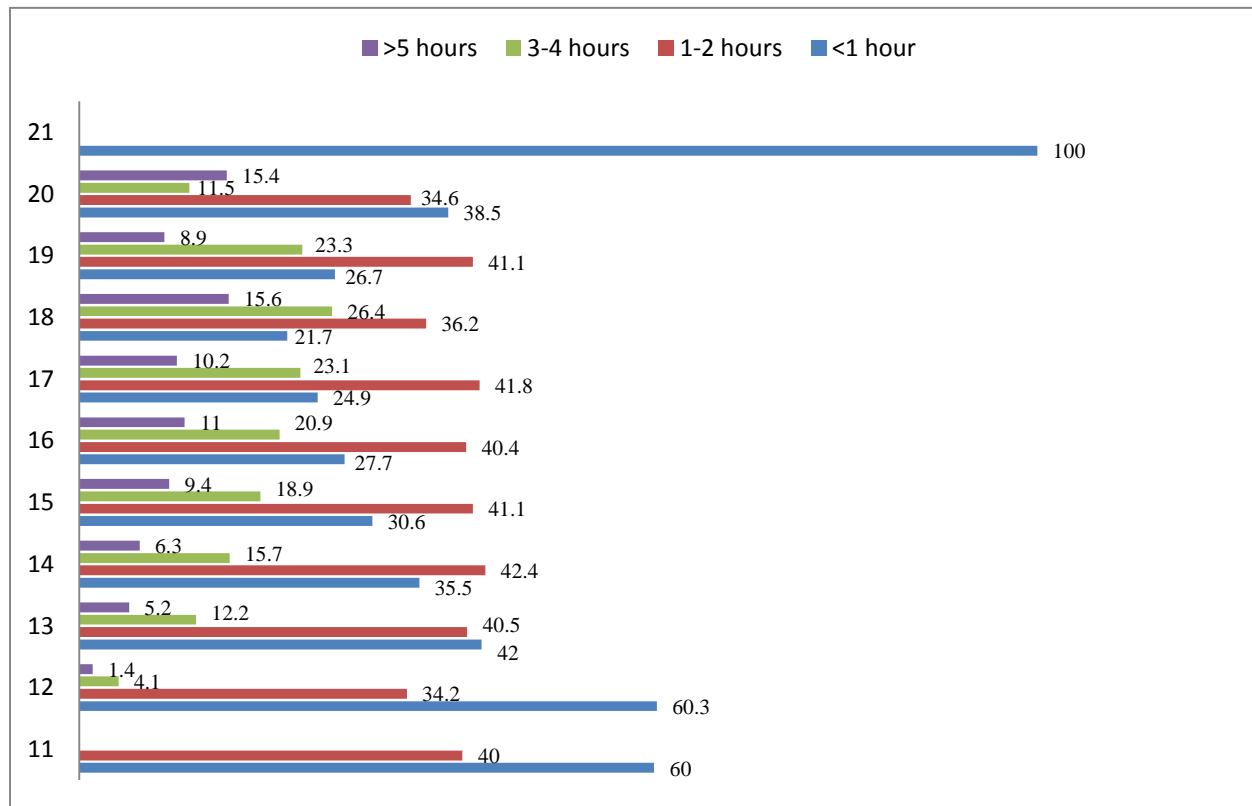


Figure 4.8: Age v/s No. of hours students spend on Computers

4.11 Relationship between Respondents' Age and Personal Information they share on their OSN Profiles.

Age*\$OSN_Information Crosstabulation

		\$OSN_Information ^a								Total
		Birthdate	Gender	Address	Interests	Activities	Educational Information	Photo	Others	
11	Count	11	10	5	9	8	4	5	0	11
	% within age	100.0%	90.9%	45.5%	81.8%	72.7%	36.4%	45.5%	.0%	
12	Count	22	26	12	22	22	20	18	0	38
	% within age	57.9%	68.4%	31.6%	57.9%	57.9%	52.6%	47.4%	.0%	
13	Count	186	180	98	156	163	143	146	0	236
	% within age	78.8%	76.3%	41.5%	66.1%	69.1%	60.6%	61.9%	.0%	
14	Count	804	812	390	665	636	563	620	5	960
	% within age	83.8%	84.6%	40.6%	69.3%	66.3%	58.6%	64.6%	.5%	
15	Count	780	809	371	659	643	586	627	2	933
	% within age	83.6%	86.7%	39.8%	70.6%	68.9%	62.8%	67.2%	.2%	
16	Count	401	409	210	342	337	303	341	4	474
	% within age	84.6%	86.3%	44.3%	72.2%	71.1%	63.9%	71.9%	.8%	
17	Count	484	500	258	418	401	373	421	9	542
	% within age	89.3%	92.3%	47.6%	77.1%	74.0%	68.8%	77.7%	1.7%	
18	Count	205	221	110	168	173	161	181	1	236
	% within age	86.9%	93.6%	46.6%	71.2%	73.3%	68.2%	76.7%	.4%	
19	Count	65	64	32	54	58	51	52	1	78
	% within age	83.3%	82.1%	41.0%	69.2%	74.4%	65.4%	66.7%	1.3%	
20	Count	16	17	9	17	14	13	17	0	19
	% within age	84.2%	89.5%	47.4%	89.5%	73.7%	68.4%	89.5%	.0%	
Total	Count	2974	3048	1495	2510	2455	2217	2428	22	3527

Percentages and totals are based on respondents.

a. Dichotomy group tabulated at value 1.

It is noticed that students with higher ages share more information than younger ones and younger students are more reluctant to upload a photo of them on their social networks.

4.12 Impact of OSNs on Students

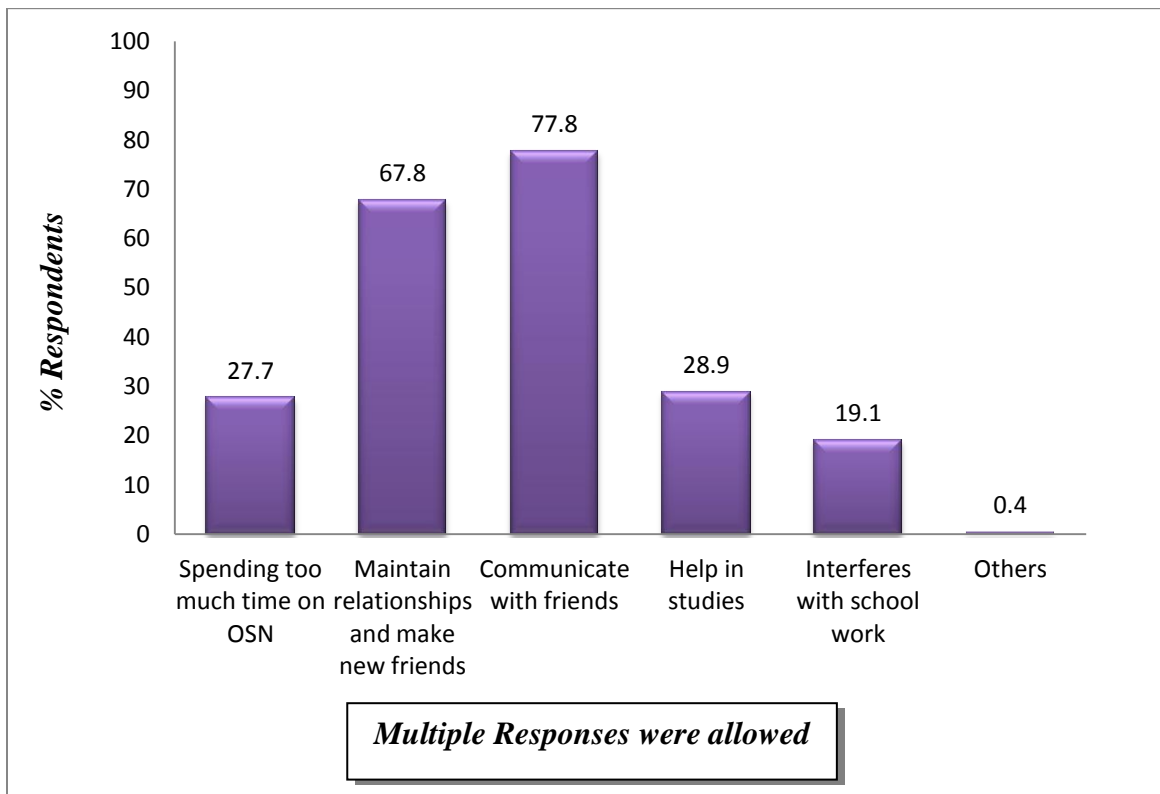


Figure 4.8: Impact of OSNs on Students

According to Figure 4.8, there is mostly a positive impact of OSN on students helping them to communicate with their friends and relatives (77.8%) and to maintain relationships and making new friends (67.8%). It is seen that a large number of respondents (28.9%) perceive OSN as a help for their studies. However, some students (19.1%) stated that OSNs interfere in their school work. Some reasons behind this are students are using OSNs to carry out unproductive works only and instead of doing homework, they are chatting since there is no guidance to use OSNs at home. If this system is formalised, students will be aware of the works they will have to do on OSN, therefore wasting less time in doing unnecessary things on OSNs since many students (27.7%) find that they spend too much time on these sites. Out of the other impacts, some respondents specify that OSNs help them in discovering new technologies and applications while others state that it helps them to overcome stress.

4.13 Negative Experiences students have encountered on OSNs

This section comprises of the negative experiences respondents may have faced in the past on OSN sites. The relationship between the age and gender of respondents against their negative experiences encountered on OSNs are presented.

4.13.1 Relationship between Respondents' Age and the negative experiences students have encountered on OSNs

It is observed that for low aged students, the negative experiences they go through are mainly strangers contacting them frequently and being exposed to bad languages. On the other hand, for elder students, it is found that their online activities are being spied.

Age*\$Negative_Experience Crosstabulation

		\$Negative_Experience ^a						Total
		Being threatened	People Spying	Strangers contacting	Bad languages	Inappropriate picture	None	
11	Count	2	3	6	5	2	1	11
	% within age	18.2%	27.3%	54.5%	45.5%	18.2%	9.1%	
12	Count	1	5	12	22	4	2	33
	% within age	3.0%	15.2%	36.4%	66.7%	12.1%	6.1%	
13	Count	17	45	77	93	32	46	223
	% within age	7.6%	20.2%	34.5%	41.7%	14.3%	20.6%	
14	Count	80	215	305	412	100	149	915
	% within age	8.7%	23.5%	33.3%	45.0%	10.9%	16.3%	
15	Count	85	248	360	436	111	123	886
	% within age	9.6%	28.0%	40.6%	49.2%	12.5%	13.9%	
16	Count	41	146	192	217	70	38	437
	% within age	9.4%	33.4%	43.9%	49.7%	16.0%	8.7%	
17	Count	64	186	240	210	72	75	517
	% within age	12.4%	36.0%	46.4%	40.6%	13.9%	14.5%	
18	Count	26	83	102	103	45	20	222
	% within age	11.7%	37.4%	45.9%	46.4%	20.3%	9.0%	
19	Count	8	23	36	29	12	5	73
	% within age	11.0%	31.5%	49.3%	39.7%	16.4%	6.8%	
20	Count	4	8	7	11	4	2	19
	% within age	21.1%	42.1%	36.8%	57.9%	21.1%	10.5%	
Total	Count	328	962	1337	1538	452	461	3336

Percentages and totals are based on respondents.

Age*\$Negative_Experience Crosstabulation

		\$Negative_Experience ^a							Total
		Being threatened	People Spying	Strangers contacting	Bad languages	Inappropriate picture	None	Others	
11	Count	2	3	6	5	2	1	0	11
	% within age	18.2%	27.3%	54.5%	45.5%	18.2%	9.1%	.0%	
12	Count	1	5	12	22	4	2	0	33
	% within age	3.0%	15.2%	36.4%	66.7%	12.1%	6.1%	.0%	
13	Count	17	45	77	93	32	46	1	223
	% within age	7.6%	20.2%	34.5%	41.7%	14.3%	20.6%	.4%	
14	Count	80	215	305	412	100	149	14	915
	% within age	8.7%	23.5%	33.3%	45.0%	10.9%	16.3%	1.5%	
15	Count	85	248	360	436	111	123	12	886
	% within age	9.6%	28.0%	40.6%	49.2%	12.5%	13.9%	1.4%	
16	Count	41	146	192	217	70	38	11	437
	% within age	9.4%	33.4%	43.9%	49.7%	16.0%	8.7%	2.5%	
17	Count	64	186	240	210	72	75	13	517
	% within age	12.4%	36.0%	46.4%	40.6%	13.9%	14.5%	2.5%	
18	Count	26	83	102	103	45	20	7	222
	% within age	11.7%	37.4%	45.9%	46.4%	20.3%	9.0%	3.2%	
19	Count	8	23	36	29	12	5	1	73
	% within age	11.0%	31.5%	49.3%	39.7%	16.4%	6.8%	1.4%	
20	Count	4	8	7	11	4	2	0	19
	% within age	21.1%	42.1%	36.8%	57.9%	21.1%	10.5%	.0%	
Total	Count	328	962	1337	1538	452	461	59	3336

Percentages and totals are based on respondents.

a. Dichotomy group tabulated at value 1.

4.13.2 Relationship between Respondents' gender and the negative experiences students have encountered on OSNs

From the table below, it is seen that mostly females faced negative experiences compared to male respondents. However, it is noticed that male students are more likely to be threatened by people online (5.4%) compared to female students which is only 4.4%.

gender*\$Negative_Experience Crosstabulation

		\$Negative_Experience ^a							Total
		Being threatened	People Spying	Strangers contacting	Bad languages	Inappropriate picture	None	Others	
Male	Count	181	350	352	730	224	186	31	1367
	% within gender	13.2%	25.6%	25.7%	53.4%	16.4%	13.6%	2.3%	
	% within \$Negative_Experience	55.0%	36.4%	26.3%	47.4%	49.6%	40.3%	52.5%	
Female	Count	148	612	985	810	228	275	28	1971
	% within gender	7.5%	31.1%	50.0%	41.1%	11.6%	14.0%	1.4%	
	% within \$Negative_Experience	45.0%	63.6%	73.7%	52.6%	50.4%	59.7%	47.5%	
Total	Count	329	962	1337	1540	452	461	59	3338

Percentages and totals are based on respondents.

a. Dichotomy group tabulated at value 1.

4.14 OSN features used by students for studies

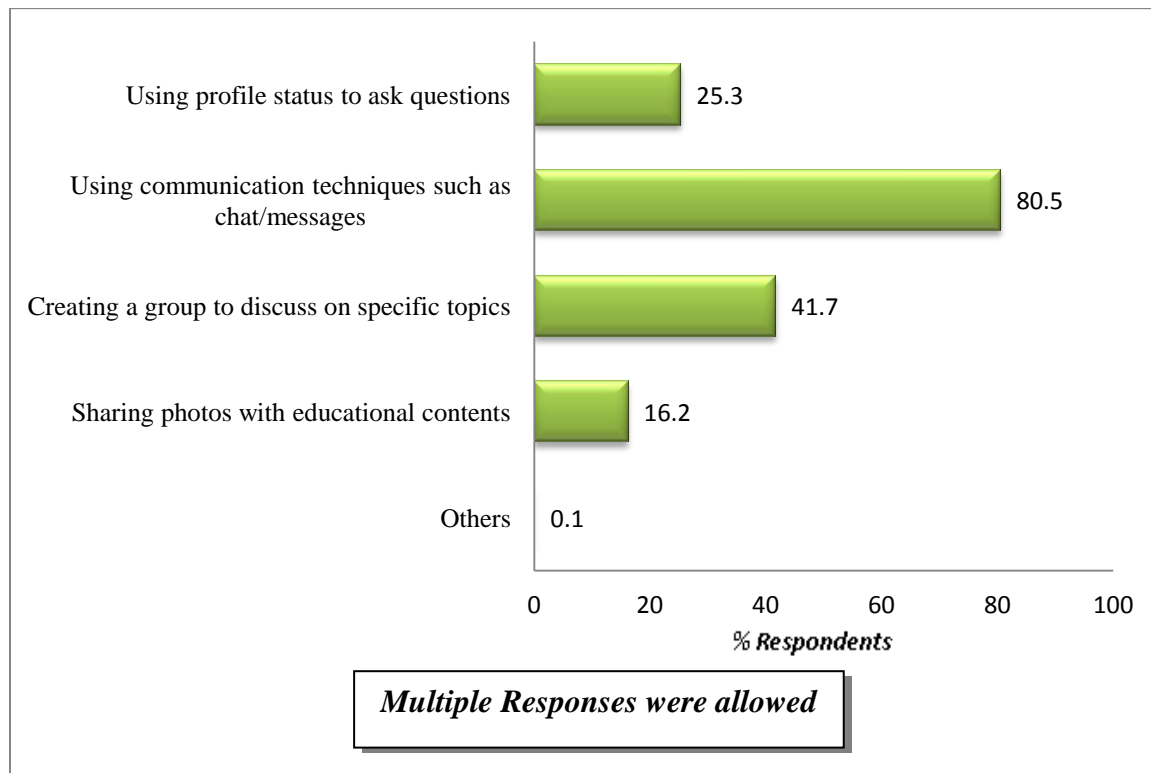


Figure 4.9: OSN features students use for their studies

The main feature used on OSNs for studies is mainly communication techniques such as chat and messages (80.5%) as shown above. Creating a group to have discussions on OSNs is also popular (41.7%), which promotes more collaborative works among students. Other features used by students include playing educational games on OSNs and creating educational pages to share homework.

4.15 Relationship between Respondents' Age and the types of educational activities they make use of on OSNs

It is found that the two common educational activities students are engaged on OSN are to discuss their class activities and to seek help from their friends. However, it can be noticed that older students make greater use of OSN to carry out educational activities.

Age*\$Educational_Activities Crosstabulation

			\$Educational_Activities ^a						Total
			Discuss class activities	Discuss exams	Seek help from friends	Share photos	None	Others	
Age	11	Count	6	1	4	5	4	0	11
		% within age	54.5%	9.1%	36.4%	45.5%	36.4%	.0%	
	12	Count	16	7	12	11	14	2	39
		% within age	41.0%	17.9%	30.8%	28.2%	35.9%	5.1%	
	13	Count	89	61	102	76	65	3	233
		% within age	38.2%	26.2%	43.8%	32.6%	27.9%	1.3%	
	14	Count	338	191	443	283	271	3	952
		% within age	35.5%	20.1%	46.5%	29.7%	28.5%	.3%	
	15	Count	320	199	473	280	249	6	933
		% within age	34.3%	21.3%	50.7%	30.0%	26.7%	.6%	
	16	Count	174	145	278	118	95	4	462
		% within age	37.7%	31.4%	60.2%	25.5%	20.6%	.9%	
	17	Count	219	144	326	171	104	5	545
		% within age	40.2%	26.4%	59.8%	31.4%	19.1%	.9%	
	18	Count	92	79	138	61	47	3	235
		% within age	39.1%	33.6%	58.7%	26.0%	20.0%	1.3%	
	19	Count	28	32	46	18	11	0	78
		% within age	35.9%	41.0%	59.0%	23.1%	14.1%	.0%	
	20	Count	9	7	12	8	2	0	19
		% within age	47.4%	36.8%	63.2%	42.1%	10.5%	.0%	
Total		Count	1291	866	1834	1031	862	26	3507

Percentages and totals are based on respondents.

a. Dichotomy group tabulated at value 1.

4.16 Frequency of Accessing OSNs

In this section, we will determine the frequency with which students access their OSN accounts and their views on OSNs regarding studies:

1. OSNs are beneficial for studies
2. OSNs interfere in studies

It is found that students who access their OSN accounts on a daily basis mostly agreed on the fact that these social networking sites can be beneficial for their studies with the majority of students (56.9%) agreeing while very few students using OSNs daily disagreed on this fact (9.2%). 34.0% of the students were neutral on this statement.

For the other three frequencies of using OSN, it was also found from the survey that students mostly agreed on this fact, with 56.2% on a weekly basis, 49.2% fortnightly and 51.2% on a monthly basis.

The tables below show the statistics:

		OSNs are beneficial for studies					Total
		Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	
Frequency	Daily	78 4.7%	76 4.5%	570 34.0%	650 38.8%	303 18.1%	1677 100.0%
	Weekly	39 3.5%	70 6.2%	385 34.1%	481 42.6%	154 13.6%	1129 100.0%
	Fornightly	8 4.0%	16 7.9%	78 38.6%	74 36.6%	26 12.9%	202 100.0%
	Monthly	8 3.7%	17 7.9%	80 37.2%	83 38.6%	27 12.6%	215 100.0%
Total		133 4.1%	179 5.6%	1113 34.5%	1288 40.0%	510 15.8%	3223 100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	26.801 ^a	12	.008
Likelihood Ratio	26.579	12	.009
Linear-by-Linear Association	6.305	1	.012
N of Valid Cases	3223		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 8.34.

From the observed results, it can be deduced that most students remained neutral on the statement that OSN interferes with their studies (40.2% of students using on a daily basis, 42.6% students using on a weekly basis, 38.3% students using fortnightly and 40.5% of students using on a monthly basis). A minority of students agreed on this fact.

		OSNs interfere in studies					Total
		Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree	
Frequency	Daily	156 9.7%	222 13.8%	649 40.2%	412 25.5%	175 10.8%	1614 100.0%
	Weekly	107 9.9%	187 17.3%	461 42.6%	259 23.9%	68 6.3%	1082 100.0%
	Fortnightly	21 10.9%	28 14.5%	74 38.3%	48 24.9%	22 11.4%	193 100.0%
	Monthly	32 15.2%	26 12.4%	85 40.5%	43 20.5%	24 11.4%	210 100.0%
Total		316 10.2%	463 14.9%	1269 40.9%	762 24.6%	289 9.3%	3099 100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	32.393 ^a	12	.001
Likelihood Ratio	32.768	12	.001
Linear-by-Linear Association	5.733	1	.017
N of Valid Cases	3099		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 18.00.

4.17 Use of OSNs by Parents

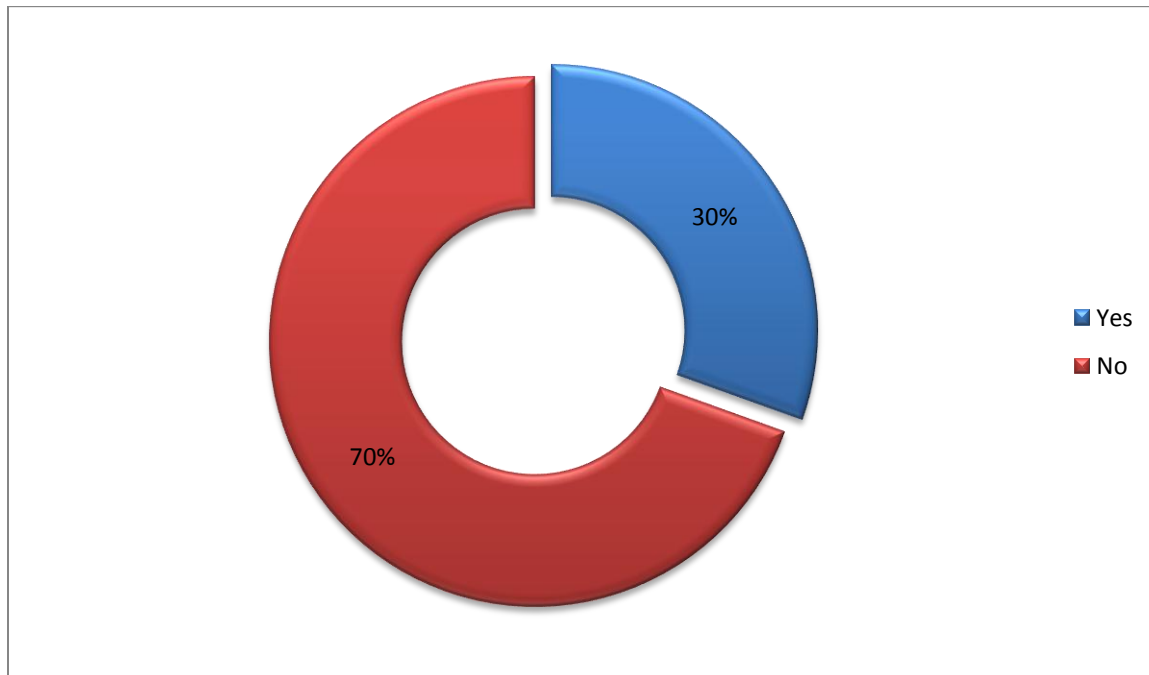


Figure 4.10: Parents have an OSN account

From Figure 4.10, it is found that most parents do not have an OSN account (70%), therefore there may be a lack of guidance from parents. Since students are using OSNs massively, it is recommended that parents also be part of this. ICT programs should be further promoted in Mauritius to encourage parents to get acquainted to Internet and OSNs in particular.

4.18 Relationship between the Privacy of using computers and Parents

A Chi-square test is executed to determine if the parents of students know about their OSN accounts when they have a privacy of using computers at home.

Privacy * Parent are aware of OSN accounts
Crosstabulation

% of Total		Parent are aware of OSN accounts		Total
		Yes	No	
Privacy	Private	40.0%	3.0%	43.0%
	Open Area	53.4%	3.6%	57.0%
Total		93.4%	6.6%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.630 ^a	1	.427		
Continuity Correction ^b	.523	1	.470		
Likelihood Ratio	.628	1	.428		
Fisher's Exact Test				.436	.234
Linear-by-Linear Association	.630	1	.427		
N of Valid Cases	3306				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 93.40.

b. Computed only for a 2x2 table

A test value of 0.427 is obtained showing that the two variables stated are independent of each other.

4.19 Relationship between students' Age and Parental monitoring of OSN activities

It is observed that most of the parents check the OSN activities of their children on a regular basis.

Age * Parent monitor OSN activities Crosstabulation
% of Total

		Parent monitor OSN activities		Total
		Yes	No	
Age	11	.2%	.1%	.3%
	12	.4%	.7%	1.0%
	13	2.4%	4.3%	6.7%
	14	9.8%	17.3%	27.1%
	15	9.7%	16.8%	26.5%
	16	3.6%	9.7%	13.3%
	17	3.7%	11.9%	15.6%
	18	1.1%	5.6%	6.7%
	19	.2%	1.9%	2.2%
	20	.2%	.4%	.5%
Total		31.2%	68.8%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	88.594 ^a	9	.000
Likelihood Ratio	94.971	9	.000
Linear-by-Linear Association	70.493	1	.000
N of Valid Cases	3467		

a. 1 cells (5.0%) have expected count less than 5. The minimum expected count is 3.44.

A test value of 0.000 is obtained when the Chi-square test is performed showing that there is a strong link between the age of respondents and monitoring of OSN activities by their parents.

4.20 Online Social Networks and School Education

Many students (54%) are connected to at least one teacher on OSNs and some (46%) do not have their teachers on their OSNs friend lists since not all teachers are on OSNs.

During their training programme, teachers are not given the necessary skills and knowledge on OSNs and their usage in education. Therefore, they seem to lack motivation to join these networking sites.

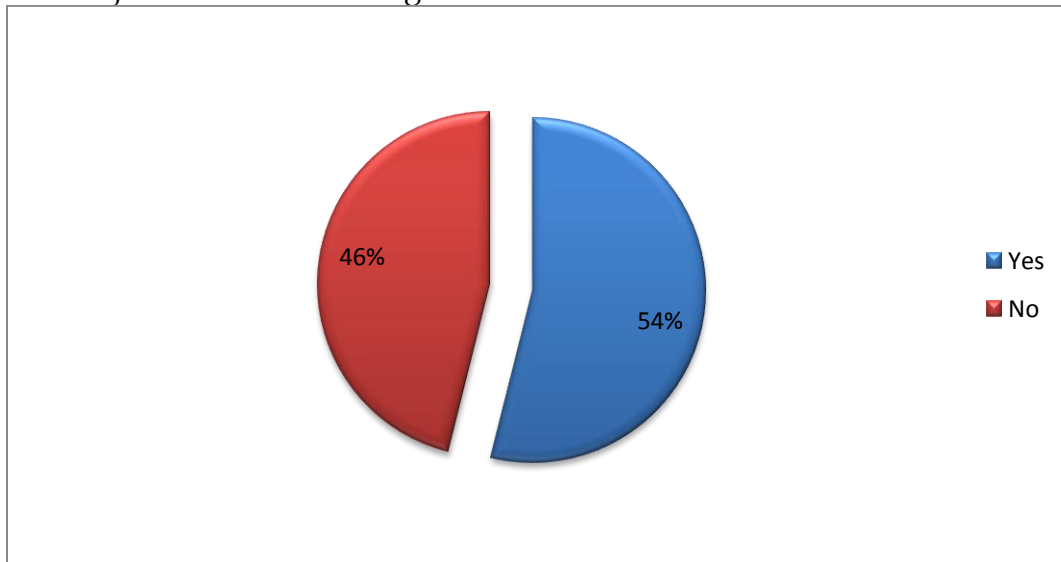


Figure 4.12: Students and teachers connected on OSNs

A fairly small number of teachers (29%), as shown in Figure 4.12, are already using OSNs as a communication means to help in the learning process of students outside school hours. If the use of OSNs is promoted in education, more teachers will be willing to use this tool to enhance their teaching.

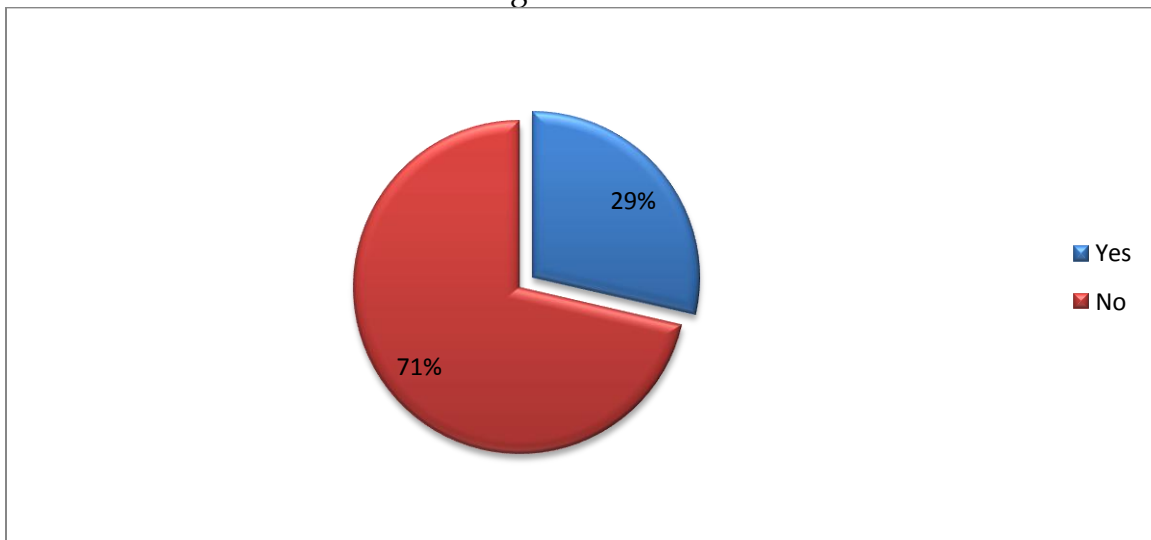


Figure 4.12: Teachers communicate school work to students

Figure 4.13 gives an overview on how many students are linked to their classmates on OSNs. It is found that a large majority of students (82%) are already connected to most of their classmates.

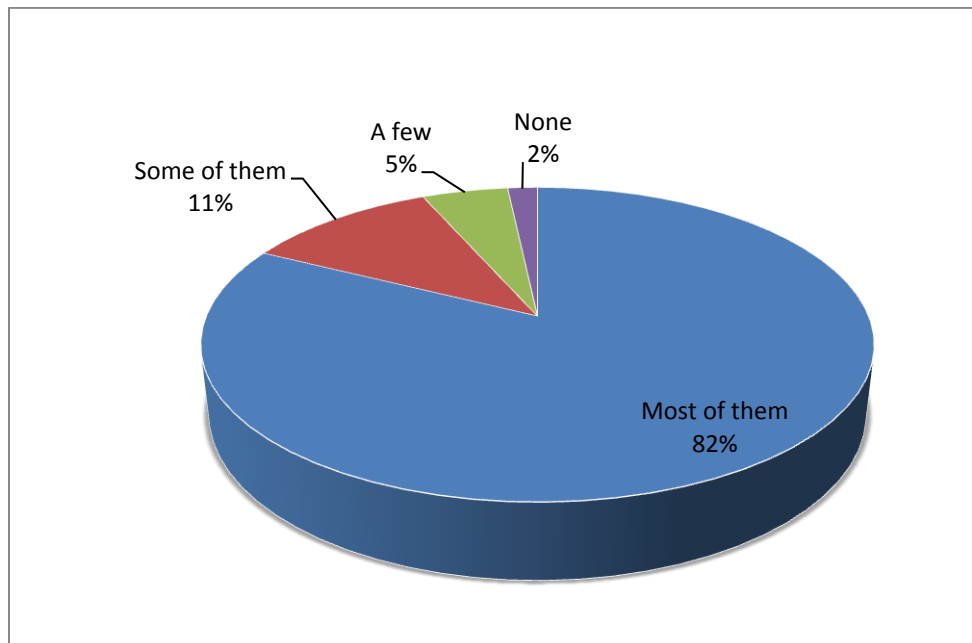


Figure 4.13: Students connected to their classmates on OSNs.

4.21 Knowledge on the Connection of teachers and students on OSNs

4.21.1 Relationship between Educational activities students do on OSNs and whether they are connected to their teachers

It is noticed that if students are connected to their teachers on OSNs, they are more likely to engage in educational activities on OSNs compared to students who are not connected to their teachers. The majority of students having educational activities on OSNs are connected to their teachers. 58.9% of students discuss their class activities, 61.7% discuss about their exams, 56.6% seek help from their friends, and 60.3% have group works on OSNs. 72.2% perform other activities including seeking help from teachers, working collaboratively on projects, doing research works and sharing of homeworks.

However, it is noticed that students who do not use OSNs for educational activities are not connected to their teachers.

\$Educational_Activities*Connection of teachers & students on OSN
Crosstabulation

			Connection of teachers and students		Total
			Yes	No	
Educational_Activities ^a	Discuss class activities	Count % within \$Educational_Activities	491 58.9%	342 41.1%	833
	Discuss exams	Count % within \$Educational_Activities	342 61.7%	212 38.3%	554
	Seeking help	Count % within \$Educational_Activities	630 56.6%	483 43.4%	1113
	Group works	Count % within \$Educational_Activities	409 60.3%	269 39.7%	678
	None	Count % within \$Educational_Activities	203 48.2%	218 51.8%	421
	Others	Count % within \$Educational_Activities	13 72.2%	5 27.8%	18
Total		Count	1079	920	1999

Percentages and totals are based on respondents.

a. Dichotomy group tabulated at value 1.

4.21.2 Relationship between the connection of students and teachers on OSNs and the view of students on whether OSNs are beneficial for their studies

OSN is beneficial for studies * Connection of teachers and students Crosstabulation
% of Total

		Connection of teachers and students		Total
		Yes	No	
How OSNs are beneficial for studies	Strongly Disagree	2.2%	2.0%	4.2%
	Disagree	2.7%	2.1%	4.8%
	Neither Agree Nor Disagree	16.6%	16.6%	33.2%
	Agree	22.7%	17.7%	40.4%
	Strongly Agree	10.5%	7.0%	17.4%
Total		54.6%	45.4%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.413 ^a	4	.034
Likelihood Ratio	10.426	4	.034
Linear-by-Linear Association	5.828	1	.016
N of Valid Cases	1883		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 36.33.

A Chi-square test is executed giving a test value of 0.034, showing that the views of students on OSNs are beneficial for their studies is quite dependent on their connection with their teachers on OSNs.

4.21.3 Relationship between the connection of teachers and students on OSN and the communication of school work by teachers to students on OSN

Connection of teachers and students * Communication of school work
Crosstabulation

% of Total

		Communication of school work		Total
		Yes	No	
Connection of teachers and students	Yes	23.2%	30.8%	54.0%
	No	5.4%	40.6%	46.0%
Total		28.6%	71.4%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	238.260 ^a	1	.000		
Continuity Correction ^b	236.732	1	.000		
Likelihood Ratio	254.060	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	238.142	1	.000		
N of Valid Cases	2006				

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 263.65.

b. Computed only for a 2x2 table

A test value of 0.000 obtained when carrying out the Chi-square test showing that the two variables are dependent on each other.

4.22 Desirable Features of OSNs to Help in Education

The respondents were asked whether OSNs could help them in their studies if they were integrated in the school curriculum. A response of 75.1% was obtained for this question showing that students are willing to see OSNs integrated in the school curriculum. The data obtained are presented in Figure 4.14.

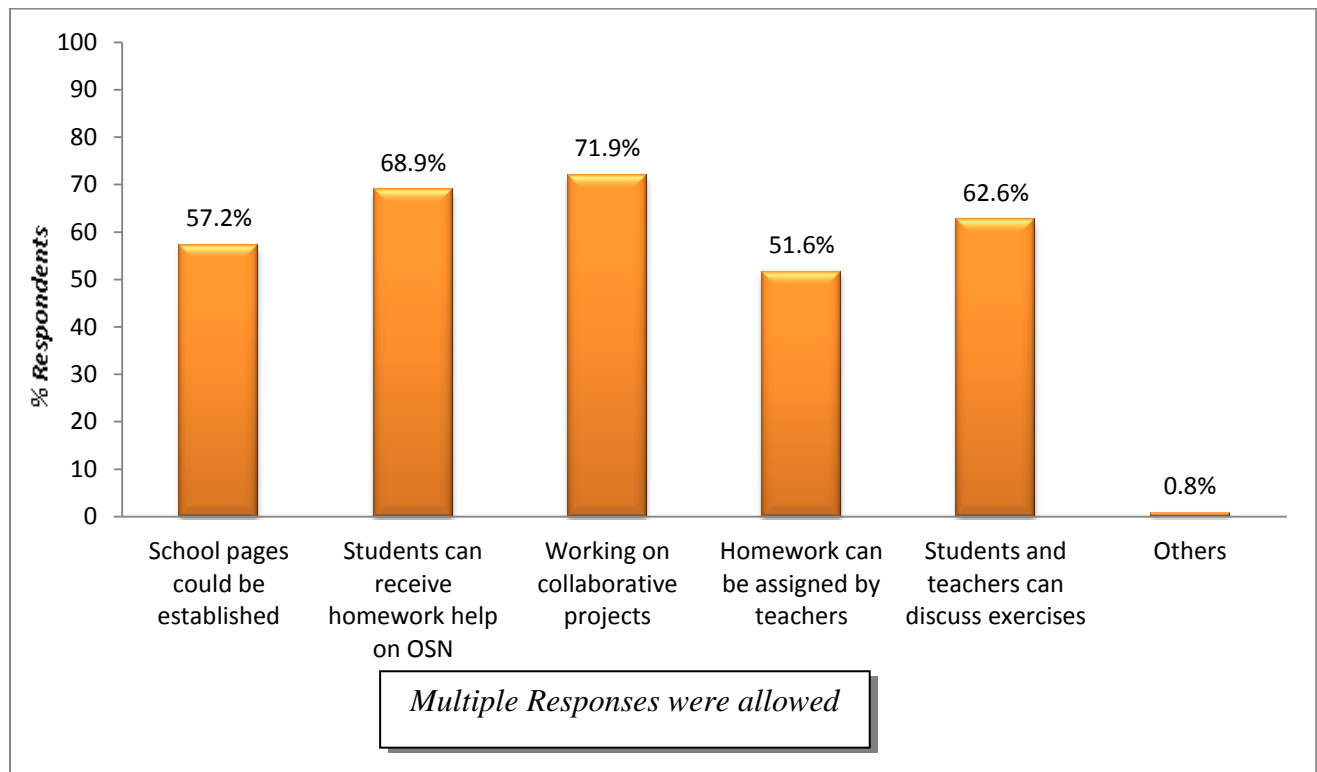


Figure 4.14: How OSN can help in studies

It can be observed from Figure 4.14 that OSNs can be a major tool to enhance collaborative work in studies (71.9%). School pages can also be established on OSNs so that important works and events can be communicated to students and teachers.

The respondents were requested to suggest some features that can be included in OSNs to help them in their school work. This question was an open-ended one and the responses collected are shown below:

Frequencies				
		Responses		Percent of Cases
		N	Percent	
	Availability of groups for specific classes	83	4.4%	6.3%
	Availability of groups for specific school	209	11.0%	16.0%
	Discussion forums	132	7.0%	10.1%
	Communication facilities between teachers and students after school hours	253	13.4%	19.3%
	Repository of school materials	259	13.7%	19.8%
	Facilities to post home works and exercises	143	7.6%	10.9%
	Online assistance from teachers to solve problems	140	7.4%	10.7%
	Facilities to post and access multimedia materials	158	8.4%	12.1%
	Facilities to set up educational activities for students	91	4.8%	6.9%
	Online class	112	5.9%	8.5%
	Online assessment facilities	26	1.4%	2.0%
	Online educational tools	41	2.2%	3.1%
	Facilities to master different languages	4	.2%	.3%
	Facilities to have collaborative work	105	5.5%	8.0%
	Facilities to do research work	65	3.4%	5.0%
	Others	71	3.8%	5.4%
Total		1892	100.0%	144.4%
a. Dichotomy group tabulated at value 1.				

Table 4.3: Features that can be included in OSN in the future to help in studies

From the above table, it can be found that many students find that there can be some innovative features that can help them in their education so as to facilitate communication and collaborative works after school hours.

4.23 Need for Field Test

After analysing the data collected through the survey, there was a need to conduct a field test to validate the results. This was carried out in the form of two experiments performed in two secondary colleges with the main aim of testing OSNs usage at secondary education level.

Chapter 5: Experimentation

In this chapter, discussions about experiments designed on the use of Online Social Networks (OSNs) in formal learning will be made. The experiments were implemented to firstly, test as to whether OSNs can be embedded into the formal education curriculum of the secondary school levels and secondly, to gather additional data for the validation of our earlier findings.

5.1 Overview

The experiments consisted mainly of coursework set by teachers to their students on an OSN platform. The students were informed about it and were advised to work on same. After the completion of the coursework by a set deadline, focus group interviews were carried out with both teachers and students to gather their experiences in using the OSN platform for that specific coursework. The students' work and online collaboration were also analysed.

5.2 Case Studies

For this study, two experiments were carried out in two different schools. The teachers uploaded the exercises on Facebook and students were informed. A specific time period was given to the students and they had to complete the coursework by a set deadline. A questionnaire was designed to capture the experiences of the students and teachers (See Appendix D & E). The two experiments are further described below.

5.2.1 Case Study 1: Floreal SSS

A French exercise was set on Facebook for Lower six students in a class of 15 students of the college Floreal SSS. The feature Facebook Questions was used. The teacher gave a theme, which is in the curriculum of the French subject and students were requested to give a minimum of three views on the topic. The exercise can be viewed in Figure 5.1.



Figure 5.1: French Exercise on Facebook

Guidelines were provided by the teacher about the use of the feature enabling students to give their opinions before the exercise was posted on Facebook. The students were given one week to do the exercise. It was noticed that most of the students ($n=10$) from the French class participated in it. Some of the responses are shown in Figure 5.2.



Figure 5.2: Sample answers of students

A follow-up was done through a focused group interview with the students of the French class, one week after the exercise was posted on Facebook, to take stock of their experiences. The participants included both students who answered the questions and also those who did not. It was found that most of the students accessed the exercise late in the afternoon or at night using their personal computer at home. The amount of time they took to answer the exercise was about 5-10 minutes. It was noticed that they did not face major problems to locate the exercise posted since most of them were already connected to the teacher on Facebook. Most of the students also stated that they checked

the answers of their friends while posting theirs. Two of them affirmed that they had some difficulties to post their opinions. They were most likely to vote the answers of their classmates than posting their own views. After receiving further guidelines from the teacher, they successfully replied to the exercise. The exercise, in general, was found to be interesting according to the students. Some stated that they learned how to make use of Facebook for school works and that they had a chance to share their own views on the selected subject.

Students who did not respond to the exercise were also interviewed. The main reasons given by them (33%) were that they did not have a Facebook account or Internet at home. One student said that he did not have time due to other school work while another mentioned that he was not interested in using Facebook for educational purposes.

Students also outlined the following benefits of using OSN in studies:

- Working collaboratively on project works
- Sharing of information and ideas among friends.
- Have a good relationship with teachers
- Have homeworks and discussions of same through OSN
- Helpful for further explanations
- Help each other when there are issues on subjects' works
- Parents will have a better concept of OSN
- Discussion of exam papers can be held

The teacher concerned was also interviewed. She stated that she has an OSN account and usually makes use of social networking sites to communicate with students informally. However, it was the first time she made use of Facebook to give a specific exercise on the networking platform.

She stated that among the students who participated, around 55% were really interested in using Facebook for their studies. However, she noticed one problem after posting the exercise online: students were not giving their own opinions but instead were voting others' answers. Consequently, she had to further guide them. She also stated that making use of a Facebook page would be a better method to give these types of exercises rather than Facebook Questions. She mentioned that Facebook could be used in the future for giving students exercises but a follow-up in class would be necessary. Yet, it is crucial for all students to have access to OSNs. Some benefits that Facebook can provide, according to her, is that firstly students who are not too keen to do school works, can be motivated by this new method of learning and secondly notes can also be

given online beforehand instead of dictating them in class. However, she argued that explanations should be given in class since there are more interactions.

The French teacher mentioned that some teachers are reluctant to befriend their students on social networking sites for fear that students would intrude in their personal lives. However, from her personal experience she observed that students do not really interfere in what teachers are doing or sharing, but they are happy just by connecting to their teachers online. On a concluding note, she stated that befriending students on OSN platforms would allow teachers to know them better.

5.2.2 Case Study 2: MGSS (Flacq)

In this case study, two experiments were carried out by an English teacher at MGSS (Flacq). These experiments focused mainly on Upper Six students. For each experiment, a group was created on Facebook by the teacher and the exercises were posted on the wall of the group. The groups were mainly closed ones, that is, members had to request permission to join in. The two groups that were created are described below:

1. General Paper Group (Go Ahead)

A group for General Paper students was set up by the teacher and a total of 25 students joined the group. The group page can be found in Figure 5.3



Figure 5.3: Go Ahead Group

The teacher made use of the group's wall to post discussion topics and to share useful links. A screenshot of a discussion topic and a shared link can be viewed in Figure 5.4 and Figure 5.5 respectively.

A debatable topic was posted on the wall of the group. Students responded to the topic by comments and likes and the post attracted 13 comments in all. Figure 5.4 shows a sample of the answers.



Figure 5.4: Sample answers of a discussion topic

The teacher also made use of the group to share resources such as important links providing students with more information for their essays. The shared link can be found in Figure 5.5.



Figure 5.5: Shared link on educational group on Facebook

Students from the General Paper class were interviewed concerning their experiences of using online social networks in education. From the eleven students interviewed, it was found that the majority of them ($n = 9$) did not participate in the exercises. Most of them stated that they were not added to the group ($n = 6$) while others ($n = 3$) said that they do not have a Facebook account and Internet connection. On the other hand, two students mentioned that they found the exercises interesting and accessed the group from home at night. They did not face any difficulties to join the group since they were already connected to the teacher on Facebook. One student said that it was an interesting and useful way of learning since he could have fun at the same time while working.

2. Literature English Group (Lit Ppl)

The teacher created another closed group for Literature students as shown in figure . Only 8 students joined the group. While interviewing the students, it was found that most of them were not aware of the group on Facebook and so they did not participate, whereas others stated that they could not access Facebook.



Figure 5.6: English Literature Group

This group was also used for discussions and sharing of resources as shown in figures 5.7 and 5.8.



Figure 5.7: Discussion on Literature Group

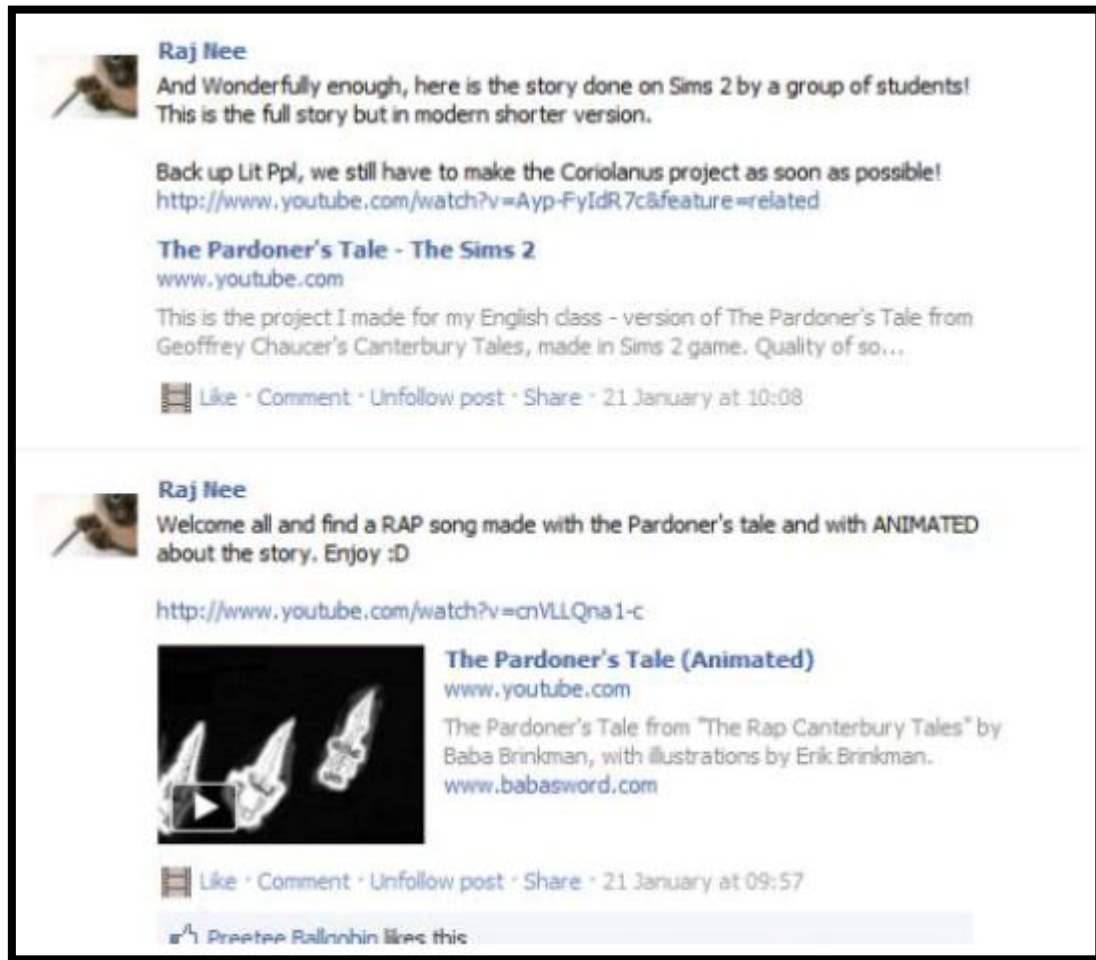


Figure 5.8: Sharing of resources on Literature Group

The Upper Six students at MGSS ($n = 18$) were interviewed on how social networks can help in their studies and what exercises can be posted in the future. Some of the responses are summarised below:

- Videos can be uploaded on social networks sites to demonstrate science experimentations.
- Problems encountered when doing homeworks can be posted online so that solutions can be provided
- Exam paper and homeworks discussion
- Group works and revision works can be done.
- Teachers can send notes online and resources can be shared.
- Classworks can be submitted online and if students miss a class, they can catch up on these online communities.
- OSNs help to know different opinions of different people on a topic

However, two students stated that OSN sites are a waste of time and they were not interested to use them for their studies. One student outlined that using OSNs for

educational purposes is good but only students who can access the Internet would be able to participate in those exercises.

The English teacher was also interviewed concerning her experience of using social networks in teaching. She found that this new way of teaching and learning was quite successful which can be further improved. However, concerning the exercises posted online, she experienced some difficulties. These are summarised below:

- At first there were no responses from the students and she had to constantly remind them of the exercises posted.
- Most students were shy and reluctant to post their opinions since their posts would be accessible to everyone.
- The teacher wanted the students to respond to the exercises and then a follow-up would be continued in class. This was not possible since only few students participated in the exercises.
- Students mostly used the SMS language and they had to be prompted continuously to use a proper English language.

The teacher outlined two important Facebook features that can be used for educational purposes: (1) groups to post exercises as statuses and (2) Facebook questions for polling purposes. On the other hand, she stated that creating pages on Facebook might not be relevant since only a few students are active on Facebook but argued that the use of discussions forums would be very appropriate to be used on Facebook.

One vital observation made by the teacher was that students were rather fed up with studies, especially with tuitions. At home, students do not like to study more since they already have home works to do. Therefore, she concluded that if there were no tuitions, this would have been more successful. On the other hand, monitoring students at home would also mean that limited space is given to them. Therefore it would be more appropriate to use social networks at school as mentioned by the teacher. For this to be possible, proper resources such as computers, wifi and use of projectors would be necessary.

5.2.3 Summary

The table below gives a preview of the two experiments carried out:

		French (Floreal SSS Case Study)	English (MGSS Case Study)
Age		16-18	17-19
Class		Lower 6	Upper 6
No of students in the class		15	25
Students who participated in the OSN exercise	Percentage:	67%	20%
	Number:	10	5
	Where students access exercise posted on OSN	Home	Home
	At what time they responded to the exercise	Late in the afternoon and at night	Late in the afternoon and at night
	Amount of time taken to respond to the exercise	5-10mins	10-15mins
	Percentage of students connected to the teacher on OSN	100%	100%
	Percentage of students who checked the answers of other	100%	100%
	Percentage of students who had some difficulties in answering the exercise	20%	0%
Percentage of students who did not participate in the exercise		33%	80%
	Reasons why they did not participate	No Facebook account No internet at home	Not aware of the exercise Not active on Facebook
Percentage of students who have access to OSN at school		0%	0%

Table 5.1: Summary of responses

From the two case studies, it can be observed that the experiments held were quite successful and students were interested to use this new method of learning. However, it was also found that students had to be guided constantly to respond to the exercises and due to a small amount of time given, some students did not participate in the experiments. On the whole, the experiments carried out were appreciated by both students and teachers. Such experimentations need to be undertaken over a longer period of time and with a larger sample size so that better results can be obtained.

Chapter 6: Conclusion and Recommendations

6.1 Conclusion

Social networking sites are being heavily used by Mauritian students as shown in this study. However, it seems that the educational community is not taking advantage of such new technologies in the school curriculum. Access to Online Social Networking sites and other related sites are blocked in most schools of the island. Indeed, we cannot ignore the fact that there are risks associated with OSNs but students are already making heavy use of these technologies outside schools. Instead of preventing students from using OSNs at schools, it would be more apt to educate them about online safety and responsible use. Many educators were reluctant to make use of OSNs since they are seen as inappropriate and incompatible with student learning according to them. However, recent studies have concluded that there are more potential benefits associated with OSN sites than drawbacks.

In this study, based on the hypothesis that integrating Online Social Networking at secondary level education will improve the students' learning experiences, a large scale survey was carried out among the secondary level students from different colleges in Mauritius. It was found that the majority of the students are members of at least one Online Social Networking Site and the most interesting part was that quite a large number of them stated that they use OSNs for their studies. Furthermore, it was also observed that some teachers use OSNs either to communicate to students or to give them activities to do. The experimentations carried out in the two different schools further confirmed and strengthened the findings of the survey. It can be concluded that most students and teachers are showing a keen interest to use OSNs for their studies. Therefore, OSNs can be a potential tool for education in Mauritius.

Results from this study show that many students are using OSNs for educational purposes and are ready to adapt to this new method of learning as complement to the traditional one. In fact, a large majority of students are already using these networks to discuss school works. Some students outlined certain difficulties encountered through the use of OSN sites. These results can further help to inform educators of how to best use OSNs to enhance learning. This study can be used by the educational authority to review its system of teaching and learning thereby making provision for the integration of OSNs in the secondary school curriculum.

6.2 Recommendations

In this digital world, opportunities for education are available like never before. Educational Networking which is the use of social networking technologies for educational purposes are gaining lot of attention from educators around the world. By understanding how students may be positively using these networking for educational purposes, we can help make schools even more relevant, connected, and meaningful to kids.

Research has shown that through utilising teaching techniques that incorporate social media, teachers are able to increase students' engagement in their education, increase technological proficiency, contribute to a greater sense of collaboration in the classroom, and build better communication skills.

It is important that we start to think about harnessing the potential of social networking sites to improve the Mauritian education system. The use of online social networking in education is an often maligned and misunderstood topic which engenders strong reactions both in its favour and against. It is therefore important to demystify the topic and engage in a nation-wide sensitisation on the use of OSNs for educational purposes. The section presents a number of recommendations for the implementation of OSNs in the Mauritian education system.

6.2.1 Policy for Government

Though teachers using online tools are empowering students take part in their education, they may also expose them to inappropriate material, sexual predators, and bullying and harassment by peers. A policy needs to be developed to provide schools with standards of use as they engage in conversations or interactions using digital media for educational purposes.

Because of the high-profile incidents involving social media, there is a need to create rational and effective student social media policies. Such policies would give the school community guidance in behaviours that are expected online. However, no best practices exist to help guide institutions in creating policies for students.

The Ministry of Education needs to set up a social media policy committee that involves the full range of institutional stakeholders (students, teachers, administrators and other members of the community). In addition to a diverse set of stakeholders, the committee should include individuals with a wide range of technology skills and also members who are regular users of social media.

The committee should reflect as to how the use of social media can be beneficial for student development. The committee may focus on creating a policy that provides students with the freedom to explore their online identities, while also making clear the expectations of participation in online communities.

The policy must be supported by curriculum and professional development, and a clear expectation for teachers that all student use of the Internet should be for high quality, well-planned instructional activities.

6.2.2 Incorporating OSNs in formal education to improve student involvement

The growing importance and availability of online social networks and their popularity among young people are undeniable facts. The use of the Internet is becoming an ever more integral part of young people's lives and, as a result, youths are communicating with each other on an unprecedented scale. Pedagogy needs to reflect these social changes and conform to the needs and expectations of today's young people. Using ICT will allow us to blend the use of traditional tools such as textbooks or dictionaries with more up-to-date, relevant and authentic multimedia materials from the web.

Online social networks provide teachers and students with a platform on which they can interact beyond the constraints of the school walls, and with which the teacher can provide personalised feedback and support. Currently, schools in Mauritius have clear policy of blocking access to online social networks effectively leaving children to learn using them on their own, without proper guidance and without appropriate models of good practice. It would be much better if students were guided.

The educational benefits of social media far outweigh the risks, and schools are missing out on an opportunity to incorporate such learning tools that many students are already acquainted to. It is important to acknowledge that students use technology to connect, collaborate, and communicate with each other and that online forms of expression are as important to student development as traditional oral and written expression.

There is a need to explore strategies to incorporate social networking sites and social media in the classroom. Given the double-edged potential of online communication technologies, education professionals need to familiarise themselves with how such technologies can influence students. With this knowledge, professionals can (1) support usage that leads to positive outcomes, (2) intervene to help students whose technology use has caused or may cause negative outcomes, and (3) intervene to help students who are vulnerable to negative social media behavior.

6.2.3 Teachers' Training in Online Social Networking

Teachers' training in emerging tools and technology for imparting quality education is the most important ingredient for facilitating teaching and learning. Educational reform is a continuous process and integrating new, popular and effective means are more than necessary to attract, retain and develop students' attention to learning. Following the results obtained from the large scale survey, where it has been observed that almost all secondary students use online social networking for various purposes, the educational

authority needs to seize the opportunity and capitalise on this information to dispense teaching and learning through the online mode. Therefore, teachers should be provided with the appropriate knowledge and skills to deliver online educational services. The Mauritius Institute of Education with the collaboration of the National Computer Board need to develop crash course training programmes on online education delivery, for a short duration period, for secondary school teachers.

6.2.4 Sensitisation of Parents

Governmental authority, which is already providing computer knowledge through the ICT programme, has to double its effort by the use of aggressive marketing techniques to both sensitise parents and also inculcate the value of computer literacy in them. More facilities and priorities need to be given to parents to get acquainted with computers with the view that, in the first instance, they can help their children in education and also keep track of their educational progress thereby mitigating the risks of the latter going astray or deviating from the normal path of education. The Parents and Teachers Association with the collaboration of the school management and the National computer Board can devise ways and means to impart computer literacy programmes to parents, say twice a week in the evening in the school premises.

6.2.5 Application of Online Social Networking in Classrooms

Based on the results of the survey carried out, Facebook is by far the most popular Online Social Networking (OSN) site among Mauritian students. The different features available on Facebook were investigated as to their potential for being used in the Mauritian educational sector as tools to enhance learning.

In order to extract maximum benefit from the Facebook site, both teachers and students must have an account which can be easily and freely created through online registration. However, Facebook's requirement that individuals must be at least thirteen (13) years old to be able to create an account means that students from Form 1 and Form 2 will not be allowed to create accounts unless they fake their age information during the registration process.

There exist many features that can be used for educational purposes by school teachers as well as their students. Find below a description of some of the most popular ones along with a brief overview of possible types of exercises that can be posted through them.

1) Chat and Video Calling

Chatting enable both students and teachers to communicate in real time with one another. It can be on a one-to-one basis or group conversations. The feature also includes video calling in case the users have access to a webcam. According to the survey results, chatting is the most commonly used feature by students. Some ways that it can be used for studies include students asking their teachers questions and/or clarification about specific topic/exercise discussed in class. Collaborative discussions can also be carried out through the group conversation; This is done by starting a normal chat conversation and using the option to add more friends to the latter. For lengthier discussions, the private/off-line messaging facility can be used; it does not require that the user to whom the message is being sent to be online at the time of sending the message.

2) Ask Question Feature

The 'Ask Question' feature allows individuals to post questions on their profiles with a possibility to add 'options' which is basically used to provide possible answers to the questions for others to choose from. Other users answering the question can either choose to vote for one or more options already given or they can add their own answers as new options. The results are presented in the form of a graphical bar-chart. This feature can be effectively used to gather the varying opinions of students on debatable topics. Using the 'Ask Question' feature will provide an idea to the users about the most agreeable opinion among themselves.

3) Photos and Videos

Teachers can publish educational material in the form of photos/drawings and videos very easily on OSN sites. One of the additional advantages compared to simply sending the material to students by mail is that on OSN sites, students can post comments to express themselves about the material while also reading the comments of their friends and teachers. They may ask and/or answer questions about the published photos/drawings or videos. The materials can also be suggested to more students by the students themselves by using the 'Share' link available.

4) Events

To organise meetings, whether these will be online or real world meetings for group discussions and brainstorming sessions, the 'Events' feature can be used. One individual, either the teacher or any student can create an 'Event' on OSNs and provide details such as a description of what topics will be discussed, the time, duration and venue of the event. Other students are then invited to the event. Events can either be public (anybody can attend) or private (only those who receive invitations can attend).

Students can then indicate whether they will attend, may attend or will not attend. Reminders about the event will be displayed on the OSN home page of students who have indicated their interests to attend the event.

5) Groups

‘Groups’ on OSN sites enable users to share information in terms of text, videos, photos and document among the members of the group they belong to. Teachers or class representatives can create an OSN Group and invite students from a specific class or course to join. The groups can be public whereby anybody can join or it might be set as private where only those who are invited can become members. Groups provide a platform for online communication to all members in an easy and simple way. Most features available on individual users’ profiles are also available on groups with the main difference being that all members will be notified about any updated information published on the group. OSN ‘Pages’ have an almost similarly role as ‘Groups’ except that they are public by default and therefore can be used to reach a wider audience if required.

6) Messages

Messages can be used for having conversations with classmates or even teachers. Messages can be sent to one friend or a group of friends, therefore the possibility of having group conversations.

7) Notes

Teachers can use the Notes application to share explanations on specific subjects. They can then tag their students so that they are notified of the notes published and give their opinions through comments.

8) Links

Students can share Internet resources by the use of Links on Facebook so that other students can have access to that information. This feature is relevant when students are working on same projects but are not collaborating. They can thus make use of each other’s resources. A shared link on Facebook can be viewed in Figure 6.1.



Figure 6.1: Sharing links on Facebook

9) Status

The most straight-forward and commonly feature to ask questions or share opinions used by OSN users is the 'Status' message. This can be used by either the teachers or students to post a question/fact/opinion and all their 'friends' can reply back through comments. 'Likes' can also be used to express one's approval of a particular post.

6.3 Future Works

This study focused on the impact that OSN sites have on communication and social needs of secondary level students and the role that OSNs play in students' learning experiences in their school environment. However, further studies should be made on the use of OSNs by students and a large scale experimentation is important so that additional data can be gathered to consolidate the earlier findings.

There is a need for further research in the following areas:

1. Social networking policy for secondary education
2. Study the potential of social networking applications for increasing collaboration, knowledge sharing and innovation in classroom
3. Collaborative knowledge-building approaches on Online Social Networks
4. Education 2.0: Google, Wikipedia, WordPress and Private Social Networks as drivers for world-class education

References

- [1] Boyd, D.M. and Ellison, N.B., "Social Network Sites: Definition, History, and Scholarship", *Journal of Computer-Mediated Communication*, 13(1), 2008, pp. 210-230.
- [2] Dwyer, C., Hiltz, S.R. and Widmeyer, G., "Understanding Development and Usage of Social Networking Sites: The Social Software Performance Model", in the 41st Hawaii International Conference on System Sciences, Waikoloa, HI, 2008.
- [3] ZUCKERBERG, M., 2010, 500 Million Stories, The Facebook Blog, Available from <http://blog.facebook.com/blog.php?post=409753352130&ref=mf>, Last Accessed on September 03, 2010.
- [4] EMarketer.com, "Facebook Reaches 200 Million Users", Available from: <http://www.emarketer.com/Article.aspx?R=1007034>, Last Accessed on April 13, 2010.
- [5] Shi, N., Lee, M.K.O., Cheung, C.M.K., Chen, H., "The Continuance of Online Social Networks: How to Keep People Using Facebook?," *System Sciences (HICSS)*, 2010 43rd Hawaii International Conference on , vol., no., pp.1-10, 5-8 Jan. 2010
- [6] Pew Internet & American Life Project "55% of online teens use social networks and 55% have created online profiles; older girls predominate", Press Release, 7 January, 2007. Available from: <http://www.pewinternet.org/Press-Releases/2007/55-of-online-teens-use-social-networks-and-55-have-created-online-profilesolder-girls-predominate.aspx>, Last Accessed on April 15, 2010.
- [7] Brass, D.J., "Being in the right place: A structural analysis of individual influence in an organization." *Administrative Science Quarterly*, Vol. 29, 1984, pp. 518-539.
- [8] Cho, H., Gay, G., Davidson, B., and Ingraffea, A., "Social networks, communication styles, and learning performance in a CSCL community", *Computers & Education*, Vol 49, 2007, pp. 309-329.
- [9] Young People and Social Networking Services, What are social networking services, Available at <http://www.digizen.org/socialnetworking/sn.aspx>, Last Accessed on June 14, 2011
- [10] SecondLife, Available at <http://secondlife.com/>, Last Accessed on June 15, 2011
- [11] Twitter, Available at <http://www.twitter.com>, Last Accessed on June 15, 2011
- [12] World Map of Social Networks, Available at <http://www.vincos.it/world-map-of-social-networks/>, Last Accessed on June 15, 2011

REFERENCES

- [13] Social Media Marketing, InCharm Ltd, 2011. Available from: <http://www.incharm.co.uk/our-services/digital-marketing/social-media>, Last Accessed on January 27 2011.
- [14] Facebook blog, Available at <http://blog.facebook.com/blog.php?post=2210227130>, Last Accessed on June 14, 2011
- [15] MySpace, Available at <http://www.crunchbase.com/company/myspace/>, Last Accessed on June 14, 2011
- [16] What is Twitter? Available at <http://mashable.com/what-is-twitter/>, Last Accessed on June 14, 2011
- [17] What is LinkedIn? Available at <http://learn.linkedin.com/what-is-linkedin/>, Last Accessed on June 14, 2011
- [18] Maseko, B. 2011, Social media's impact on youth marketing, media. Available at <http://www.bizcommunity.com/Article/196/424/55837.html>, Last Accessed on June 20, 2011
- [19] Library of Global Free learning, 2011, Digital Youth Culture and Social Networking. Available at www.englisharticles.info., Last Accessed on June 22, 2011
- [20] Pathi, M. V. and Jochen, P. 2009, Current Directions in Psychological Science: Social consequences of the Internet. Available at www.psychologicalscience.org/journals/cd/18., Last Accessed on June 22, 2011
- [21] Haythornthwaite, C., "Building social networks via computer networks: Creating and sustaining distributed learning communities", in Building virtual communities: learning and change in cyberspace, K.A. Renninger and W. Shumar, Eds. Cambridge: Cambridge University Press, 2002, pp. 159-190.
- [22] Ellison, N. B., Steinfield, C., & Lampe, C., "The benefits of Facebook "friends:" Social capital and college students' use of online social network sites. Journal of Computer-Mediated Communication, 12(4), article 1. 2007. Available from: <http://jcmc.indiana.edu/vol12/issue4/ellison.html>
- [23] Fovet, F., "Impact of the use of facebook amongst students of high school age with social, emotional and behavioural difficulties (SEBD)", In Proceedings of the 39th IEEE international Conference on Frontiers in Education Conference (San Antonio, Texas, USA, October 18 - 21, 2009). IEEE Press, Piscataway, NJ, 1555-1560.

REFERENCES

- [24] Ofstead, "The safe use of new technologies", 10 Feb 2010 (<http://www.ofsted.gov.uk/content/download/10750/128225/file/The%20safe%20use%20of%20new%20technologies.pdf>), Last Accessed on April 15, 2010.
- [25] Deng, G., Zhou, H., Zhang, P., "Study of incentive mechanism and internet behavior of virtual communities," Web Society, 2009. SWS '09. 1st IEEE Symposium on , vol., no., pp.213-218, 23-24 Aug. 2009
- [26] [NSBA - National School Boards Association](http://www.nsb.org.uk/), Online Social Networking And Education: Study Reports On New Generations Social And Creative Interconnected Lifestyles, 2007, Available from: http://www.masternewmedia.org/learning_educational_technologies/social-networking/social-networking-in-education-survey-on-new-generations-social-creative-and-interconnected-lifestyles-NSBA-20071109.htm, Last Accessed on June 15, 2011
- [27] Christine Greenhow, C., "Online social networks and learning", On the Horizon, Vol. 19 Issue: 1, pp.4 - 12, 2011.
- [28] Waters, J., "Social Network Behavior, Thought-Leaders and Knowledge Building in an Online Learning Community," Hawaii International Conference on System Sciences, Proceedings of the 41st Annual , vol., no., pp.366-366, 7-10 Jan. 2008
- [29] Figl, K., Kabicher, S., Toifl, K., "Promoting social networks among Computer Science students," Frontiers in Education Conference, 2008. FIE 2008. 38th Annual , vol., no., pp.S1C-15-S1C-20, 22-25 Oct. 2008
- [30] Li, M., Liu, Z., "The Role of Online Social Networks in Students' E-Learning Experiences", Computational Intelligence and Software Engineering, 2009. CiSE 2009. International Conference on , vol., no., pp.1-4, 11-13 Dec. 2009
- [31] Loving, M., and Ochoa, M., "Facebook as a classroom management solution", New Library World, Vol. 112 Iss: 3/4, pp.121 - 130, 2011.
- [32] ICTA, Annual Report on the Development of the Information and Communication Industry in Mauritius 2009, January 2010.
- [33] Ministry of Information Technology & Telecommunications, "National ICT Strategic Plan (NICTSP) 2007-2011", Available from: <http://www.gov.mu/portal/sites/nictsp/main.jsp>

REFERENCES

- [34] National Computer Board (NCB), "Social Networking Sites" Flyer, 2010 . Available from: http://www.gov.mu/portal/sites/sid2010/files/Flyer_social.pdf, Last Accessed on April 15 2010
- [35] National Computer Board (NCB), "Child Safety Online", Available from: <http://www.gov.mu/portal/sites/sid2010/index.html>, Last Accessed on April 15, 2010.
- [36] Educational Benefits Of Social Networking Sites Uncovered, Available from: <http://www.sciencedaily.com/releases/2008/06/080620133907.htm> [Date Accessed: 28 January 2012]
- [37] Haralambos and Holborn: Sociology - Themes and Perspectives. Collins Education, 2004. 864-873.
- [38] Macionis, John J, Society: The Basics, 4th ed. (Upper Saddle River, New Jersey: Prentice Hall, 1998), pp. 59-60

Appendix A: Pilot Questionnaire

Study of Online Social Networking in Mauritius: Impact on Secondary Education

Survey Questionnaire

Online social networks (OSNs) are referred to as web-based services allowing users to create a profile, publish information, establish links to real friends and make new friends. These users can communicate with other users of the system through different communication techniques such as messages or comments. Popular examples of OSN sites are Facebook, Twitter, Hi5 and MySpace.

The purpose of this survey is to find out how Online Social Networking can be integrated in the secondary education in Mauritius. Please note that all your responses will be kept confidential. Thank you for your kind collaboration.

Respondent Profile

Please specify your personal information:

Age : _____
 Gender : ☐ Female ☐ Male
 Residence Area : ☐ Urban ☐ Rural
 Name of College : _____
 Class : _____

Section A: Computer Literacy

1. Do you have a computer at home?
☐ Yes ☐ No

If the answer is No, move to Question 4.

2. Is the computer you use at home in a private area or in an open family area?
☐ Private area (e.g. your own bedroom)
☐ Open family area (e.g. living room, study room)
3. Do you have internet facilities at home?
☐ Yes ☐ No
4. For how many years have you been using computers?
☐ < 1 year ☐ 1-2 years ☐ 3-4 years ☐ >5 years
5. Where do you usually make use of computers? (Please tick all that apply)
☐ Home
☐ School

- ☐ Public places (e.g. library, cyber café, etc)
- ☐ Others

Please specify: _____

Section B: Computer Usage

6. How many hours per day do you spend on computers?

- ☐ < 1 hr ☐ 1-2 hrs ☐ 3-4 hrs ☐ >5 hrs

7. For what purposes do you use computers? *(Please tick all that apply)*

- ☐ To do school assignments
- ☐ For entertainment (listening to music, watching movies)
- ☐ To play games
- ☐ To access the Internet
- ☐ Others

Please specify: _____

Section C: Communication through Computer

8. Do you use the Internet?

- ☐ Yes ☐ No

If the answer is No, move to Question 34.

9. For what purposes do you use the Internet? *(Please tick all that apply)*

- ☐ Online gaming
- ☐ Entertainment (listening to music, watching movies)
- ☐ Online Search
- ☐ Downloading files
- ☐ Communication (chat, email)
- ☐ Others

Please specify: _____

10. Which of the following types of online communication do you use? *(Please tick all that apply)*

- ☐ Email
- ☐ Instant Messaging (e.g. Windows Live Messenger)
- ☐ Online Social Networking (e.g. Facebook, Twitter, Hi5)
- ☐ Video Call (e.g. Skype)
- ☐ Others

Please specify: _____

11. How many hours per day do you spend on online communication?

- ☐ < 1 hr ☐ 1-2 hrs ☐ 3-4 hrs ☐ >5 hrs

Section D: Online Social Networking

12. Are you a member of an online social networking site? (e.g. Facebook, Hi5)

- ☐ Yes ☐ No

If the answer is No, move to Question 34.

13. Since when have you been using online social networking?

- ☐ < 1 year ☐ 1-2 years ☐ 3-4 years ☐ >5 years

14. Which of the following online social networking sites are you a member of? *(Please tick all that apply)*

- ☐ Facebook
☐ Twitter
☐ MySpace
☐ Flickr
☐ Hi5
☐ Tagged
☐ SecondLife
☐ Others

Please specify: _____

15. Who introduced you to online social networking?

- ☐ Friends
☐ Parents
☐ Siblings (brothers/sisters)
☐ Relatives
☐ Others

Please specify: _____

16. How often do you access your online social networking account?

- ☐ Daily
☐ Weekly
☐ Fortnightly (every two weeks)
☐ Monthly

17. How do you normally access your online social networking account? *(Please tick all that apply)*

- ☐ Using personal computer at home
☐ Using school computer
☐ Using personal mobile phone
☐ From public places (e.g. library, cyber-café)
☐ Others

Please specify: _____

18. Which of the following personal information do you share on your online social networks? *(Please tick all that apply)*

- ☐ Birth date
- ☐ Gender
- ☐ Address
- ☐ Interests
- ☐ Activities
- ☐ Educational information
- ☐ Your photo
- ☐ Others

Please specify: _____

19. Is your profile private or public?

- ☐ Private
- ☐ Public

20. For what purposes do you use online social networking sites? *(Please tick all that apply)*

- ☐ To keep in touch with friends and family
- ☐ To meet new people
- ☐ To share photos, videos and music
- ☐ To play games
- ☐ To chat
- ☐ To discuss school work
- ☐ Others

Please specify: _____

21. What impact do online social networking sites have on you? *(Please tick all that apply)*

- ☐ I believe I spend too much time on online social networking
- ☐ It allows me to maintain relationships and make new friends
- ☐ It helps me to communicate with my friends more easily
- ☐ It interferes with my school work
- ☐ It is a help for my studies by having group revisions online with my friends
- ☐ Others

Please specify: _____

22. Which of the following negative experiences have you encountered on online social networking? *(Please tick all that apply)*

- ☐ Cyberbullying
- ☐ Cyberstalking
- ☐ Viewing inappropriate pictures/languages
- ☐ Uncomfortable conversations
- ☐ Strangers contacting repeatedly
- ☐ Peer harassment
- ☐ None
- ☐ Others

Please specify: _____

Section E: Online Social Networking & Education

23. What type of educational activities do you engage on online social networking? (*Please tick all that apply*)

- ☐ Discussing class activities
- ☐ Discussing exam papers
- ☐ Seeking help from friends
- ☐ Group works
- ☐ None
- ☐ Others

Please specify: _____

If the answer is None, move to Question 25.

24. What options from your online social networking account do you use for your studies? (*Please tick all that apply*)

- ☐ Using profile status to ask questions
- ☐ Using communication techniques such as chat/ messages to obtain help from friends
- ☐ Creating a group to discuss on specific subjects/ topics
- ☐ Sharing photos with educational contents
- ☐ Others

Please specify: _____

25. Please rate how far do you agree with the following:

	<i>Strongly agree</i>	<i>Agree</i>	<i>Neither Agree Nor Disagree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
OSN is beneficial for my studies					
OSN interferes in my studies					

Section F: Online Social Networking & Parents

26. Please tick the most appropriate answer :

	Yes	No
i. Do your parents know that you have an online social networking account?	<input type="checkbox"/>	<input type="checkbox"/>
ii. Do your parents have an account on the same online social networking site as yours?	<input type="checkbox"/>	<input type="checkbox"/>
iii. Do your parents have your account's password?	<input type="checkbox"/>	<input type="checkbox"/>

- | | | |
|---|--------------------------|--------------------------|
| iv. Do your parents allow you to share your personal information on online social networking? | <input type="checkbox"/> | <input type="checkbox"/> |
| v. Do your parents monitor your online social networking activities? | <input type="checkbox"/> | <input type="checkbox"/> |
| vi. Do your parents limit the time you spend on the Internet? | <input type="checkbox"/> | <input type="checkbox"/> |

Section G: Online Social Networking & School

27. Do you have access to online social networking sites at school?
☐ Yes ☐ No
28. How many of your school teachers use online social networking sites?
☐ Most of them
☐ Some of them
☐ A few
☐ None
☐ Don't Know

If your answer is None or Don't Know, move to Question 31.

29. Are you connected to your school teachers on your online social networking accounts?
☐ Yes ☐ No
30. Do your teachers communicate school work through online social networking?
☐ Yes ☐ No
31. How many of your classmates are on your online social networking friend list?
☐ Most of them
☐ Some of them
☐ A Few
☐ None

Section H: Desirable Features of OSN

32. How can online social networking help in your studies if it was integrated in your school curriculum?
- ☐ School pages could be established so that communication becomes easier
 - ☐ Students can receive after-school homework help via online social networking sites
 - ☐ Students can work on collaborative projects online
 - ☐ Homework can be assigned by teachers
 - ☐ Students and teachers can discuss exercises
 - ☐ Others
- Please specify: _____

33. Suggest some features that you think can be included in online social networks in future to help you in your school work.

.....
.....
.....
.....

34. What are your views on the use of ICT in education?

.....
.....
.....
.....

Thank you for your cooperation!

Appendix B: Survey Questionnaire

Study of Online Social Networking in Mauritius: Impact on Secondary Education

Survey Questionnaire

Online social networks (OSNs) are referred to as web-based services allowing users to create a profile, publish information, establish links to real friends and make new friends. These users can communicate with other users of the system through different communication techniques such as messages or comments. Popular examples of OSN sites are Facebook, Twitter, Hi5 and MySpace.

The purpose of this survey is to find out how Online Social Networking can be integrated in the secondary education in Mauritius. Please note that all your responses will be kept confidential. Thank you for your kind collaboration. For any queries, please contact us on: osnuom@gmail.com

Respondent Profile

Please specify your personal information:

Age: _____

Gender: ☐ Male ☐ Female

Residence Area: ☐ Town ☐ Village

Name of College: _____ Class: _____

Email address (optional): _____

Section A: Computer Literacy

1. Do you have a computer at home?

☐ Yes ☐ No

If the answer is No, skip Questions 2-3 and continue with Question 4.

2. Is the computer you use at home in a private area or in an open family area?

☐ Private area (e.g. your own bedroom)

☐ Open family area (e.g. living room, study room)

3. Do you have internet facilities at home?

☐ Yes

☐ No

4. For how many years have you been using computers?

☐ < 1 year

☐ 1-2 years

☐ 3-4 years

☐ >5 years

5. Where do you usually make use of computers? (*You may tick more than one answer*)

☐ Home

☐ School

☐ Public Places (e.g. Library, cyber Café, etc)

☐ Others

Please Specify: _____

Section B: Computer Usage

6. How many hours per day do you spend on computers?

☐ < 1 hour

☐ 1-2 hours

☐ 3-4 hours

☐ >5 hours

7. For what purposes do you use computers? (*You may tick more than one answer*)

☐ To do school assignments

☐ To access the Internet

☐ For entertainment (listening to music, watching movies)

☐ To play games

☐ Others

Please Specify: _____

Section C: Communication through Computer

8. Do you use the Internet?

☐ Yes

☐ No

If the answer is No, skip Questions 9-33 and continue with Question 34.

9. For what purposes do you use the Internet? (You may tick more than one answer)

<input type="checkbox"/> Online gaming	<input type="checkbox"/> Downloading files	<input type="checkbox"/> Online Search
<input type="checkbox"/> Communication (chat, email)	<input type="checkbox"/> Entertainment (listening to music, watching movies)	
<input type="checkbox"/> Others Please Specify: _____		

10. Which of the following types of online communication do you use?

(You may tick more than one answer)

<input type="checkbox"/> Email	<input type="checkbox"/> Instant Messaging (e.g Windows Live Messenger)
--------------------------------	---

<input type="checkbox"/> Online Social Networking (e.g. Facebook, Twitter, Hi5)	<input type="checkbox"/> Video Call (e.g. Skype)
<input type="checkbox"/> Others Please Specify: _____	

11. How many hours per day do you spend on online communication?
- ☐ < 1 hour
 ☐ 1-2 hours
 ☐ 3-4 hours
 ☐ >5 hours

Section D: Online Social Networking

12. Are you a member of an online social networking site? (e.g. Facebook, Hi5)
- ☐ Yes ☐ No

If the answer is No, skip Questions 13-33 and continue with Question 34.

13. Since when have you been using online social networking?
- ☐ < 1 year
 ☐ 1-2 years
 ☐ 3-4 years
 ☐ >5 years

14. Which of the following online social networking sites are you a member of? (You may tick more than one answer)

<input type="checkbox"/> Facebook	<input type="checkbox"/> Twitter	<input type="checkbox"/> Ning	<input type="checkbox"/> Hi5
<input type="checkbox"/> MySpace	<input type="checkbox"/> Flickr	<input type="checkbox"/> LinkedIn	<input type="checkbox"/> Google+
<input type="checkbox"/> SecondLife	<input type="checkbox"/> Orkut	<input type="checkbox"/> Tagged	<input type="checkbox"/> Friendster
<input type="checkbox"/> Others Please Specify: _____			

15. Who introduced you to online social networking? (You may tick more than one answer)

<input type="checkbox"/> Friends	<input type="checkbox"/> Parents
<input type="checkbox"/> Siblings (brothers/sisters)	<input type="checkbox"/> Relatives
<input type="checkbox"/> Others Please Specify: _____	

16. How often do you access your online social networking account?

<input type="checkbox"/> Daily	<input type="checkbox"/> Weekly
<input type="checkbox"/> Fortnightly (every two weeks)	<input type="checkbox"/> Monthly

17. How do you normally access your online social networking account?

(You may tick more than one answer)

<input type="checkbox"/> Using personal computer at home	<input type="checkbox"/> Using school computer
<input type="checkbox"/> Using personal mobile phone	<input type="checkbox"/> From public places (e.g. library, cyber-café)
<input type="checkbox"/> Others Please Specify: _____	

18. Which of the following personal information do you share on your online social network profile? (You may tick more than one answer)

<input type="checkbox"/> Birth date	<input type="checkbox"/> Gender	<input type="checkbox"/> Address
<input type="checkbox"/> Interests	<input type="checkbox"/> Activities	<input type="checkbox"/> Educational Information

<input type="checkbox"/> Your photo	<input type="checkbox"/> Others Please Specify: _____
-------------------------------------	--

19. Is your profile private or public?

☐ Private

☐ Public

20. For what purposes do you use online social networking sites?
(one answer)

(You may tick more than one answer)

<input type="checkbox"/> To chat	<input type="checkbox"/> To meet new people	<input type="checkbox"/> To play games
<input type="checkbox"/> To share photos, videos and music	<input type="checkbox"/> To keep in touch with friends and family	<input type="checkbox"/> To discuss school work
<input type="checkbox"/> Others Please Specify: _____		

21. What impact do online social networking sites have on you?
(answer)

(You may tick more than one answer)

<input type="checkbox"/> I believe I spend too much time on online social networking	<input type="checkbox"/> It allows me to maintain relationships and make new friends
<input type="checkbox"/> It helps me to communicate with my friends more easily	<input type="checkbox"/> It is a help for my studies by having group revisions online with my friends
<input type="checkbox"/> It interferes with my school work	
<input type="checkbox"/> Others Please Specify: _____	

22. Which of the following negative experiences have you encountered on online social networking? (*You may tick more than one answer*)

<input type="checkbox"/> Being threatened by people online	<input type="checkbox"/> People spying my online activities
<input type="checkbox"/> Strangers contacting repeatedly	<input type="checkbox"/> People using bad languages
<input type="checkbox"/> People sending me inappropriate pictures and videos	
<input type="checkbox"/> Others Please Specify: _____	

Section E: Online Social Networking & Education

23. What type of educational activities do you engage on online social networking? (*You may tick more than one answer*)

<input type="checkbox"/> Discussing class activities	<input type="checkbox"/> Discussing exam papers	<input type="checkbox"/> Seeking help from friends
<input type="checkbox"/> Group works	<input type="checkbox"/> None	
<input type="checkbox"/> Others Please Specify: _____		

If the answer is None, skip Question 24 and continue with Question 25.

24. What options from your online social networking account do you use for your studies? (*You may tick more than one answer*)

<input type="checkbox"/> Using profile status to ask questions	<input type="checkbox"/> Using communication techniques such as chat/messages to obtain help from friends
<input type="checkbox"/> Creating a group to discuss on specific subjects/topics	<input type="checkbox"/> Sharing photos with educational contents

☐ Others

Please Specify: _____

25. Please rate how far do you agree with the following:

	<i>Strongly agree</i>	<i>Agree</i>	<i>Neither Agree Nor Disagree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
OSN is beneficial for my studies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OSN interferes in my studies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section F: Online Social Networking & Parents

26. Please tick the most appropriate answer :

	Yes	No
i. Do your parents know that you have an online social networking account?	<input type="checkbox"/>	<input type="checkbox"/>
ii. Do your parents have an account on the same online social networking site as yours?	<input type="checkbox"/>	<input type="checkbox"/>
iii. Do your parents have your account's password?	<input type="checkbox"/>	<input type="checkbox"/>

iv. Do your parents allow you to share your personal information on online social networking?	<input type="checkbox"/>	<input type="checkbox"/>
v. Do your parents monitor your online social networking activities?	<input type="checkbox"/>	<input type="checkbox"/>
vi. Do your parents limit the time you spend on the Internet?	<input type="checkbox"/>	<input type="checkbox"/>

Section G: Online Social Networking & School

27. Do you have access to online social networking sites at school?

☐ Yes

☐ No

28. How many of your school teachers use online social networking sites?

<input type="checkbox"/> Most of them	<input type="checkbox"/> Some of them	<input type="checkbox"/> Don't Know
<input type="checkbox"/> A Few	<input type="checkbox"/> None	

If your answer is None or Don't Know, skip Questions 29-30 and continue with Question 31.

29. Are you connected to your school teachers on your online social networking accounts?

☐ Yes

☐ No

30. Do your teachers communicate school work through online social networking?

☐ Yes

☐ No

31. How many of your classmates are on your online social networking friend list?

<input type="checkbox"/> Most of them	<input type="checkbox"/> Some of them	<input type="checkbox"/> A Few	<input type="checkbox"/> None
---------------------------------------	---------------------------------------	--------------------------------	-------------------------------

Section H: Desirable Features of OSN

32. How can online social networking help in your studies if it was integrated in your school curriculum? *(You may tick more than one answer)*

<input type="checkbox"/> School pages could be established so that communication becomes easier	<input type="checkbox"/> Students can receive after-school homework help via online social networking sites
<input type="checkbox"/> Students can work on collaborative projects online	<input type="checkbox"/> Homework can be assigned by teachers
<input type="checkbox"/> Students and teachers can discuss exercises	
<input type="checkbox"/> Others Please Specify: _____	

33. Suggest some features that you think can be included in online social networks in future to help you in your school work.

.....

.....

.....

.....

.....

.....
.....

34. What are your views on the use of ICT in education?

.....
.....
.....
.....
.....
.....
.....

Thank you for your cooperation!

Appendix C: Approval From Ministry of Education



REPUBLIC OF MAURITIUS
MINISTRY OF EDUCATION AND HUMAN RESOURCES

Our Ref: M.E.0/305/3 T4

Date: 17 August 2011

Mr Kavi Kumar KHEDO
Associate Professor
Dept. of Computer Science & Engineering
Faculty of Engineering
University of Mauritius

Dear Sir

Subject: Survey for the MRC Research Project: "A Study of Online Social Networks in Mauritius: Impact on Secondary Education", Reference Number: N4 2011 0758

I refer to your letter dated 09 August 2011

2. This is to inform you that approval has been given for the above survey to be carried out during the period 22 to 31 August 2011 as per list of schools and questionnaire provided.
3. The above is subject to the following:
 - (i) This will not cause any major disruption of normal classes.
 - (ii) It will not represent any additional work for the staff of schools.
4. You are kindly requested to call on the Directors of the Zones concerned to make all necessary prior arrangements.

Yours faithfully,

L. Despois
for Supervising Officer

Appendix D: Experimentation Questionnaire (Students)

1. Students Profile		
Age:	Class:	Subject:
2. Students who answered the exercise		
Where you accessed their OSN account for the exercise		
The time you answered the exercise		
Amount of time taken to answer the exercise		
Accessibility of teacher's account		
Did you check the answers of other students after posting your own answers		
Difficulties encountered		
Any other comments		
3. Students who have not answered the exercise		
Reasons for not answering		
Difficulties encountered		
Any other comments		
4. Future Exercises on OSN		
5. How OSN can help in studies		
6. Accessibility of OSN at school		
<input type="checkbox"/> Have access to OSN at school	<input type="checkbox"/> Do not have access to OSN at school	
Any other comments:		

Appendix E: Experimentation Questionnaire (Teachers)

Teacher has an account on OSN:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Teacher make use of OSN to communicate with students	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Teacher make use of OSN for educational purposes	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Features on OSN used for educational purposes:		
Difficulties encountered while posting exercises on OSN:		
How students were informed about the exercise?		
Duration of exercise:		
Guidelines given to students for the exercise:		
Follow-up during exercise:		
How successful the exercise was (if teacher was satisfied):		
Use of OSN in the future for education:		
Any other comments:		