STUDENTS' PERCEPTION OF ONLINE LEARNING DURING COVID-19: A CROSS SECTIONAL STUDY IN UNIVERSITY CAMPUS, KIRTIPUR

A Thesis

Submitted to

Central Department of Rural Development, Tribhuvan University

In Partial Fulfillment of Requirement for the
Degree of Master of Arts (MA)

In
Rural Development

By

LEVI GHARTI CHHETRI

Exam Roll Number: 282503
TU Registration Number: 6-2-262-128-2014
Central Department of Rural Development, Tribhuvan University

Kirtipur, Kathmandu

December 2022

RECOMMENDATION LETTER

The thesis entitled STUDENTS' PERCEPTION OF ONLINE LEARNING DURING COVID-19: A CROSS SECTIONAL STUDY IN UNIVERSITY CAMPUS, KIRTIPURhas been prepared and submitted by Mr. Levi Gharti Chhetri under my guidance and supervision. I hereby forward this thesis to the evaluation committee for final evaluation and approval.

_____

Dr. Rajan Binayek Pasa
Thesis Supervisor
Date: 2022-08-10
2079-04-25

APPROVAL LETTER

The thesis entitled STUDENTS' PERCEPTION OF ONLINE LEARNING DURING COVID-19: A CROSS SECTIONAL STUDY IN UNIVERSITY CAMPUS, KIRTIPURsubmitted by Mr. Levi Gharti Chhetri in partial fulfillment of the requirements for the Master's Degree (MA) in Rural Development has been approved by the Evaluation Committee.

Evaluation Committee

_____

Associate Prof. Bishnu Bahadur Khatri
Head of Department

_____

Mr. Prajwal Man Pradhan
External Examiner

_____

Dr. Rajan Binayek Pasa
Thesis Supervisor

Date: 2022-08-17
2079-5-01

DECLARATION

I hereby declare that this MA thesis entitled STUDENTS' PERCEPTION OF ONLINE LEARNING DURING COVID-19: A CROSS SECTIONAL STUDY IN UNIVERSITY CAMPUS, KIRTIPUR submitted to the Central Department of Rural Development of Tribhuvan University, is entirely my original work prepared under the guidance and supervisor of the thesis supervisor assigned by the department. I have made due acknowledgements to all ideas and information borrowed from different sources during the preparation of this thesis. The result of this research work has not been presented, published or submitted anywhere else for the award of any degree or for any purposes. I assure that no part of the content has been published in any form before. I shall be solely responsible if any evidences found against my thesis.

_____

Levi Gharti Chhetri
Degree Candidate
Date: 2022-08-07
2079-04-22

ACKNOWLEDGEMENTS

Writing this column as a last one in regards to the completion of my thesis gives me immense pleasure and wonderful feeling. However, as mention by Henry Ford “Coming together is a beginning; Keeping together is Progress; Working together is Success. Understanding and knowing the important of this quote I would like to take good time to remember all those kind hearted and supportive behaviour personalities who have supported, guided and teaches me to complete this thesis. I would like to I strongly believe that I have learnt a lifelong lesson on how to deal and request with people of different behaviour and how to work in group for collective benefit which I think will also be beneficial for me in my professional life.

First of all, my sincere and heart full appreciation goes to Dr. Rajan Binayek Pasa, my supervisor, without his guidance support and correction as when needed; I don’t think this thesis could have taken this shape with this level. I am especially grateful to the Head of Department, Associate Prof. Bishnu Bahadur Khatri for approving entitled thesis. I am thankful to external examiner Prajwal Man Pradhan for his feedbacks and comments. I would like to express. I would also like to acknowledge particularly UGC Sanothimi Bhakatapur for providing me Master's Thesis writing support grant. I am debited to all those entire respondents who had helped me spending their valuable moments in filling up my questionnaires. My entire project would have been a body without backbone if my respected respondents had not responded well. Special thanks also to the selected administrative staffs of the University for their Kind Cooperation and moral support. I am grateful to my families for the encouragement and support they provided throughout my higher studies. Last but not least, deep and deep gratitude to all those helping hands who contributed me directly and indirectly in completing my thesis.

Levi Gharti Chhetri
Degree Candidate

ABSTRACT

Educational sector was adversely affected by lockdown created due to Covid-19, known as Corona Virus. The pandemic created disturbances in the physical class and initiated the online class. This study entitled STUDENTS' PERCEPTION OF ONLINE LEARNING DURING COVID-19: A CROSS SECTIONAL STUDY IN UNIVERSITY CAMPUS, KIRTIPUR tried to analyze effectiveness of online classes. This study has applied quantitative approach and cross sectional survey in which required data were collected from 306 students through reliable (Cronbach's Alpha 0.86) self-administered questionnaires. Besides, the study has no issue of validity as the measurement indicator/instrument wise indices; access of online learning (OL), cognitive efforts of OL, behavioral effort of OL, teacher's method of OL, extrinsic motivation to OL, benefit of OL, problems of OL and effectiveness of OL are positively correlated. Series of data was analyzed by applying descriptive and inferential statistical tools and interpreted through the lens of motivation theory of self-efficacy and goal oriented theory.

The study found that majorities (58.2%) of respondents are male groups, almost two- fifth of them belong to Brahmins ethnicity and half of their family occupation is agriculture. About half of them had obtained B+ (3.3/ First Division) in BA and more than three- fifth of respondents had obtained B+ (3.3) in MA. Slightly more than half (51.3%) of them had stayed in home quarantine and more than three-fifth of them had never taken PCR/Antigen test (68%). The majority of students are satisfied with access, cognitive efforts, behavioral effort, teacher's methods, extrinsic motivation, benefits, problems and effectiveness of online learnings. Almost all the students use Facebook as social media. Microsoft team seems popular among university students due to online teaching/learning. About 93 percent of students use laptop for online classes in which three- fifth of students take online classes regularly. Half of respondents used digital learning method for individual assignment, which is 52.6%. Two- fifth of respondents accept that PPT as digital approach motivates them to stay in online sessions, which is 40.2%. About two- fifth of respondents found online teaching- learning effective due to availability of PPTs in front of every students, which is 36.3%.

About two- fifth of respondents agreed that their friends, family members, roommate and neighbor occasionally disturb them, which is 40.8%. Three-fifth of respondents was satisfied with online classes, which is 60.1%. In contrast, the students are also facing problems in online learning and not satisfied with absence of physical classes. Still many students look electrical disturbance as major problem of online classes.The multiple regressions models show that dependent variables multiple effort scale, motivation scale, benefit scale and effectiveness scale have been described or explained 11%, 21.7%, 20% and 16.9% respectively by the independent variables.

Finally, the findings of the study can be fruitful to the authority of Tribhuvan University including respected faculties deans, central departments as well as students and teachers.

TABLE OF CONTENTS

RECOMMENDATION LETTER ii
APPROVAL LETTER iii
ABSTRACT vi
ACKNOWLEDGEMENTS v
LIST OF TABLES x
LIST OF FIGURES xi
ABBREVIATIONS/ACRONYMS xii

CHAPTER I 1
INTRODUCTION 1
1.1 Background of the Study 1
1.2 Rationale of the Study 3
1.3 Problem Statement 3
1.4 Objectives of the Study 4
1.5 Significance of the Study 5
1.6 Hypothesis Test 5
1.7 Delimitation of the Study 5
1.8 Organization of the Study 5

CHAPTER II 6
LITERATURE REVIEW 6
2.1 Conceptual Review 6
2.1.1 Access of Online 6
2.1.2 Efforts of Online 7
2.1.3 Teachers' Method of Online 8
2.1.4 Benefits of Online 10
2.1.5 Problems upon Online 11
2.1.6 Effectiveness of Online 13
2.2 Theoretical Aspects 14

2.2.1 Motivation Theory of Self-efficacy 14
2.2.2 Goal Oriented Theory 15
2.3 Policy Review 16
2.4 Empirical Review 18

CHAPTER III 24
RESEARCH METHODOLOGY 24
3.1 Research Design 24
3.2 Site Selection 24
3.3 Sampling and Population 24
3.4 Data Collection 25
3.5 Measurement Indicators 25
3.6 Method of Data Analysis 25
3.7 Reliability and Validity 25

CHAPTER IV 28
INTRODUCTION OF THE STUDY AREA 28
4.1 Tribhuvan University 28
4.2 Main objectives of TU 28
4.3 Institute/ Faculty 28
4.4 Research Centers 30
4.5 TU Senate 31
4.6 Councils of TU 31
4.7 Executive Council 31
4.8 Academic Council 31
4.9 Research Coordination Council 31
4.10 Planning Council 31
4.11 Academic Programme 31

CHAPTER V 33
DATA ANALYSIS AND INTERPRETATION 33

5.1.1 Characteristics of the Respondents 33
5.1.2 Education, Health and Online Section 36
5.2.1 Online Learning Analysis 39
5.2.2 Benefits Analysis 42
5.2.3 Effectiveness and problem Analysis 42
5.3.1 Descriptive Statistics of Online Learning related Indices (Research Obj. 2) 44
5.3.2 Department Wise Motivation of Online Learning Scale 44
5.3.3 Faculty Wise Benefits of Online Learning Scale 45
5.3.4 Department Wise Problems of Online Learning Scale 46
5.3.5 Faculty Wise Effectiveness of Online Learning Scale 47
5.4.1 Multivariate Analysis: Multiple Regressions Model I (Obj. 3) 49
5.4.2 Multiple Regressions Model II 52
5.4.3 Multiple Regressions Model III 54
5.4.4 Multiple Regressions Model IV 57

CHAPTER VI 61
SUMMARY OF FINDINGS, CONCLUSIONS AND IMPLICATIONS 61
7.1 Summary of Findings 61
7.3 Discussions of Findings 65
7.4 Conclusions 67
7.5 Implications of the Study 68
7.6 Future Direction 69

REFERENCES 70
APPENDICES 76
Appendix A: Research Consent Letter 76
Appendix B: Covid-19 related Notices 77
Appendix B: Survey Questionnaires 79

LIST OF TABLES

TABLE 1. PROBLEMS OF ONLINE EDUCATION 12
TABLE 2. SAMPLE SIZE DETERMINATION 25
TABLE 3. RELIABILITY STATISTICS 26
TABLE 4: RELIABILITY STATISTICS 26
TABLE 5: ITEM-TOTAL STATISTICS 27
TABLE 6. VALIDITY TEST 27
TABLE 7: DEMOGRAPHIC PROFILE 33
TABLE 8: SOCIAL - CULTURAL STATUS 34
TABLE 9: ECONOMIC STATUS 35
TABLE 10: EDUCATIONAL STATUS 36
TABLE 11: HEALTH STATUS 37
TABLE 12: ONLINE RELATED INFORMATION 38
TABLE 13: DIGITAL LEARNING METHOD AND ITS MOTIVATION 39
TABLE 14: DESCRIPTIVE STATISTICS ON ACCESS OF ONLINE LEARNING 39
TABLE 15: DESCRIPTIVE STATISTICS ON COGNITIVE EFFORTS OF ONLINE LEARNING 40
TABLE 16: DESCRIPTIVE STATISTICS ON EMOTIONAL EFFORTS OF ONLINE LEARNING 40
TABLE 17: DESCRIPTIVE STATISTICS ON BEHAVIORAL EFFECTS OF ONLINE LEARNING 41
TABLE 18: DESCRIPTIVE STATISTICS IN TEACHER'S METHOD OF ONLINE LEARNING 41
TABLE 19: DESCRIPTIVE STATISTICS ON EXTRINSIC MOTIVATION TO LEARN ONLINE 41
TABLE 20: DESCRIPTIVE STATISTICS ON BENEFITS OF ONLINE LEARNING 42
TABLE 21: PROBLEM AND EFFECTIVENESS OF ONLINE LEARNING 42
TABLE 22: EFFECTIVENESS AND SATISFACTION 43
TABLE 23: DESCRIPTIVE STATISTICS ON SCALES AND INDEXES 44
TABLE 24 : TEST OF NORMALITY 44
TABLE 25 : TESTS OF NORMALITY 45
TABLE 26 : TESTS OF NORMALITY 46
TABLE 27: TESTS OF NORMALITY 47
TABLE 28: TESTS OF NORMALITY 48
TABLE 29: MODEL SUMMARY OF MULTIPLE EFFORTS INDEX 49
TABLE 30: ANOVA OF MULTIPLE EFFORTS INDEX 49
TABLE 31: COEFFICIENTS OF MULTIPLE EFFORTS INDEX 50
TABLE 32: MODEL SUMMARY OF METHOD MOTIVATION INDEX 52
TABLE 33: ANOVA OF METHOD MOTIVATION INDEX 52
TABLE 34: COEFFICIENTS OF METHOD MOTIVATION INDEX 53
TABLE 35 : MODEL SUMMARY OF BENEFIT SCALE 54
TABLE 36: ANOVA OF BENEFIT SCALE 55
TABLE 37: COEFFICIENTS OF BENEFIT SCALE 56
TABLE 38: MODEL SUMMARY OF EFFECTIVE SCALE 57
TABLE 39: ANOVA OF EFFECTIVE SCALE 58
TABLE 40: COEFFICIENTS OF EFFECTIVE SCALE 59

LIST OF FIGURES

FIGURE 1: BOX PLOT I 45
FIGURE 2: BOX PLOT II 46
FIGURE 3: BOX PLOT III 47
FIGURE 4: BOX PLOT IV 48
FIGURE 5: BOX PLOT V 49
FIGURE 6: P-P PLOT I 51
FIGURE 7: P-P PLOT II 54
FIGURE 8: P-P PLOT III 57
FIGURE 9 : P-P PLOT IV 60

ABBREVIATIONS/ACRONYMS

ANOVA	:	Analysis of Variance
AOC	:	Application Orchestration Capability
AoL	:	Access of Online Learning
BEd	:	Bachelor of Education
BA	:	Bachelor of Arts
BBC	:	British Broadcasting Corporation
BoL	:	Behavioral Effects of Online Learning
CDRD	:	Central Department of Rural Development
CD-ROM	:	Compact Disc – Read Only Memory
CEDA	:	Centre for Economic Development and Administration
CERID	:	Research Centre for Educational Innovation and Development
CL	:	Certificate Level
CNAS	:	Centre for Nepal and Asian Studies
CoI	:	Community of Inquiry
CoL	:	Cognitive Efforts of Online Learning
CP	:	Cognitive Presence
DL	:	Diploma in Law
EFL	:	English as a Foreign Language
EoL	:	Emotional Efforts of Online Learning
ERT	:	Emergency Remote Teaching
FM	:	Family Members
FOE	:	Faculty of Education
FOHSS	:	The Faculty of Humanities and Social Sciences
FoM	:	Faculty of Management
GPA	:	Grade Point Average
HEI	:	Higher Education Institutions
HEI	:	Higher Education Institutions
IAAS	:	Institute of Agriculture and Animal Science
IBM	:	International Business Machines
ICC	:	Intra Class Correlation Coefficient
ICT	:	Information Communication Technology
IOE	:	Institute of Engineering
IOF	:	Institute of Forestry
IOM	:	Institute of Medicine
IoST	:	Institute of Science and Technology
IT	:	Information Technology
IT- AOC	:	Information Technology –Application Orchestration Capability
KII	:	Key Informant Interview
LLB	:	Bachelor of Legislative Law
LMS	:	Learning Management System
M.Ed	:	Master of Education
MA	:	Master of Arts
MoEYS	:	Ministry of Education, Youth and Sports
MoL	:	Extrinsic Motivation of Online Learning
MPA	:	Master of Public Administration

MPhil	:	Master of Philosophy
NESP	:	National Education System Plan
NPR	:	Nepalese Rupee
PCR	:	Polymerase Chain Reaction
Phd	:	Doctor of Philosophy
PPT	:	Power Point Presentation
RD	:	Rural Development
RECAST	:	Research Centre for Applied Science and Technology
Rs.	:	Nepalese Rupees
SD	:	Standard Deviation
SD	:	Standard Deviation
SDC	:	Shanker Dev College
SE	:	Standard Deviation Error
SE	:	Standard Error
SEEU	:	South East European University
SEM	:	Structural Equation Modeling
SOL-Q	:	Self- Regulated Online Learning Questionnaire
SP	:	Social Presence
SPSS	:	Statistical Package for the Social Science
SSRP	:	School Sector Reform Plan
SSRP	:	School Sector Reform Plan
ToL	:	Teachers' method of online Learning
TP	:	Teaching Presence
TU	:	Tribhuvan University
UN	:	United Nations
UNESCO	:	United Nations Educational, Scientific and Cultural Organization
VIF	:	Variance Inflation Factor
CLASS	:	Computer Literacy and Social on Schools
EDUSAT	:	Educational Satellite
SWAYAM	:	Study Webs of Active-learning for Young Aspiring Minds
NPTEL	:	National Programme on Technology Enhanced Learning
CEC	:	Consortium for Educational Communication
ILLL	:	Institute of Life Long Learning
TV	:	Television

CHAPTER I
INTRODUCTION

1.1 Background of the Study

The corona virus disease, also known as pandemic Covid-19, which got initially identified in our neighbor country known as China in the end of 2019 but regrettably, quickly extended to all nations. It was declared it to be pandemic on 11th March 2020 by the World Health Organization. The affected were told to remain inside the house. As a precaution, several universities and schools were temporarily shuttered. One hundred and thirty nations shuttered all of their schools as per the information of UN Educational, Scientific and Cultural Organization (Karki, et al., 2021).

According to UNESCO, the temporary shutdown of institutions has severely hurt 1.6 billion children in 191 different nations (Dawadi et al., 2020). More than 90% of the schools were closed due to a viral outbreak that originated in Wuhan, China, and that had a wide- ranging effect on the world (Khati & Bhatta, 2020).The effects of the global pandemic have had some favorable effects on the nature, through supreme notable change in the worldwide level being the decrease in harmful gases as well as pollution in air signatures that can be measured by satellites (BBC, 2020; Gardiner, 2020).

However, the Covid-19 epidemic has led to social exclusion, limits, reassurance, and information gaining physically (Aebli et al., 2021). Additionally, it has had a significant impact on a variety of facets of people's life, mainly in the regions of the economy, society, and education. It is an issue that affects educational institutions on a global scale. Students had experienced shock and disruption as result of this pandemic ever since it began. Due to the pandemic, schools had forced to close and physical being present instruction had been replaced with online teaching-learning. Online teaching involved the creation, distribution, and management of educational content through the use of the internet and numerous other significant technologies (Fry, 2021).

Due to the closing of school facilities, all educators were required to make a transition. Although many people feel unprepared during this transitioning phase, there is no other option but to use online learning. Students must adjust while attempting to create meaning amidst many problems associated to the epidemic. Although learning was done online, it was believed that learning outcomes would still be as good as possible. There is some proof that online education can increase student achievement (Kurucav & Inan, 2017).

Due to the closing of school buildings, all educators were urged to transition. There is no other option except to use online education; despite the fact that many people feel unprepared during this changeover phase, students must adjust while attempting to create meaning amidst different difficulties associated to the pandemic.

Although learning takes place online, it was envisaged that learning outcomes will continue to be at their highest level. Online education might increase student success, according to some studies (Clark, 2007).

The reality, however does not match expectations because not all students embrace the use of online learning. Most colleges and institutions nowadays still experience virtual learning challenges (Taliding& Toquero, 2020). For instance, not all teachers and students can use online learning tools, especially those who live in remote locations. They believed their learning abilities could be better. They faced a number of challenges when learning online, such as increased homework that makes them feel stressed. This occurred as a result of the lecturers or teachers in charge giving them two or three tasks for each lesson.

Additionally, rural areas 'attendance at online learning is impacted by network connection issues. The students' motivation to complete their homework is also influenced by online learning. As a result, the aims of online learning were not always successfully attained. Students that were proactive and consistently adhere to the learning prosper in school. The fact that students' parents thought their kids were too lethargic to learn online was also validated. This circumstance paints a negative picture of pupils' attitudes toward learning.

According to a study by AnnaYa Ni titled "A profile of MPA students' perceptions of online learning: What MPA student's value in online education and what they think would improve online learning experiences," using the video chat program Zoom in the classroom has the biggest potential to meet student needs. One of the most popular tools for online learning to replace traditional face to face classes is Zoom (Ni,Wart, Medina,Collins, Kimberly &Pei, 2020. The difficulties with online education, particularly in rural regions, inspired the authors to perform this study. Therefore, the current study's objective is to determine the causes of why students in rural locations believe that online education is ineffective during the Covid-19 epidemic.

Nowadays, as information and communication technologies advanced, they increasingly benefit human existence, making it necessary rather than optional to be proficient in them. Internet networks have made it possible for educators to employ technology in the classroom in new ways; face to face instruction has given way to e-learning, or online instruction (Bernard et al, 2009).Some experts categorize e-learning as "education supplied via the Internet or other electronic media including CD-ROM, Satellite, and television. Online education is defined as "education offered solely via the web-based media (Lee, 2017).Online education, often known as e-learning, is sometimes described as bridging the gap between teachers and students by using web-based technologies (Ryan & Young,2015).

Nepal, a landlocked nation, saw its first outbreak during phase two, when the virus was mostly brought in by immigrants from other nations. Despite its quick

spread from neighboring nations, Nepal responded slowly. First case in Nepal was discovered on June 25, 2020, when a 32- year old Nepali student returned from Wuhan, China (Dawadi et al., 2020).Online education was established as a temporary replacement for the face to face traditional education system.

Despite the convenience and flexibility it offers both teachers and students, it nonetheless has its share of difficulties, such as students' attention spans, safety concerns, technology that is out of reach, and professors' reliance on in person teaching methods. The technological and human resource infrastructures might become worthless if they are continuously neglected (Khati & Bhatta, 2020). In this regard, this study will examine how students who are pursuing a master's degree at the University Campus, Kirtipur, perceived online learning in the year Covid-19.

1.2 Rationale of the Study

The Covid-19 pandemic has brought about many changes, especially in the field of education (Harefa & Sihombing, 2021). With these adjustments, educational institutions hope to improve learning in the pandemic setting. This study thus focus on four main justifications, including instructors' online learning strategies, students' convenience with online learning motivation for online learning, and the overall efficacy of online leaning during the Covid-19 pandemic particularly in University Campus Kirtipur (see in Appendix B).

1.3 Problem Statement

With the internet around, human labor is made easier in many ways, particularly in the sphere of education. Both instructors and students are required to use technology in the present educational process. Not all kids, nevertheless, are able to adjust to and accept these changes. Students' levels of openness to changes in the learning process vary. Age, cognitive capacity, and kids' interest in technology can all have an impact on this. All students appear to respond to the practice of online learning differently, with older students expressing higher enthusiasm. Learners continue to perceive their online interactions throughout learning in a variety of ways (Koohang, Paliszkiewicz, Nord& Ramim, 2014).

Concerns exist over the effectiveness of the online learning environment as well (Hashem, 2018). By seeing how they engage in continuing learning, students' commitment to online learning may be gauged. There are three dimensions of engagement required for online learning: cognitive, emotional, and behavioral (Fredricks, Blumenfeld & Paris, 2004). Following is an explanation of these three dimensions (Jung & Jeongmin, 2018):

1. Cognitive engagement is the effort a student makes with their mind to gain skills through online learning.
2. Students' favorable feelings toward teachers, classmates, and online learning are referred to as emotional involvement.
3. When studying online, behavioral involvement is engagement that is demonstrated by actions that focus on learning.

In the instance of Nepal, the Covid-19 pandemic caused the face to face education system that had been at place in the country's institutions and universities to come to an end. Even though the epidemic gave rise to online education, it faces many difficulties in Nepal because of under qualified students, teachers, and administrators. The sudden implementation of lockdown disrupted several students' exams. Students who had planned to study aboard are either waiting or have canceled their plans. The online education system is plagued by a number of issues.

First of all, adjusting to technology is challenging. Second, it lacks interaction. Thirdly, a bad internet connection, whereas fourthly or lastly, a dearth of advanced laptops or mobile devices.

Despite the issues, it has drawn students with jobs, cut down on travel time, included several specialists, and is coming. It should be given special attention to improve infrastructures, train instructors, and inspire pupils. It can be extremely important in other calamities like earthquake (2072 BS). It should be viewed as an addition to regular education, not as a substitute. While making plans for online education, an equitable educational platform should be developed. Consequently, if used appropriately, it may complement and be a beneficial contribution to the current system of education (Khati & Bhatta, 2020).

1.4 Objectives of the Study

The general objective of the study was to analyze students' perception of online learning during Covid-19 pandemic. Likewise, the specific objectives are as follow:

- To assess students' perception of the benefit and effectiveness of online learning during the Covid-19 pandemic.
- To find out the differences in average perception scales about online learning scales between students belonging to science and technology, education as well as humanities and social sciences.
- To test the relationships between characteristics of the students and online learning scales (e.g. multiple efforts scale method and motivation scale, benefit scale and effectiveness scale).

1.5 Significance of the Study

The authorities of Tribhuvan University, including distinguished faculty deans, central departments, as well as students and professors, will benefit the study's conclusions.

1.6 Hypothesis Test

1. Teachers' methods of online learning differ with respect to the students studying in different streams.
2. Students' convenience in online learning differs with respect to the students studying in different streams.
3. Motivation to learn online differs with respect to the students studying in different streams.
4. The effectiveness of online learning differs with respect to groups of students studying in different streams.

1.7 Delimitation of the Study

This study conducted in University Campus, Kirtipur. The 306 respondents selected from three different types of educational streams like; science and technology, education as well as humanities and social sciences.

1.8 Organization of the Study

This study is organized into six chapters. First chapter deals about introduction of the study. Second chapter highlights literature review. Third chapter presents research method and methodology. Fourth chapter briefly introduces about numbers of central department and students studying in University Campus located in Kirtipur. Fifth chapter presents data analysis and interpretation, and finally, sixth chapter deals about summary of findings, conclusion and recommendation.

CHAPTER II
LITERATURE REVIEW

2.1 Conceptual Review

2.1.1 Access of Online

There were troubling instances of kids missing out on online special education opportunities during the Covid-19 outbreak because they could not get to those services. While the ability to give services to people in remote locations is made possible by online learning, access to online learning may differ based on resources and technological skill. Students' learning and skill- building are significantly impacted by limited access to online learning. During the epidemic, there have been issues with access to schooling particularly for pupils with impairments. We cannot guarantee that students have access to remote learning options if students' involvement and attendance are not monitored (Kim & Fienup, 2022). Only 50% of school districts in the United States use attendance or one on one check-ins to monitor students' participation in their education (Opalka & Gross, 2020).

During a pandemic, there are at least two levels of educational access. First, it's possible that students lack the means to access instructional resources online. And in fact, during the epidemic, this degree of access presented difficulties for many students, including those with and without impairments (Opalka & Gross, 2020). For students who have the resources to participate in online education but are unable to do so due to other factors in their environment, such as their parents' busy schedules, a lack of technological proficiency to effectively use resources for remote learning, or a lack of clear expectations for online learning, to name a few potential causes, there is a second level of access (Kim& Fienup, 2022)**.**

The Union Government's plan to enforce a nationwide lock- down for 21 days beginning on March25, 2020, which was later prolonged for another 19 days, prompted educational institutions in India to switch to an online teaching environment shortly after. The study's findings are significant for agricultural educational institutions for two key reasons. First of all, the transition to online mode was hasty because of the unprecedented lockdown that was enforced to control the Covid-19, and institutes did not have time to prepare and adapt the course materials for online mode. Online learning may be made simple, effective, and productive in this situation by incorporating student experience and lessons learned. Second, even when the lockdown is lifted, life will not be same because of the Covid-19 epidemic, and online education will continue to exist, although in conjunction with conventional offline education.

The duration of the pandemic and likelihood of reinfections are unknown, and social isolation may start to feel normal. Therefore, all educational institutions must be ready to adapt the course structure and curriculum to accommodate the majority of the course content moving to e- learning platforms (Muthuprasad et al.,

2021).Depending on their resources, many nations have taken a variety of actions to combat the epidemic. For instance, technologically, advanced nations like Italy, France, Germany, Australia, the United States have embraced distance learning as a way to make up for the loss. They immediately improved their e-learning technologies (Moodle, LMS cloud platforms, etc.) to build standard distance learning center portals and give students access to the e-content and repository through mobile devices. All parties involved, including intuitions, educators, publishers, and parents, have worked collaboratively in their nations to generate digital resources (such as textbooks and learning materials) that may be distributed via virtual classrooms (Azzi-Huck & Shmis, 2020).

Additionally, the two most popular nations on the earth, China and India, have both created nation e-learning portals that provide parents, instructors, students, and education authorities access to the national repository of leaning resources (Dawadi et al.,2020).The current situations suggest that the epidemic has diverse effects on students in Nepal. For instance, several universities and colleges in metropolitan regions have begun to provide online courses to lessen the effect on learning. However, it does not appear that most Nepalese rural schools could operate online courses. Only 56 % of individuals in Nepal have internet connection. Only 13% of schools may be able to provide online courses, according to Pandit (2020), though 35% schools have access to internet (Dawadi et al.,2020).

2.1.2 Efforts of Online

Despite the Ministry ofEducation, Youth and Sport's (MoEYS) efforts to make online learning opportunities available in Cambodia by disseminating video lessons via television and other online platforms like the MoEYS facebook page, YouTube Channel, and e- learning website, the proportion of students who have had access to online learning is still small (Cambodia, 2020). The Indian Government encouraged the use of ICT in the sector of education, particularly during the lockdown era, in efforts to protect it from the impacts of Covid-19. The government has established new instruments to promote e-learning in addition to promoting already-existing initiatives like CLASS, EDUSAT, SWAYAM, NPTEL, CEC, ILLL.

Additionally, the federal government works with and supports educational TV networks like Swayam Prabhu and Gyaan Darchan. Other efforts adopted by the central government include open schools and pre-service education, education over the air via radio channels, special classes for children with disabilities, and offering free e-books and digital libraries like the National Repository of Open Educational Resources. The Punjab state is not lagging behind the capital state in terms of beneficial E-learning activities, having started channels on YouTube, TV, and Radio, distributing content through EDUSAT, distributing e-books, and promoting Smart Classrooms (Singh et al., 2021).

In order to counteract school closures, Nepal has prioritized education as a key component of its Covid-19 disaster response. In order to examine remote learning options for Nepal, where the digital gap is severe, the World Bank recently hosted an EdTech event. Participants expressed interest for a variety of media that might promote continuing education, including radio, mobile phones, television, and internet possibilities. New rules that the government created and released helped students study through alternate ways. A partnership of educators, education journalists, non-governmental groups, local governments, and local radio stations has also developed Radio Schools, a distance learning radio program, to overcome the important learning gap that students face during the Covid-19. In five districts, this helps more than 100,000 students in grades 1 through 10 (Nair et al.,2020).

The new Covid-19 effect mitigation tactics should include both high-tech solutions (such remotely delivered real- time video lessons) and low tech or no- tech solutions, including information distribution through post offices and educational radio programs. It is encouraging to note that the Nepali government just introduced an unified e-education postal system through its Ministry of Education. It is now necessary to furnish this national platform with a repository of lesson plan, e books, and other teaching and learning resources. Different institutions, both public and commercial, provide various online teaching and learning platforms. However, these systems are dispersed, with various aims and structures. It will take time, effort, and collaboration to bring them all to a single platform with unified repository. To reach their people living in the remote areas of the country, it will also be necessary to improve education service platforms and mobilize all service providers to integrate conventional technologies (radio, TV, landlines) with mobile technologies. In order for the service platform to handle the necessary level of demands, it will need to be upgraded. Similar to that, service providers at the local, state, and federal levels must be enlisted in order to give the most marginalized groups of the populace access to the service platform (Dawadi et al., 2020).

2.1.3 Teachers' Method of Online

According to the case study of Taiwan's National Pingtung University, during the Covid-19 epidemic, students at all levels of education – colleges, secondary schools, and primary schools – were unable to attend class; therefore the majority of schools shifted to online instruction. Regardless of the learning stage, lecturing with a presentation screen was the most popular method of instruction. When it comes to playing videos, most of the films at colleges were produced by professors, but the majority of the videos in middle and primary schools were produced by outsiders. We discovered that regardless of the learning stage, whole- class synchronous video/ audio-based debate was the most often used form of learning engagement.

Additionally, teachers set up synchronous text- based dialogues according to the students' proficiency level. Regardless of the learning stage, task (assignment)

allocation was the most common behavior in terms of learning efficacy. Second, although teachers in secondary and primary schools were more likely to utilize online assessments for evaluation, college instructors frequently used assignments and work reports. Finally, we discovered that regardless of the learning environment, such as the state of the hardware and software, were required for online teaching. In general, roll calls and questions regarding the state of the gear and software took up more time in online teaching than in traditional classroom setting.

This implies that the quality of e-learning will be influenced by the technical proficiency of those teachers for online instruction, the students' familiarity with digital platforms, and the software offered by the school's information center. Some instructors utilized a whiteboard to speak in experimental or practical courses while others used cameras to record the classes immediately. Additionally, college professors participated in less interactive learning behaviors, but the majority of them were done in groups. Second, secondary school instructors used synchronous and asynchronous interactive activities more frequently, as well as designed practical or experimental courses.

Additionally, conversations with voice and text were held using both synchronous and asynchronous means, and primary school instructors were more likely to utilize their own film, share their screens with students, and set up a wide array of educational activities. Overall, roll calls and the identification of the teaching environment, teaching through presentation and screen sharing, synchronous text based discussion, and an efficacy evaluation were frequent major sequential bahaviors in colleges, secondary schools, and primary schools (Wu, 2021).Lecturers applied a variety of online activities, according to the study context at South East European University (SEEU) in Tetovo, North Macedonia. Distribution of class materials, uploading assignments, online contests, handouts, supplementary readings, online chats, and power point presentations are all done using Google Classroom. The research's result that the majority of the respondents who were questionedclaimed that the lecturers did not provide frequent or in-depth response on their tasks (Xhaferi & Xhaferi, 2020).

During the Covid-19 widespread, Nepalese professors and students have a good attitude and behavior that might progress over time. These actions contain frequent learning, consultation, active engagement, sincere commitment, devotion, and listening. The Covid-19 epidemic has fundamentally altered how education is conducted globally. This fact is universal, including in Nepal. The practice of technology in education includes more than just using technological tools; it also includes applying resources methodically, scientifically, and with the appropriate pedagogy in order to successfully change knowledge and skills.

Each organization has to build an online method of education as a substitute method for the teaching-learning process, together with a curriculum that is geared

toward education, modern technology, designated faculty, and proactive management. Few Tribhuvan University faculties first made an attempt to provide their lessons online from the moment Nepal was positioned under lockdown, but the efforts fell short in terms of coverage. Later, Tribhuvan University openly agreed to operate online classes while delaying the schedule for exams.A few other organizations in Nepal selected to continue their on-campus style over the internet three weeks after Tribhuvan University(Gautam & Gautam, 2021).

While there are severe problems with power backup or alternate power source, inadequate connectivity, strangeness with digital platforms, and low ICT abilities among students, students have shown a good attitude toward online teaching. For teaching and learning to be fruitful and creative, as well as for teachers to use digital platforms properly, they need to have the precise training. For the fruitful effectiveness of online courses, the school, college, or university must have a well-established IT infrastructure (Khatri et al., 2021).

2.1.4Benefits of Online

According to study conducted by the University College of Medicine and University College of Dentistry in Lahore, faculty members believed that online learning helped assure distant learning, that it was manageable, and that students could easily access instructors and instructional materials. Additionally, it cut down on additional costs and the usage of resources for travel. Administrative responsibilities like recording lectures and documenting attendance were made easier. Online learning strategies, in the perspective of both the students and the professors, had promoted student-centeredness during the lockdown. The student was now a self-directed learner who could take classes at any moment during the day asynchronously (Mukhtar et al., 2020).

The majority of participants in India are pleased with online teaching and learning. 77.1 percent of participants listed the following benefits of online learning: flexibility; 28 percent; convenience; 33 percent; and aids in revision.

However, roughly 10 percent of participants indicated there were no benefits to online learning. Both instructors and students agreed that it reduces travel time and is helpful in an emergency (Menon et al., 2020).As a result of the academic ramifications, environmental policy should be developed that can improve the university's health management systems and serve as a guide for future research on the impact of Covid-19 on the effectiveness of educational system (Toquero, 2020).

In the case of South Asia, the issue has provided opportunities for medical and educational professionals, both local and worldwide. Both instructors and students may gain insight from the epidemic on how health issues, particularly infectious illnesses, can influence people's lives and livelihoods as well as how thoughtfully individuals respond to it. It has provided an opportunity to transition to online contact

and learning and use a virtual platform for things like e-conferences, webinars, podcasts, and e-classes/e-lectures (Piryani et al., 2020).

Opportunities for Nepal to generate income; to continue one's academic career from any location in the nation; and to improve employees' learning outcomes. Nepal should be aware that blended learning may combine the finest elements of both approaches to improve learning. As a result, blended learning strategies will be tried, tested, and employed more frequently. We can overcome our differences by working together during this time. It is a chance for the education industry to come together, establish links across continents, and genuinely discuss what functions on a worldwide scale (Basnet et al., 2021).

Online education is advantageous in part because it encourages online research, links practitioners to the worldwide community, and provides access to a vast and authentic body of information, even though it also gives teachers and students greater flexibility and teaches time management skills (Paudel, 2021).The Covid-19 epidemic has compelled Nepal's higher education system to switch from face-to-face instruction solely to online instruction, which is a novel experience and practice for many professors and students. Although they have discovered that time management skills, more freedom for the teachers and learners, and reliable internet at work are the extreme challenges, online education is beneficial in particular for promoting online research, connecting practitioners to the global community, and obtaining a vast and authentic resource of knowledge(Paudel, 2021).

2.1.5 Problems upon Online

Institutions have to reevaluate their curricular interventions in light of the Covid-19 Pandemic to prepare students for an interest in online education. Similarly, the legislative body for medical health on collegecan create health management procedures and instruments to make sure that participants adhere to environmental health standards even outside of academia (Toquero, 2020).In all institutions of higher learning, distant learning methods and technology were implemented. Lack of faith in technological communication and learning processes (Ametova & Mustafoeva, 2020).

Because of environmental and situation-specific challenges, students in online education may experience a number of problems when attempting to participate in virtual classes. These problems may limit their ability to concentrate on the subject matter, remember the data from the virtual lecture, and actively participate in significant discussions. Students may have privacy worries and difficulties, such as not wanting people to stare at them or at their personal bedrooms; being worried about their social and economic position and not wanting others to judge them based on their living arrangements (Neuwirth et al., 2021).

Table 1.*Problems of Online Education*

Piryani et al., (2020) South Asia	Both faculty members have found it difficult to teach and learn online since there may be less instructor monitoring and assistance, and students need to be able to manage their learning on their own. Teachers, faculty and facilitators are motivated to stay up with modern technological developments by the changes in education's approach, modality, and process, even if they may initially involve more work.
Joshi et al., (2020)	The primary concerns with online learning are work-life balance, a lack of social connections, and cyber scam issues (cheat). Changing from face-to-face to virtual classrooms presents challenges for faculty and students.
Thapa (2020) Nepal	The study identified issues such as unequal access to and the quality of internet resources, the cost of laptops and computers, insufficient contact, and frequent disruptions.
KC (2020) Nepal	It's crucial to keep kids involved, especially younger secondary school students. Learning sciences and math is simply one aspect of attending school; peer interactions and social interactions are equally important. It is about acquiring social skills and learning how to be a citizen. The involvement of parents in their children's education will increase.
Khati and Bhatta (2020) Nepal	For students, there are four basic concerns with online education. First of all, it takes a lot of work to log in to classes and publish assignments using new technologies. Second, some students believe that programs offered online are less participatory. Thirdly, many regions of Nepal have inadequate internet access, making it challenging for students to upload homework and attend class. Fourth, the lack of access to computers makes learning difficult.
Paudel (2020) Nepal	Clear ICT policy must be established, and coursework should be created in line with it. The participants regarded blended learning and stable internet access at work as the greatest hurdles since only online teaching and learning is successful in Nepal.

Source:Basnet et al., 2021

Table 1 shows that work-life balance, a lack of social interaction, and problems with cheating online were among the key difficulties of online learning. The transition from in-person instruction to online learning is difficult for both faculty and students due to differences in internet connection and service quality, laptop and computer affordability, the lack of sufficient engagement, and frequent disruptions. Teachers and medical educators have been given the chance to participate in the

challenge, some from a global viewpoint and some from a local one. Teachers and students can get insight from the epidemic about how health issues, particularly infectious diseases, might influence people's lives and livelihoods as well as how they could react to it.Encouraging internet research, connecting practitioners to the worldwide community and providing them with a vast and reliable source of knowledge as they discover time-management skills and provide instructors and students more freedom(Basnet et al., 2021).

2.1.6 Effectiveness of Online

The effectiveness of Undiksha e-learning as one of the official learning media for the Undiksha Physical and Health Study Program has not been measured scientifically. This study aims to describe the effectiveness of online learning using Undiksha E-Learning in the Physical Education and Health Study program during the Covid-19 pandemic. The outcomes demonstrated that Undiksha's E-Learning, used for online instruction during the Covid-19 epidemic with in Physical Education and Health Study curriculum, was highly successful. This is demonstrated by data from digital training using Undiksha E-Learning, which shows that 96 percent of students pay close attention to the lecturers' explanations, 88 percent of students understand the course materials, 77 percent of students are motivated to engage in virtual learning utilizing Undiksha E-Learning, and 88 percent of students achieve the learning objectives. The study's findings demonstrate that Physical Education and Health Study program's use of Undiksha's E-Learning during the Covid-19 epidemic was extremely successful.

The results from this research have consequences for how long Undiksha e-learning will be used by its instructors and students as a platform for learning (Satyawan et al., 2021).At a multicultural university in Northern California, the United States, we looked into 156 individuals who took and decided to enroll in either an eLearning segment or face-to-face learning of the Recreation and Tourism course. We discovered no statistically significant difference in learning preferences between those enrolled in the two different learning modes (Fortune et al., 2011)**.**

When online programs for learning English as a foreign language were contrasted with in-person instruction, Tratnik's research revealed substantial disparities in student satisfaction levels. Compared to students who took the course online, those who took it in person were shown to be significantly happy with it (Tratnik et al., 2019).As per the study of University of West Sulawes, the online education program used during the Covid-19 epidemic is both efficient and effective. Effectively implemented due to the requirements for online learning and ineffective due to the higher expenditures paid as compared to offline lectures. Expenses primarily related to purchasing internet capacity to go on with the online lectures. WhatsApp is the best program to utilize during online lectures since it is seen as more affordable and widely used. Network issues come up during online lectures as

constraints (Bahasoan et al., 2020).The epidemic has highlighted the flaws in the present system of higher education and the necessity for greater digital technology training for instructors to keep up with the world's quickly evolving educational landscape. The use of online learning as well as digital education could become crucial component of the educational system in the post-pandemic world. To assure learning outcomes for students as well as standards of educational quality, universities and higher education institutions need to develop post-pandemic teaching and research programs (Rashid & Yadav, 2020).

When online programs for learning English as a foreign language were contrasted with in-person instruction, Tratnik's research revealed substantial disparities in student satisfaction levels. Compared to students who took the course online, those who took it in person were shown to be significantly happy with it (Tuladhar et al., 2020).Most students have taken online classes for the first time in their academic careers, according to research at Shanker Dev College (SDC) being done at the master's level. The majority of them participated in their online lesson using their personal mobile devices. According to the study, physical classes were easier to attend, had better study tools, and were more significant in terms of comfort, quality, interest, simplicity, usage, focus, communication, feedback, variety, and presentation.Only in terms of time savings did the majority of students favor online classes; in contrast, a disproportionately greater percentage of students supported the efficiency and caliber of in-person instruction. It demonstrates that physical classes had mean values that are higher than those of online classes, meaning that physical classes were more successful than online classes (Karki et al., 2021).

2.2 Theoretical Aspects

2.2.1 Motivation Theoryof Self-efficacy

From a conceptual standpoint, the self-efficacy/trust in one's own competence theory describes the initial stage of motivation (can students complete any assignment on their own) According to this view, self-efficacy or confidence in one's own competence is a key factor in determining motivation, which is actually the result of four factors: physical and emotional health, verbal encouragement from others, learning from one's own experience, and learning from others' experiences (Bandura, 1962). Because of this, students with high self-efficacy and self-confidence attempt things and persevere even when they are challenging, while students with low self-efficacy and self-confidence put out the least amount of effort and frequently give up. Researchers in education have also discovered a strong correlation between higher self-efficacy/trust in one's own competence scores and better performance on assignments, tests, and essays, as well as between these scores and more frequent use of cognitive methods.

Bandura's theory is based on two tenets: (I) students make personal interpretations of their past successes and failures and set goals based on these

interpretations because they believe they are more ambitious than they are capable of, and (ii) students set individual goals that become their own standards for assessing their performance. Goal attainment results in self-satisfaction, and making the required efforts to do so helps people avoid the unhappiness that comes from performing below expectations (Bandura, 1988). Bandura asserts that individuals derive their sense of efficacy from four different sources: I performance accomplishment; (ii) observation of others' performances; (iii) verbal persuasion and other forms of related social influence; and (iv) physiological states from which they assess their own potential and vulnerability (Bandura, 1962). In light of this circumstance, students can also increase their self-efficacy/belief in their own competence by performing well in school, observing others' performances, taking into account sociocultural influences, and assessing their own strengths and weaknesses.

2.2.2 Goal Oriented Theory

The second stage of motivation is described by goal orientation theory. Dweck (1986) defines two types of accomplishment goals that are influenced by self-efficacy/trust in one's own ability, beliefs, and the amount of effort students put into their academic work. They are (I) performance focus goals that place a premium on receiving favorable feedback from others and (II) learning focus goals that place a premium on the student learning new skills and knowledge even if failures occur along the way. Students with learning goals view failure as a cue to adjust their approach to complete the work and raise their efforts, while students with performance goals are more prone to take failure as a sign of low ability and to withdraw effort.

Higher student effort increases the likelihood that they will perform better in relation to their learning objectives (Elliot & Dweck, 2005). Wentzel (1991) contends that for students to succeed, they must work toward both learning and performance goals. Here, the goal orientation theory also contends that students who have a high level of self-efficacy or confidence in their own abilities, regardless of goal orientation, exert effort as assignments get harder or if they fail. Students who lack confidence in their own abilities or self-efficacy exhibit unusual patterns of persistence.

Instead than concentrating on the content of what people are seeking to achieve, goal orientation also involves context orientation for action in an achievement task. Mastery goal orientation for addressing an individual's aim of growing competency has been stated by Ames in 1992. Students with mastery goals concentrate on learning, comprehending, developing skills, and mastering knowledge. In a broader sense, mastery goals orientation can be defined as a motive for personal development and growth that directs behavior related to achievement and task engagement (Ames, 1992 as cited in Brdar, Rijavec & Loncaric, 2006).

Similar to this, a goal oriented approach refers to a focus on the potential for success, whereas a goal oriented avoidance refers to a focus on the potential for failure and the endeavor to avoid it. When pursuing performance approach goals, the person engages in the task with a clear intention and is focused on the desired prospect of exhibiting high ability. When pursuing performance avoidance goals, the individual is focused on the undesirable potential of displaying low ability and performs the job with the intention of avoiding such a demonstration (Elliot, 1997 as cited in Kaplan & Maehr, 2002). It has been discovered that performance avoidance goals are linked to low efficacy, anxiety, avoiding asking for help, self-handicapping tactics, and poor academic performance. The distribution of linkages with performance-based goals.

2.3 Policy Review

Distance learning has been implemented as a way to make up for the loss in technologically sophisticated nations including Italy, France, Germany, Australia, United Kingdom, and the United States. They improved their e-learning systems (Moodle, LMS, cloud technology, etc.) swiftly to develop standard distant learning center portals and give students e-content access and library through mobile devices (Dawadi et al., 2020).All parties involved, including institutions, educators, publishers, and parents, have worked collaboratively in these nations to generate digital resources (such as textbook and learning materials) that may be distributed via virtual classrooms (Huck & Shmis, 2020).

Additionally, the two most populous nations on the earth, China and India, have both created national e-learning portals that provide parents, instructors, students, and education authorities' access to the nation's repository of learning resources. China, on the other side, has mobilized all national and provincial telecom service providers as well as online platforms, updated the bandwidth of the most important online platforms, and mobilized resources from across the entire society, including both human and material resources, to "ensure learning is undisturbed when classes are disrupted." In order to promote learning, China has also created adaptable online teaching approaches. Additionally, it has improved online security via the cooperation of all internet services and developed a program for psych-social assistance to guarantee that almost all learning is done online (Huck & Shmis, 2020).

Additionally, the two most populous nations on the earth, China and India, have both created national e-learning portals that provide parents, instructors, students, and education authorities’ access to the nation’s repository of learning resources. China, on the other side, has mobilized all national and provincial telecom service providers as well as online platforms, updated the bandwidth of the most important online platforms, and mobilized resources from across the entire society, including both human and material resources, to "ensure learning is undisturbed when classes are disrupted." In order to promote learning, China has also created adaptable

online teaching approaches. Additionally, it has improved online security via the cooperation of all internet services and developed a program for psych-social assistance to guarantee that almost all learning is done online (Dawadi et al., 2020).

Additionally, the two most populous nations on the earth, China and India, have both created national e-learning portals that provide parents, instructors, students, and education authorities' access to the nation's repository of learning resources. China, on the other side, has mobilized all national and provincial telecom service providers as well as online platforms, updated the bandwidth of the most important online platforms, and mobilized resources from across the entire society, including both human and material resources, to "ensure learning is undisturbed when classes are disrupted." In order to promote learning, China has also created adaptable online teaching approaches.

Additionally, it has improved online security via the cooperation of all internet services and developed a program for psych-social assistance to guarantee that almost all learning is done online.On the Ministry's online learning platform, which provides access to on-demand information and digital textbooks, these activities are also live-streamed. The process of learning with electronic information or material through a web-based technology is called electronic learning, or e-learning. In Nepal's earlier educational systems, several media Discs were employed for e-learning. The 21st century has brought about many changes, including a new method of education with information and communication technology such as a computer and the internet, which is now the greatest way to learn anything new.

Multimedia CD-ROMs, websites, blogs, wikis, email, and other web-based information or materials are the E-learning methods that were most frequently employed.These methods of learning are currently available for bachelors and master's degrees at Tribhuvan University as well as Kathmandu University, the two most prestigious institutions in Nepal. Additionally, several foreign institutions are creating open distance learning programs in Nepal, which is one of the main drivers of the country's fast rising E-learning strategy(Dawadi et al., 2020).

In order to counteract school closures, Nepal has prioritized education as a key component of its Covid-19 disaster response. The learning site of the Ministry of Education, Science, and Technology, which offers electronic books, interactive learning games, audio, and videos of classes. The Curriculum Development Center of Nepal is responsible for this content, which is divided into categories by grade and subject to make navigating simpler. A coalition of educators, education reporters, nonprofit groups, local governments, and radio channels has also started a distance learning radio program called Radio Schools to tackle the critical knowledge gaps facing children during the Covid-19. Government has also created and released new regulations to aid students in studying through alternative channels (Nair et al., 2020).

The Ministry of Education Nepal and private schools have been asked by the Human Rights Commission of Nepal not to put pressure on students in the name of online education. Although Nepal is undergoing technological change, far less progress has been made than in other developing nations when it comes to implementing ICT-related policies in education specifically. For instance, the National Information and Communication Technology Policy 2015 set the goal of "achieving the whole population of Nepal to have access to the internet by 2020" and of "bringing the country into a unified, free Wi-Fi infrastructure"(Shrestha, 2016).

However, only around 72 percent of people now have access to the internet, and the majorities are from metropolitan regions. Similar to this, the Three-Year Plan 2011-2013 focused on the use of ICT in school education (Three Year Interim Plan, n.d.), the School Sector Reform Plan (SSRP) 2009-2015 aimed to broaden ICT infrastructures in schools to support ICT associated teaching/learning strategies, and the ICT in Education Master Plan 2013-2017 (i.e., a plan related to ICT in school education) aimed to expand equitable access to quality education, decrease the achievement gap. It appears that the policies have not been applied correctly. As a result, the great majority of schools now neither have ICT facilities (or human resources) nor internet connectivity(Dawadi et al., 2020).

2.4 Empirical Review

Karahisar and Unluer (2022) conducted qualitative study to appraise work alienation of academics during the Covid-19 epidemic and disclose the underlying reasons. They used semi-structured interviewing technique within the concept of the phenomenological approach, one of the qualitative research methodologies, to determine the work alienation of. The information gleaned from these conversations was subjected to content analysis. It was discovered that the academics who were questioned were negatively impacted by the distant education technique and were not qualified to employ it. It was also discovered that although participants weren't able to articulate their requirements for their technological and financial needs, they remained dissatisfied with the help received from their institutions.The study's findings show that, despite the widespread belief that distant learning cannot replace in-person instruction, it may be able to create hybrid models and maintain distance learning in some fields. Due to this, if this topic is explored across fields and disciplines judgments regarding whether teaching will be face-to-face, mixed, or distance-based can be drawn (Karahisar & Unluer, 2022).

Purbudak et al., (2022)identify the problems faced by special education instructors and children with special needs in this process. Within the parameters of the qualitative technique, this study was conducted. The opinions of teachers were obtained using a semi-structured interview form. By using content analysis, the replies were examined. The results show that special education instructors reported the greatest communication challenges while dismissing the benefits of distant

learning. The issues brought on by inadequate parental digital literacy and the accessibility issues were both highlighted as key issues.Special education teachers provide various helpful recommendations for organizing the system to be more inclusive and for all possible users, even if they see good reasons to ensure that education somehow continues in the remote learning process. Platforms for distant learning may be created to assist subjects including content, interaction, and socializing for students that require special education. As a shareholder, the family can participate more actively in this process. Family members might be encouraged for this by making demands that are high on expectations and providing the essential previous knowledge(Purbudak et al., 2022).

Baloran et al., (2021)evaluate association amid course satisfaction as well as students participation in online learning at the University of Mindanao- Bansalan College in the Philippines during the Covid-19 epidemic. Results from the online survey revealed that students were extremely satisfied with their courses and the way that they were delivered. Respondents are similarly satisfied with quality of e-learning distribution, although their degrees of involvement vary by year level. This study also showed a strong correlation between online student participation and satisfaction with online courses. It was further established by structural equation modeling that student involvement in online learning, as measured by their abilities, emotions, participation, and performance, is highly correlated with their online courses. Higher education institutions must increase the standard of e-learning delivery in context of the Covid-19 and make sure to close the achievement gap between students from under/privileged backgrounds (Baloran et al., 2021).

Kulusakli (2022)examines EFL students taking an online English course through distance learning who have self- regulated learning skills. Additionally, it intends to investigate the connection between the learner's age, gender, and self-regulated learning abilities. It was done using the Self- Regulated Online Learning Questionnaire (SOL- Q). The kids managed their environmental structuring skills at a "good" level, according to the results. They judged their achievement in the metacognitive skills, tenacity, requesting help, and time management characteristics as being just somewhat successful. Additionally, the study showed that there was no statistically significant difference between male and female EFL learners or between the learners' age and their self- regulated skills. According to the study, in order to become more independent language learners, distance education students need to develop their self- regulated online learning skills. Future research might involve a big number of individuals. Second, qualitative data collection techniques may be used in future investigations (Kulusakli, 2022).

Turan et al., (2022)assert influence of academic inspiration and attitudes towards mobile learning on how well sports science students viewed their learning. According to the correlation survey model, it was carried out. Descriptive statistics,

Pearson correlation, and regression study were used to examine the data. Examining the study's data revealed favorable moderately significant links between perceived learning and academic motivation in students studying sports science ($p<0.05$) as well as favorable low- level significant relationships with mobile learning ($p<0.05$). It was also shown that academic motivation and attitude toward mobile learning strongly influenced learning ($p<0.05$). As a consequence, this research has demonstrated that academic motivation and mobile learning are significant factors that might impact perceived learning, which is desirable to boost in a favorable way. In order to comprehend the impacts of academic intrinsic motivation and academic extrinsic motivation on the academic achievement of the university, further research might be conducted using various samples and educational levels. Comparatively, this study may be conducted at both private and public schools and in a variety of faculties (Turan et al., 2022).

Mahmud and German (2021) assess effectiveness of online classes run by allthe educational institutions in Indonesia, including universities. Many college students who took courses online saw significant changes in how they controlled their quest for information. This study looked at the degree to which EFL university students self-regulated their studying during their online coursework for such an English academic writing task, as well as the challenges they faced and the solutions they came up with. A converging mixed-method research strategy was used for this study. The numerical data sets were analyzed using descriptive statistics, whilst the qualitative sets of data underwent rigorous coding and theme analysis.This report claims that the Indonesian government has made it mandatory for all educational institutions, including universities, to adopt online education. Many college students who took courses online saw significant changes in how they controlled their quest for information.

The purpose of this study was to investigate the extent to which EFL university students self-regulated their learning during their electronic homework for an English academic writing task, in addition to the difficulties they encountered and the solutions they devised. A convergent mixed- method research strategy was used for this study. The quantitative data sets were analyzed using descriptive statistics.The statistical analysis revealed that the students' self-regulated learning abilities were on the middle side. In the context of virtual self-regulated learning, the challenges they encountered include technological, materials, time management, study space, as well as motivational concerns, according to the qualitative analysis. The students also used technological, intellectual, and emotive tactics in an effort to improve teamwork and time management as well as to address these problems. This study gives insights for universities and lecturers about students' capacity to govern their learning in an online learning context by examining the extent of students' self-regulated learning skills.Likewise, this research has revealed the challenges that

students encounter during the eLearning process and their solutions, which can practically inform academic institutions about the support that should be given to support students' self-regulated learning abilities in the eLearning context. The shift from in-person instruction to online instruction should be coordinated with the level of assistance offered by professors and educational institutions to prepare the student to become self-regulated learner. The educational activities offered by lecturers ought to be able to provide pupils the knowledge and abilities necessary to become more self-reliant students (Mahmud & German, 2021).

Kader et al., (2022) reveal sufferings of the students' inability to handle the complexities of technology throughout the teaching-learning activities, notably during the Covid-19 epidemic. The impact of techno stress on undergraduates' online learning behaviors must be thoroughly studied. Therefore, the purpose of this study is to investigate the antecedents of techno stress and the relationship between undergraduates' levels of techno stress and their behavioral intentions for using online learning. Cross-sectional data and an online survey were used in this investigation. For the purpose of analyzing the measurement model as well as assessing the produced hypotheses, structural equation modeling (SEM) was used.The results showed a strong relationship between behavioral intention to engage in online learning and techno stress. Additionally, favorable circumstances show a considerable correlation with technological stress. Researchers' understanding of the current state of anxiety in higher education as a result of the application of online learning laws, as well as the magnitude of the repercussions on higher education, is expected to improve as a result of the study's findings. Future studies should include students from other higher education institutions, whether private or public so that the findings can be generalized. Furthermore, this research looks at students’ techno stress against online learning without taking into account the types of courses they are enrolling in and their home environment including the accessibility of their internet connection that will lead to techno stress. Hence, future studies should consider the types of courses taken and the external environment, which could yield different results (Kader et al., 2022).

Tahar et al., (2022)examine the effect of information technology (IT) governance and IT application orchestration capability (IT-AOC) on the performance of higher education institutions (HEIs) directly and indirectly using process agility as a mediating variable. The study took a developing country, i.e., Indonesia, and the Covid-19 pandemic as its context. The study design was based on quantitative research. The study results revealed a positive direct effect of IT governance and IT-AOC on HEI performance during the Covid-19 pandemic. This research also found that process agility mediated the effect of IT governance and IT-AOC on HEI performance. Based on the findings, HEI management and policymakers should support and encourage HEIs to govern their IT effectively and improve IT-AOC and

process agility, especially when HEI operations have to be conducted online during the pandemic. Further research is recommended to examine similar topics in other locations (islands) in Indonesia or even in other countries to strengthen or even reject the results of this study. This study also used a single approach, namely a survey. Therefore, a detailed explanation was not provided, specifically how IT governance, IT-AOC and process agility were established technically or operationally and then affected HEI performance during the Covid-19 pandemic. Consequently, future studies need to use a qualitative with an exploratory approach to complement the results of this study. In addition, it is suggested that future research examines the determinants of IT governance, IT-AOC and process agility in theHEI sector (Tahar et al., 2022).

Şen et al., (2022) analyze the factorial structure of the Community of Inquiry (CoI) structure in the Covid-19 semester, a mixed-method research was done here (Spring 2020). Spring 2020 is often referred to as an emergency remote teaching (ERT) session, as opposed to instruction that has been specifically created for online teaching. Interviews and a CoI survey were used to gather the data. According to assessments using structural equation modeling, instructional presence predicted social as well as cognitive presences more strongly during the ERT than during other periods. The qualitative data demonstrated that even when cognitive as well as social relative abundance were relatively low in these courses, participants still rated them as beneficial.According to these findings, course instructors should give careful consideration to designing engaging online course activities so that they can be available to teach in an emergency. Thus, in the current post-ERT (Emergency Remote Teaching) period, further research can examine TP (Teaching Presence), CP (Cognitive Presence), and SP (Social Presence) in setups where fully-online or blended courses are offered, focusing on the role of successful technology use for synchronous and asynchronous tasks (Şen et al., 2022).

Qashou (2022)pinpoints the major challenges that professors in Palestine's higher education face while using e-learning. To conduct the study, Palestine Technical University "Kadoorie" was selected. Utilizing an electronic questionnaire, data was gathered. After that, SPSS 25 was used to examine the data. The findings also indicate a moderately positive link between the difficulties associated with the lecturers, the difficulties associated with the students, and the difficulties associated with the curriculum. Additionally, there aren't any statistically notable variations in the challenges brought on by academic degree. The findings, however, indicate that there are distinctions based on gender, age, teaching background, and college. Therefore, it can be stated that in order to achieve the successful use of e-learning, it is required to do additional activities linked to the technical infrastructure and to design strategies and incentives. It would be more comprehensive if the number of lecturers participating were more to listen to more opinions, especially the Faculty of

Engineering and Technology, where the participation of its lecturers is low. All those limitations could be the basis for future research (Qashou, 2022).

The above literature clearly indicate that most research are conducted to determine students' perceptions and attitudes toward online learning. Besides, most of the studies are conducted in international context. Therefore, students' perceptions and attitude towards online learning must be measured through the indicators; access of online learning, cognitive efforts of online learning, behavioral effort of online learning, teacher's method of online learning, extrinsic motivation to online learning, benefit of online learning, problems of online learning and effectiveness of online learning. At the same time all those measurement indicators must be interpreted through the lens of motivation theory of self-efficacy and goal oriented theory. Besides, it is sans important to find out the differences in average perception scales about online learning scales among the students studying in different faculties and streams. Finally, it is also important to analyze effectiveness of online learning by using multivariate statistical tools like composite index, normality test and multiple regressions models.

CHAPTER III
RESEARCH METHODOLOGY

3.1 Research Design

Research design not only explains the methodology being applied in the study but also helps to construct appropriate method in order to address research questions that are established to examine social phenomena (Scotland, 2012).This study applies cross-sectional study method in which required data are collect from many different individuals at a single point in time (Gupta & Gupta, 2015).

Besides, in cross-sectional research, the researcher can observe study variableswithout influencing them. More precisely, quantitativeapproaches have been taken to investigate, while some qualitative or narrative data were also be triangulated throughout data analysis.Based on my research philosophy and paradigm, this study applied quantitative approach and survey methodology which assumes the conditions of the true experiment in different setting without controlling and manipulating of the studied variables. A survey is merely a numerical representation of the main characteristics of a research population. A small group of people are asked to respond to a series of questions as part of this data collection technique (Gupta & Gupta, 2015).

3.2 Site Selection

Purposively, Tribhuvan University, University Campus Kirtipur is selected for the study purpose. There are five institutes and four faculties in Tribhuvan University. Out of those, one institute (pure science stream) and two faculties (i.e. education and humanities/social sciences) are selected.

3.3 Sampling and Population

This study follows sampling determination criteria for identifying sample size in relation to the research method (Borg & Gall, 1979 as cited in Cohen et al., 2000, p. 93). In survey research, 100 samples should be identified for each major sub-group in the population and between 20 to 50 samples for each minor sub-group. In this study, 102 samples were collected from each major sub- group i.e. Science and Technology, Education and Humanities and Social Sciences, and 34 samples for each minor sub- group.

Table 2. *Sample Size Determination*

S.N.	Institute/Faculty	Central Department	Target Population (I & III Semesters)	Sample Number
1	Science and Technology	Physics	80	34
		Botany	80	34
		Computer Science	80	34
2	Education	Curriculum	80	34
		Health Education	80	34
		Game and Sports	80	34
3	Humanities and Social Sciences	Rural Development	72	34
		English	80	34
		Anthropology	80	34
All total			712	306

Source:Field Study, 2022; Document Review, 2019, 2021

3.4 Data Collection

Through a field survey, 306 respondents' primary data were gathered. Data in this study was collected through the use of questionnaires. There are 36 questions on a five-point scale in the poll. Likert scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = highly agree (strongly agree). Over the course of many weeks, the study was performed. Students were required to physically take part in a survey. The students that wereinterested in this research provided narrative information during the survey.

3.5 Measurement Indicators

The questionnaires consisted of four indicators; 1) Teachers' methods of online learning; 2) Students' convenience in online learning; 3) Motivation to learn online; 4) The effectiveness of online learning. Then, the indicators were translated into 36 questionnaire items (i.e. 9 for each indicator).

3.6 Method of Data Analysis

The gathered information wascoded, verified as complete, and entered into IBM SPSS Version 25. Variables were described using descriptive statistics (frequency, percentage, mean, and standard deviation). Similar to this, composite indexing, Likert scale analysis, summative analysis, correlation, analysis of variance (ANOVA), normality test and multiple regression statistical methods were performed to compare how students from various faculties and streams perceive studying online.

3.7 Reliability and Validity

Reliability refers to precision and accuracy in measurement during study. For achieving consistency in measurement, researcher developed reliable data collection tools such as; questionnaire sheet, interview guideline and representative sampling procedures (Cohen et al., 2007). For reliability, this study applied internal consistency measure or Cronbach alpha measurement that provides a coefficient of inter-item

correlations that measures the internal consistency among the items (Cohen et al., 2007).

Table 3. *Reliability Statistics*

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.861	.890	48

	Intraclass Correlation[b]	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Single Measures	.209[a]	0.172	0.251	3.376	305	2440	0
Average Measures	.704[c]	0.651	0.751	3.376	305	2440	0

Two-way mixed effects model where people effects are random and measures effects are fixed.

a. The estimator is the same, whether the interaction effect is present or not.

b. Type C intraclass correlation coefficients using a consistency definition-the between-measure variance is excluded from the denominator variance.

c. This estimate is computed assuming the interaction effect is absent, because it is not estimable otherwise.

Source: Field Survey, 2022

Cronbach's alpha and Intra Class Correlation Coefficient (ICC) were utilized in this study for reliability testing. In the social and organizational sciences, Cronbach's alpha is one of the most extensively used dependability indicators. Cronbach's alpha is a measure of "internal consistency" dependability (Cronbach, 1951). In this attempt, I used given formula (Cohen, et al., 2007).

*Alpha= nrii /1+ (n−1) rii

n=the number of items in the test or survey (e.g. questionnaires)

rii =the average of all the inter-item correlations

Table 3 represents that Cronbach's Alpha is 0.861, which is larger than 0.78(average value), highly reliable 0.861>0.78, indicating that the data obtained alpha value has strong internal consistency and highly reliable. In medical, psychological, biological, and genetic research, the (Intra Class Correlation Coefficient) ICC is a well-known quantitative statistical instrument that is suggested as one indicator (among others) of an experimental method's reliability. The average value in intra class correlation is 0.704, which indicates that the raters in this study were real based on the cut off value. A number of 0.5-0.75 indicates a modest level of interclass reliability, indicating that this study has modest significant (reliable).

Table 4: *Reliability Statistics*

Cronbach's Alpha	N of Items
.70	9

Source: Field Survey, 2022

Here, in the table, Cronbach's Alpha is 0.70, which is smaller than 0.78 (average value), reliable, indicating that the data obtained alpha value has good internal consistence and good reliable.

Table 5: *Item-Total Statistics*

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
AoL Scale	168.64	331.54	.20	.71
CoL Scale	165.43	323.19	.45	.67
EoL Scale	165.90	321.50	.42	.67
BoL Scale	166.53	297.61	.61	.64
ToL Scale	167.67	305.55	.51	.66
MoL Scale	166.58	303.47	.56	.65
Benefit Scale	166.33	304.53	.44	.67
Effectiveness Scale	154.81	243.00	.48	.67
Problem Scale	165.86	359.37	.004	.75

Source: Field Survey, 2022

The Item-Total StatisticsTable 5 presents the "Cronbach's Alpha if Item Deleted" in the final column. Column presents the value that Cronbach's alpha would be if that particular item was deleted from the scale. We can see that removal of any scale, except AoL scale and Problem scale would result in a lower Cronbach's alpha. Therefore, we would not want to remove these questions. Removal of AoL scale and Problem Scale would lead to a small improvement in Cronbach's alpha, and we can also see that the "Corrected Item- Total Correlation" values was low 0.195 and 0.004 respectively for these items. This might lead us to consider whether we should remove these scales.

Table 6.*Validity Test*

		CoL_scale	EoL_scale	BoL_scale	ToL_scale	MoL_scale	Benefit_scale	Effectiveness_scale	problem_scale
AoL_scale	Pearson Correlation	.27**	.22**	.438**	.115*	.102	-.011	.093	-.151**
	Sig. (2-tailed)	.000	.000	.000	.044	.076	.848	.104	.008
	N	306	306	306	306	306	306	306	306

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Source: Field Survey, 2022

The resultfrom Table 6 shows that correlation between access of online learning (AoL) scale and cognitive efforts of online learning (CoL) scale is low positive ,and is statistically significant r (304) = .27, = .00 with AoL scale explaining 7.29% of variation in CoL scale. Likewise, it shows that there is also low positive correlation between AoL scale and effectiveness of online learning (EoL) scale ,and is also statistically significant r (304)= .22, = .00 with AoL scale explaining 4.85% of variation in EoL scale . In addition, there is moderate positive correlation between AoL scale and EoL scale and is statistically significant r (304) = .44, = .000 with AoL scale explaining 19.18% of variation in BoL scale. Furthermore, there is low negative correlation between AoL scale and problem scale. There is no significance of AoL with MoL, benefit scale and effective scale.

CHAPTER IV
INTRODUCTION OF THE STUDY AREA

4.1 Tribhuvan University

The first national higher education institution to be created in Nepal is Tribhuvan University (TU), which was founded in 1959. Five kilometers from the heart of Kathmandu, on the north-eastern side of the tiny, historic town of Kirtipur, lie the university's Central Administrative Office as well as Central Campus. At Kirtipur, the university occupies 154.77 hectares (3042-5-2 Ropani) of land.

The Prime Minister of Nepal is now the ceremonial head and Chancellor of the University following the second democratic movement of 2006, while the Minister of Education is the Pro-Chancellor. The vice chancellor serves as the university's chief executive. Under the direction of the Vice Chancellor, the Registrar oversees general administration, financial management, and academic programs. T.U is a self-governing, nonprofit organization that receives funding from the Nepalese government. The Nepalese government mostly concurred on January 8, 2013, to designate T. U as the Central University.40 core departments, 62 constituent campuses, and 1062 associated colleges operating in various fields are organized under five institutions and four faculties. Similarly, TU has four research centers. Given its size and the variety of its programs, it is one of the biggest colleges in the world and has been able to meet the needs of a sizable number of students (Tribhuvan University of Nepal, n.d.).

4.2 Main objectives of TU

The following goals were set when the institution was founded:

- To prepare the skilled individuals needed for Nepal's overall growth.
- To provide basic higher education
- To preserve and advance national heritage and culture
- To engage in substantial, empirical, and time-sensitive knowledge production and research in the vocations of the arts, sciences, and technologies.

(Tribhuvan University of Nepal, n.d.)

4.3 Institute/ Faculty

1. Institute of Engineering

The Institute of Engineering aspires to be a leading institution for engineering education on par with global leaders in the field. The IOE's goal is to advance engineering education and research in frontier fields that are principally of national interest (Institute of Engineering Tribhuvan University, n.d.).

2. Institute of Medicine

The mission and duty of teaching all types of health personnel required in the nation fell to the Institute of Medicine (IOM), which was founded in 1972 within Tribhuvan University. In the first ten years of its existence, it built a total of 12 campuses around the nation, of which 3 were located outside the Kathmandu and 9 were in Kathmandu (Institute of Medicine, n.d.).

3. Institute of Forestry

The Institute of Forestry (IOF) is the first and only institution in Nepal dedicated exclusively to forestry and natural resource management education and training. At Singha Durbar in Kathmandu, it was founded as the Nepal Forestry

Institute in 1947 by the Nepal Government's Department of Forests. In July 1972, the Institute and Tribhuvan University united under the name "Institute of Forestry"(Edusanjal - Education Portal for Nepal, n.d.).

4. Institute of Agriculture and Animal Science

The institute's goals are to advance agricultural science and prepare people for careers in agriculture via teaching, research, and extension. The institute's main goals are to develop and apply educational programs that appropriately balance the needs of the agricultural sector's established and emerging needs, introduce novel approaches to teaching, research, and technology dissemination, and promote studies and research that address the needs of the nation's farmers. The institute has successfully developed its human resource base to demonstrate its academic superiority. Since its founding, IAAS has been working tirelessly to address problems with agricultural education in Nepal (Institute of Agriculture and Animal Science, n.d.).

5. Institute of Science and Technology

One of the largest and oldest technical institutes in TU is the Institute of Science and Technology (IoST), which has 89 affiliated campuses, 24 component campuses, 1 school, and 13 central departments. Higher education in science has been offered in Nepal for nine decades. In scientific education, a number of systems, programs, policies, and implementation techniques have been tried. After overcoming several obstacles and developing scientifically focused technical people at all levels to satisfy the needs of the country, this institute has reached its current state. At present in master level program, physics contains 111 and 116 students in 2^{nd} and 4^{th} Semesters respectively. Likewise, Botany contains 35 and 34 students in 2^{nd} and 4^{th} Semesters respectively. In addition, Computer Science possesses 53 and 28 students in 2^{nd} and 4^{th} Semesters simultaneously(IOST, n.d.).

6. Faculty of Law

One of T.U.'s founding faculties, the Faculty of Law was founded as an Institute of Law in 1959 AD. Furthermore, the Law College was formed in 1954 AD and began providing LL.B courses through its affiliation with India's Patna University. A two-year comprehensive curriculum for Certificate Level (CL) and a three-year curriculum for the Diploma in Law were created by the Institute of Law in 1972. (D.L.). After T.U. was founded, the Law College was integrated into T.U. In 1974 AD, the Institute of Law was renamed the Faculty of Law (Faculty of Law, Tribhuvan University, n.d.).

7. Faculty of Humanities and Social Sciences

The Faculty of Humanities and Social Sciences (FOHSS) is one of Tribhuvan University's four faculties. It had previously existed as an institution. In 1985, it was reorganized as a Faculty (2042 BS). In the humanities, social sciences, computer applications, and interdisciplinary studies, this faculty is generating specialist human resources. Under this Faculty, there are 30 component Campuses and more than 300 linked colleges. Out of all, RD contains 36 and 29 students in 2^{nd} and 4^{th} semesters respectively. Furthermore, in master level, Anthropologycontains 15 and 25 students in 2^{nd} and 4^{th}semesters whereas English has 79 and 60 students in 2^{nd} and 4^{th} semesters respectively. (Faculty of Humanities and Social Sciences, n.d.).

8. Faculty of Management

The main goal of Tribhuvan University's Faculty of Management (FoM) is to prepare students for careers in business, industry, and government. Additionally, it is committed to advancing people's education and comprehension of business and government management. In this endeavor, FoM seeks to establish networking with management institutions both domestically and internationally in order to provide cutting-edge information, technology, and management strategies for private and governmental organizations. It also seeks to consistently create and advance management education programs in Nepal that are affordable, socially relevant, and based on current technology(Faculty of Management, n.d.).

9. Faculty of Education

In terms of enrollment and the number of campuses, which is constantly growing, the Faculty of Education (FOE) is the largest faculty of Tribhuvan University. It boasts the largest network of teacher preparation programs in the nation with its 560 associated schools and 26 component campuses spread across the nation. The FOE creates qualified educational personnel as teachers, teacher trainers, educational planners as well as managers, educational researchers, curriculum designers, and all other types of human resources needed for the country's educational sector through its various courses that are taught in various programs, including the One Year B.Ed, Three Year B.Ed, Two Year M.Ed, MPhil, and PhD. Out of total, in master level, Health Education has 20 and 24 students in 2^{nd} and 4^{th} semesters respectively. In addition, Curriculum has 22 and 23 whereas Game and Sports contains 29 and 27 students in 2^{nd} and 4^{th} semesters respectively(Faculty of Education, n.d.).

4.4 Research Centers

1. Centre for Economic Development and Administration (CEDA)

On May 15, 1969, the Government of Nepal, Tribhuvan University, and the Ford Foundation entered into a tripartite agreement that resulted in the establishment of the Centre for Economic Development and Administration (CEDA). Initially established as a stand-alone organization, the Centre was eventually incorporated into Tribhuvan University and granted the status of an institution on December 15, 1975, after the implementation of the National Education System Plan (NESP). Since that time, CEDA has been acting as a center for research on public policy that supports national development plans and strategies. The Center's operations are also mostly limited to research, consulting, and training initiatives (CEDA, n.d.).

2. Centre for Nepal and Asian Studies (CNAS)

The following institutional configurations and structures over the course of several historical eras have given rise to the Research Centre for Nepal and Asian Studies (CNAS). The Tribhuvan University Syndicate came up with the idea of founding the Institute of Nepalology (Nepal Adhyayan Samsthan) in 1966 with the intention of facilitating studies in Nepali history, culture, art, religion, tantra, language, literature, and other related fields in order to project a true image of Nepal both at the national and international levels. The Institute of Nepalology was renamed the Institute of Nepal Studies in 1968 although it was still only a concept (CNAS, n.d.).

3. Research Centre for Applied Science and Technology (RECAST)

The main goals of the Research Centre for Applied Science and Technology (RECAST), which was established on September 8, 1977 in accordance with the Tribhuvan University Act 1976, are to identify, develop, and adapt technologies that will allow for the best possible use of the nation's natural resources (RECAST, n.d.).

4. Research Centre for Educational Innovation and Development (CERID)

By conducting research, providing training, and engaging in creative activities, CERID, a national research center that works in the field of education in Nepal, is dedicated to advancing educational excellence (CERID, n.d.).

4.5 TU Senate

It is the top decision-making body for university policy, the budgets, and rules and regulations. The group has 52 members (Tribhuvan University of Nepal, n.d.).

4.6 Councils of TU

The university's four councils serve as its primary decision-making body (Tribhuvan University of Nepal, n.d.).

4.7 Executive Council

Its primary duties include selecting funds, carrying out Senate decisions, and designating university executives. It has seven members (Tribhuvan University of Nepal, n.d.).

4.8 Academic Council

The academic council, which has 50 members, decides on education policies and procedures involving curricula, teaching, exams, and research (Tribhuvan University of Nepal, n.d.).

4.9 Research Coordination Council

It develops instructions for researchers, adopts rules for TU research activities, and oversees the operations of university-level research groups. The council's secretariat is the Research Directorate. The council is made up of 27 people (Tribhuvan University of Nepal, n.d.).

4.10 Planning Council

It develops instructions for researchers, adopts rules for TU research activities, and oversees the operations of university-level research groups. The council's secretariat is the Research Directorate. The council is made up of 27 people (Tribhuvan University of Nepal, n.d.).

4.11 Academic Programme

Academics and managerial staff of Tribhuvan University have also been working on teaching and research projects. By working with other institutions throughout the world on capacity development programs, it seeks to enhance teaching. Currently, it has relationships with far more than 170 educational institutions and universities throughout the world and seeks to expand that number in order to expand its substantive collaboration. This university hopes to increase its standards and achieve a high global rating with this shift.Tribhuvan University is dedicated to being a hub for high-quality education and a source of information, as well as to fostering a culture of learning across the nation and the idea of peace and harmony on a national and international scale.

The semester system has recently begun in master's degree courses, and it is currently being implemented at the undergraduate level as well.In response to

stakeholders' growing concern about improving the academic quality of university studies through academic rigor, this systemic change was implemented to enforce the academic calendar, make students full-time students committed to their studies, reduce financial burden on students and their parents by requiring the students to complete the degree on time, and revive the university's reputation, popularity, credibility, and contribution as the old system did.For a major university spread across the nation, implementing the semester system will prove to be a very challenging endeavor. However, if the country emphasizes education and provides the university with the necessary financial assistance, TU will undoubtedly advance on the path to reaching academic greatness and will able to provide qualified personnel to address the expanding difficulties of the time.

Prior to 1980, TU exclusively offered its programs on the campuses that made up its constituent parts. The institution was unable to accommodate all of the students on its component campuses due to the rising number of students who wanted to pursue higher education. As a result of this circumstance, private colleges were founded. Beginning in 1979–1980, TU began offering affiliation to private institutions so they could run a variety of programs at various levels. To date, TU has granted affiliations to 1084 privately funded universities located all across the nation.TU's component campuses are home to 7966 teaching professors and 7230 non-teaching employees, including support workers. The Manmohan Cardiothorasic Center has added 124 new positions, bringing the total number of staff to 15196(Tribhuvan University of Nepal, n.d.).

CHAPTER V
DATA ANALYSIS AND INTERPRETATION

This chapter has presented data analysis related infroamtion praticularly in four sections. First section deals about charactersitics of the respondents. Second section highlights online learning analysis including benefit and problems of online learning. Third section descriptively deals on composite indices such as access of online learning scale cognitive efforts of online learning scale emotional efforts of online learning scale behavioral efforts of online learning scale teachers' method of online learning scale extrinsic motivation to learn online scale benefit of online learning scale effectiveness of online learning scale problems upon online learning scale, problems of online learning scale, multiple effort index and method of motivation scale. Fourth section presented multiple regression models for the dependent variables multiple efforts scale, method of motivation scale, benefit scale and effectiveness scale with respect to selected predictors or independent variables.

5.1.1Characteristics of the Respondents

Table 7: *Demographic Profile*

Category	Variables	Frequency	Percent
Province	Province No.1	66	21.46
	Province No.2	29	9.57
	Province No.3	67	21.93
	Province No.4	48	15.54
	Province No.5	44	14.55
	Province No.6	5	1.63
	Province No.7	47	15.33
Age group	< 25	152	49.7
	25-30	144	47.1
	>30	10	3.3
Sex Group	Female	128	41.8
	Male	178	58.2
Marital status	Married	77	25.2
	Living together as married	2	0.7
	Separated	2	0.7
	Single	225	73.5

Source: Field Survey, 2022

Table 7 illustrates demographic profile of the respondents from Tribhuvan University. Here, the table is separated into 4 various categories, namely, province, age group, sex group and marital status. Out of 7 provinces, highest numbers of respondents were from province no. 3, which is 67(21.93%), and lowest number belongs to province no.6, which carries only 5 numbers of respondents (1.63%). Other provinces like 1,7,4,5 and 2 holds 66(21.46%), 47(15.33%), 48 (15.54%), 47(15.33%) and 29(9.57%) respectively in decreasing order. In addition, age group below 25 holds maximum number of respondents, i.e. 152(49.7%) whereas age group

above 30 contains only 10 respondents (3.3%). Age group of 25-30 holds 144 respondents, which is nearby similar to its highest figure. Likewise, number of male respondents is higher than the number of female respondents which is 178(58.2%) and 128(41.8%) respectively.

Male respondents outnumber female respondents when analyzing responses by sex group. The primary cause of this might be that males were more assertive and less hesitant to respond, whereas females were more reluctant to do so. Data from the respondents' shows discerning picture of variation in marital status. Above table shows that unmarried (single) respondents were higher than the rest of all. Out of 4 categorized marital status, single have the highest value of 225(73.5%), followed by the married at 77(25.2%), and living together as married and separated holds the same value. i.e. 2(0.7 %).

Table 8: *Social-Cultural Status*

Category	Variables	Frequency	Percent
Religion	Hindu	263	85.9
	Buddhist	20	6.5
	Kirat	8	2.6
	Christian	15	4.9
Caste/ethnicity	Brahmin	112	36.6
	Chhetri	98	32.0
	Janajati	79	25.8
	Dalit	10	3.3
	Other	7	2.3
Family system	Joint family	149	48.7
	Nuclear family	157	51.3
Family well-being	High	6	2.0
	Medium	284	92.8
	Low	16	5.2

Source: Field Survey, 2022

In Table 8, out of 306 respondents, majority were Hindu i.e. 85.9%. Though, remaining other contains less space while comparing to Hindu, Buddhist stays in second place with 6.5%, Christian in third with 4.9% and, lastly, Kirat with only 2.6%. This research presents in the field of research, majority are Brahmin and Chhetri, 36.6% and 32% respectively. Similarly, Janajati were also in significant portion with 25.8% though Dalit were only 3.3% followed by other i.e. 2.3%. While analyzing family system, we can see that there arefewer gaps between nuclear and joint family. Nuclear family takes the first place with 51.3% whereas joint family takes the last place with 48.7%. Lastly, in the context of family well- being, out of 306, 92.8% belongs to medium. Only small portion of respondents belong to high and low i.e. 2.0% and 5.2 respectively.

Table 9: *Economic Status*

Category	Variables	Frequency	Percent
Family Occupation	Agriculture	153	50.0
	Enterprises	2	0.7
	Business	43	14.1
	Govt. job	45	14.7
	Private job	36	11.8
	Remittance	20	6.5
	Other	7	2.3
Land holding Khet	<1 Ropani	73	23.9
	2-5 Ropani	113	36.9
	6-9 Ropani	58	19.0
	>10 Ropani	54	17.6
	Total	298	97.4
	Missing System	8	2.6
Land Holding Bari	<1 Ropani	98	32.0
	2-5 Ropani	92	30.1
	6-9 Ropani	50	16.3
	>10 Ropani	38	12.4
	Total	278	90.8
	Missing System	28	9.2
Family Monthly Income	< 1 Lakh	183	59.8
	1-2 Lakh	65	21.2
	2-3 Lakh	28	9.2
	>3 Lakh	30	9.8

Source: Field Survey, 2022

In Table 9, economic status of 306 respondents can be studied from the data obtained from the survey. At first, it shows different family occupation pursuing from survey area. The half numbers of respondents were involved in agriculture which was exactly 50%. In addition, around 14% can be seen following business and governmental jobs where as private jobs, remittance and others family occupation obtained 11.8%, 6.5% and 2.3% respectively. The least can be seen in enterprises i.e. 0.7%. Furthermore, in the context of land holding Khet, majority of people are found to be holding 2-5 Ropani of land area known as Khet i.e. 36.9%. From the above, it can be analyzed that only 298 out of 306 respondents possesses Khet which is 97.4%out of 306, do not possesses land, called Khet, i.e. 2.6%. Around 24% respondents hold less than 1 Ropani of Khet where as 19% possesses 6-9 Ropani of Khet. Land holding in more than 10 Ropani of Khet is only 17.6% which is nearly similarly to previous one.

Similarly, we can see that all the respondentsdo not contain Bari like seen in data of Khet. Out of 306 respondents, 90.8% holds in Bari andthe rest of 9.2% do not possess Bari. Mostly In the case of Nepal, Dalits and extremely poor people might not hold in Bari and Khet. Occasionally, native people of flat land called Tarai do not possess Bari. From the table, highest, 32% holds in less than 1 Ropani of Bari where as 30.1%, 16.3% and 12.4% holds in 2-5 Ropani, 6-9 Ropani and more than 10

Ropani of Bari respectively. Lastly, nearly 60% respondents' families earn less than 1 lakh per month. 21.2% family earns between 1-2 lakhs per months. Likewise, nearly 9 % family earns between 2-3 lakhs and even more than that.

5.1.2 Education, Health and Online Section

Table 10:*Educational Status*

Category	Variables	Frequency	Percent
BA Degree	Arts	95	31.0
	Education	100	32.7
	Law	3	1.0
	Pure Science	108	35.3
Faculty	Science	102	33.3
	Education	102	33.3
	Humanities	102	33.3
Departments	Physics	34	11.1
	Botany	34	11.1
	Computer Science	34	11.1
	Curriculum	34	11.1
	Health Education	34	11.1
	Game and Sports	34	11.1
	RD	34	11.1
	English	34	11.1
	Anthropology	34	11.1
B.A GPA	A (4.0/Distinction)	9	2.9
	A - (3.7/ Very good)	26	8.5
	B+ (3.3/ First Division)	148	48.4
	B (3.0 / Second Division)	117	38.2
	B - (2.7/ pass)	6	2.0
M.A GPA	A (4.0/Distinction)	10	3.3
	A - (3.7/ Very good)	58	19.0
	B+ (3.3/ First Division)	194	63.4
	B (3.0 / Second Division)	44	14.4

Source: Field Survey, 2022

Table depicts that 32.7% respondents had studied education in there BA level whereas 35% studied pure science. In decreasing order, 31% studied arts in their Bachelor level study. The least can be observed in law i.e. 1%. Total number of respondents from Tribhuvan University is 306(100%), which is categorized into 3 faculties and 9 departments. Out of 306 respondents, each faculty possesses 33.3% of respondents; concerned faculties are science, education and pure science. Similarly, out of 306 respondents, each department holds in 11.1% of respondents. The nine departments of above mentioned faculties, 3 departments from each faculty, are physics, botany, computer science, curriculum, health education, game & sports, Rural Development, English and anthropology respectively.

While analyzing GPA obtained in BA level of respondents, 48.4% of respondents obtained B+ (3.3/ First Division), highest, whereas least percent can be seen in B - (2.7/ pass) and A (4.0/Distinction) i.e. 2% and 2.9% respectively. About

38% of respondents holds B (3.0/Second Division) in the BA level education. Similarly, while analyzing GPA of MA level education, increasing pattern can be seen. Respondents obtaining A (4.0/Distinction) has increased by 0.4%. Likewise, 10.5% and15% increment can be seen in A- (3.7/Very good) and B+ (3.3/First Division) level of education. Negative pattern can be seen in B (3.0/Second Division) by -23.8%. Lastly, there are no respondents obtaining B - (2.7/ pass).

Table 11*: Health Status*

Category	Variables	Frequency	Percent
Stayed Home Quarantine	Yes	149	48.7
	Not Yet	157	51.3
PCR/ Antigen tested	Positive	41	13.4
	Negative	57	18.6
	Not tested	208	68.0
Suffered from Covid-19	Simply	70	22.9
	Severely	7	2.3
	Not affected	229	74.8
Vaccinated FM	yes	298	97.4
	Not yet	8	2.6
Quarantined FM	0	132	43.1
	1 to 4	164	53.6
	> 4	10	3.3
PCR/ Antigen tested FM	0	155	50.7
	1 to 4	136	44.4
	> 4	15	4.9
Severely Affected FM	0	217.000	70.9
	1 to 4	87.000	28.4
	> 4	2.000	0.7
Vaccinated FM	1 to 4	126.000	41.18
	> 4	180.000	58.82

Source: Field Survey, 2022

In Table 11, respondents were asked questions related to Covid- 19 where details of individual including his/ her families were taken. The responses obtained were summarized and tabulated in above mentioned table. The table shows that about 51% respondents had stayed in home quarantine whereas nearly 49% had not stayed in home quarantine. Here, almost half of respondents seemed to stay in quarantine. While looking over PCR/ Antigen test, high ratio of respondents did not took PCR/ antigen test i.e. 68%. Out of 306 respondents, 18.6% were found negative in results whereas 13.4% were found to be positive.

In addition, 74.8% respondents were not suffered from Covid-19.Only 22.9% were simply affected whereas very few, 2.3%, were severely affected. 97.4% of family members were vaccinated from doze of Covid-19 vaccine, and remaining 2.6% did not receive vaccine. Likewise, looking over the data of quarantined family member, 53.6% of families were found to have 1-4 members in quarantine whereas 3.3% of family were found to have more than 4 quarantined family members. Almost half, 43.1%, of families never found its family members in quarantine. In addition,

half of family members never received PCR/Antigen test i.e. 50.7%. Families having 1-4 members testing PCR/Antigen tests is similar in figure of previous one i.e. 44.4%. Very few family members tested PCR/Antigen with more than 4 members in single family i.e.4.9%. Almost 71% of respondents' family members were never severely affected from Covid-19. Around one third of families had severely affected family members ranging from 1-4. Very negligible families had severely affected members ranging above 4. Lastly, almost 59% of family members had received the vaccine of Covid-19, ranging more than 4.

Table 12: *Online Related Information*

Category	Variables	Frequency	Percent
Use of Social Media	Facebook	299	97.7
	Instagram	5	1.6
	Viber	2	.7
Use of Online media	Zoom Cloud	21	6.9
	Microsoft teams	285	93.1
Devices for online learning	laptop	259	84.6
	smartphone	47	15.4
Frequency of attending online sessions	All sessions everyday	175	57.2
	Selected sessions everyday	59	19.3
	all sessions once a week	21	6.9
	selected sessions once a week	36	11.8
	all sessions> once a week	2	.7
	selected sessions> once a week	13	4.2
Apart of online session	Several times a day	170	55.6
	twice a day	29	9.5
	once a day	47	15.4
	several times each week	24	7.8
	once a week	12	3.9
	less often	24	7.8

Source: Field Survey, 2022

While looking over at the Table 12, we can find that very high portion of respondents use Facebook as their social media i.e. 97.7%. Negligible portion of respondents were found to have been using Instagram and Viber which is 1.6% and 0.7% respectively. May be due to Tribhuvan university's online class, it was found that around 93% of respondents were using Microsoft teams as their online media whereas only nearly 7% were found to be using zoom cloud as online media. Though, almost all the respondents have access over smart phone, 84.6% were found to be using laptop for online learning. It might be due to its comfortable and easy nature.

Very few ratios were found to be using smart phone as device for online learning, which is 15.4%. Similarly, more than half of respondents from field area used to attend online classes regularly i.e. 57.2% whereas 0.7% respondents were found who cover all the sessions, but in more than one week. Last but the not least, while analyzing frequency of joining online apart from online sessions, interesting

data were obtained that more than half i.e. 55.6% of respondents join online several times a day whereas only 3.9% were found to use online once a week. Less than one third of respondents were found to be using online once a day and twice a day, which is 15.4%, 9.5% respectively. Similarly, few respondents were found to be using online in the same portion, 7.8%, with category of several times each week and more than a week.

5.2.1 Online Learning Analysis

Table 13: *Digital Learning Method and its Motivation*

Category	Variables	Frequency	Percent
Applied digital learning method	Individual assignment	161	52.6
	Small group work	63	20.6
	large group work	22	7.2
	project based learning	18	5.9
	All of above	42	13.7
Motivation to digital approach	Animation	102	33.3
	white board and pen	43	14.1
	PPT	123	40.2
	Digital pen and slates	38	12.4

Source: Field Survey, 2022

Table 13 illustrates the use of digital learning method upon students and its motivation upon them. While observing applied digital learning method, around half of respondents had used digital method for individual assignments i.e. 52.6 %. For the project based learning, it is used in least proportion which is 5.9%. Around 14% had used it for all the purposes whereas only 20.6% and 7.2% used digital learning methods for small group work and large group work respectively.

In addition, students receive motivation to learn in digital method due to various matters. PPT and animation has played vital role in the digital approach as motivational factors. Around 41% respondents are motivated from PPT and similar kind of figure can be seen in animation which is 33.3%. Very few were motivated from the white board & pen, and Digital pen &slates which are 14.1% and 12.4% respectively. From the above, we can see that applied digital method is effective for individual assignment and most of the respondents are motivated from digital approach through PPT.

Table 14: *Descriptive Statistics on Access of Online Learning*

Variables	N	Range	Min- Max	$\bar{x}$	SD	Skewness
Familiar about online class	306	5	0-5	3.97	1.18	-1.51
Attend online meeting regularly	306	5	0-5	3.72	1.25	-1.24
Attend online training program regularly	306	5	0-5	2.92	1.45	-.60
Attend online workshop regularly	306	5	0-5	2.73	1.40	-.47
Attend online classes regularly	306	5	0-5	3.99	1.10	-1.34

Source: Field Survey, 2022

Table 14 highlights the statistics of the students involved in the Tribhuvan University. Firstly, while observing the access of online learning, the mean of the students attending online classes regularly is highest which is 3.99 , and with SD 1.10 andSkewness -1.34 In contrary, students attending online workshop regularly has least value of mean which is 2.73 with SD 1.40 and Skewness -0.47. The second and third highest are students familiar about online class and students attending online meeting regularly with mean value 3.97 and 3.72 simultaneously. The values of SD are 1.18 and 1.25 together with Skewness -1.51 and -1.24 respectively. The mean value for students attending online training program regularly is 2.92 with SD 1.45 andSkewness -0.60 which is fourth highest value.

Table 15: *Descriptive Statistics on Cognitive Efforts of Online Learning*

Variables	N	Range	Min-Max	x̄	SD	Skewness
Check class routine properly	306	5	0-5	4.15	0.91	-1.8
Attend every class on time	306	5	0-5	4.10	0.92	-1.5
Follow group message	306	5	0-5	4.15	0.81	-1.5
Collect shared reading materials	306	2	3-5	4.30	0.62	-0.31
COL Share PPT slides	306	5	0-5	3.84	1	-0.92

Source: Field Survey, 2022

Table 15 highlights the statistics of the students involved in the Tribhuvan University. Firstly, while observing the cognitive efforts of online learning, the mean of students who collect shared reading materials is highest which 4.30, SD 0.62 and Skewness -0.307 is. In contrary, students who share PPT slides have least value of mean which is 3.84, SD 1.00 andSkewness -0.92. The second and third highest are students who follow group message and check class routine properly with mean value 4.15 in both, SD 0.81 and 0.91 respectively with Skewness -0.31 and -1.80. Fourth highest are students who attend every class on time with mean value of 4.10, SD 0.92 and Skewness -1.5.

Table 16: *Descriptive Statistics on Emotional Efforts of Online Learning*

Variables	N	Range	Min- Max	x̄	SD	Skewness
Positive towards teachers	306	4	1-5	4.19	.74	-.86
Positive towards Admin staffs	306	3	2-5	3.90	.84	-.51
Positive towards colleagues	306	5	0-5	4.11	.80	-1.28
Positive towards peers groups	306	5	0-5	4.05	.79	-1.08
Positive towards online learning	306	5	0-5	3.82	1.01	-1.52

Source:Field Survey, 2022

Table 16 shows the statistical information regarding emotional efforts of online learning in Tribhuvan University. Firstly, when observing emotional efforts of online learning, highest mean can be seen in students who were positive towards teacher which is 4.19 followed by SD 0.74 along with Skewness -0.86. In the contrary, students' positive towards online learning has least value of mean which is 3.82 with SD 1.01 along with Skewness -1.52. The second and third highest are students positive towards colleagues and positive towards peers group with mean value 4.11 and 4.05 respectively. The values of SD are 0.80 and 0.79 simultaneously

along with Skewness -1.28 and -1.08. The mean value of students positive towards administration staffs is 3.90 with SD 0.84, which is the fourth highest value.

Table 17: *Descriptive Statistics on Behavioral Effects of Online Learning*

Variables	N	Range	Min- Max	x̄	SD	Skewness
Actively participate online learning	306	5	0-5	4.02	.96	-1.23
Full attentions online activities	306	5	0-5	3.75	.99	-1.13
Like to hear or see PowerPoint	306	5	0-5	4.05	.96	-1.37
Check group-chat	306	5	0-5	3.88	.87	-.91
Interact on online class	306	5	0-5	3.74	.94	-.69

Source: Field Survey, 2022

Table 17illustrates the statistical information regarding behavioral effects of online learning among the university students. At first, highest mean can be seen among students who liked to hear or see PowerPoint which is 4.05 with SD 0.96 and Skewness -1.37. In opposite, least mean can be observed in students who like to interact during class presentation i.e. 3.74 with SD 0.94 and Skewness -0.69. Second and third highest means can be seen among the students who participated in online learning and give full attentions to online courses are 4.02 and 3.88 respectively following by SD 0.96 and 0.87 along with Skewness -1.23 and -0.91 simultaneously. Lastly, the fourth highest mean is 3.75 with SD 0.99 and Skewness -1.13.

Table 18: *Descriptive Statistics in Teacher's Method of Online Learning*

Variables	N	Range	Min-Max	x̄	SD	Skewness
Receptive or lecture	306	4	1-5	3.87	.84	-1.02
Guided discovery discussion	306	4	1-5	3.76	.78	-.65
Directives or programmed learning	306	4	1-5	3.50	1.02	-.33
Provide sufficient reading materials	306	5	0-5	3.69	1.02	-.73
Feedbacks comments on time	306	5	0-5	3.45	1.02	-.42

Source*:* Field Survey, 2022

Table 18shows the descriptive statistics in teacher's method of online learning among 306 students of Tribhuvan University which lies within the perimeter of study field. Highest mean can be seen in receptive or lecture method of online learning which is 3.87 with SD 0.84 and Skewness -1.02 whereas least mean can be observed in feedback or comments on time method online learning. Second, third and fourth largest mean are 3.76, 3.69 and 3.50 which can be seen in guided discovery or discussion method, sufficient reading materials method and directives or programmed learning method simultaneously. Likewise, it is followed by SD 0.78, 1.02 and 1.02 along with Skewness -0.65, -0.73 and -0.33 respectively.

Table 19: *Descriptive Statistics on Extrinsic Motivation to Learn Online*

Variables	N	Range	Min- Max	x̄	SD	Skewness
Participating in group activities	306	5	0-5	3.93	.96	-.93
Improve presentation skills	306	5	0-5	4.03	.93	-1.27
Learning technology	306	5	0-5	4.13	.80	-1.44
Save time	306	5	0-5	3.91	.97	-1.52
Ideas freelance jobs	306	5	0-5	3.39	1.10	-.826

Source: Field Survey, 2022

Table 19 depicts information about descriptive statistics on extrinsic motivation to learn online can be observed. Here, greatest mean can be seen in learning technology related knowledge or skills which is 4.13 with SD 0.80 and Skewness -1.44. In contrary, least mean is obtained in ideas about freelance jobs which are 3.39 with SD 1.10 and Skewness -0.826. Improving presentation skills and participating in group activities hold second and third highest mean value which are 4.03 and 3.93 respectively with SD 0.93 and 0.96 along with Skewness -1.27 and -0.93 simultaneously.

5.2.2 BenefitsAnalysis

Table 20: *Descriptive Statistics on Benefits of Online Learning*

Variables	N	Range	Min	Max	x̄	SD	Skewness
Flexibility	306	5	0	5	4.22	.911	-1.74
Availability	306	5	0	5	3.93	.970	-1.00
Cost effective	306	5	0	5	4.00	1.14	-1.291
Students control study time	306	5	0	5	3.81	1.11	-.95
Easy to engage job study	306	5	0	5	3.67	1.19	-.97

Source: Field Survey, 2022

Table 20 presents that flexibility holds highest mean which is 4.22 with SD 0.911 and Skewness -1.74. In contrary, easy to engage in both job and study hold the smallest mean value i.e. 3.67 with SD 1.192 and Skewness -0.97. While observing other remaining data, cost effective and availability hold second and third highest mean which is 4.00 and 3.93 with SD 1.144 and 0.970 along with Skewness -1.291 and -1.00 respectively.

5.2.3 Effectiveness and problem Analysis

Table 21:*Effectiveness and problem of Online Learning*

Items	N	Range	Min-Max	x̄	SD	Skewness
Poor Internet	306	5	0-5	4.05	1.23	-1.47
Electricity disturbance	306	5	0-5	4.04	1.15	-1.32
Detach from university environment	306	5	0-5	3.92	1.13	-1.21
Absence physical interactions	306	4	1-5	4.25	.89	-1.22
Weakness eyesight	306	4	1-5	3.87	1.15	-.83
Increased self-aware and informed	306	5	0-5	3.92	.85	-1.04
Increased reading skills writing skills	306	5	0-5	3.69	1.01	-.55
Becoming Independent learner	306	5	0-5	3.97	.86	-.93
Becoming organizer	306	5	0-5	3.73	.99	-.69
Becoming problem solver	306	5	0-5	3.80	.91	-1.20
Becoming active participant	306	5	0-5	3.70	1.06	-.73
Time availability	306	5	0-5	3.94	.97	-1.45
Improved computer online skills	306	4	1-5	4.08	.82	-.92

Source: Field Survey, 2022

Table 21 states problems upon online learning and effectiveness of online learning. Initially, problem upon online learning is taken at first. Absence of physical interaction holds the maximum mean value which is 4.25 with SD 0.89 and Skewness -1.22. In contrary, Detach from university environment carries least mean which is

3.92 with SD 1.13 and Skewness -1.21. Second and third highest mean are 4.05 and 4.04 of poor internet and electricity disturbance respectively with SD 1.23 and 1.15 simultaneously. Secondly, while analyzing effectiveness of online learning improved computer access or online skills holds highest mean which is 4.08 along with SD 0.82 and Skewness -0.92. In contrary, increased self-aware and informed holds least mean which is 3.69 along with SD 1.01 and Skewness -0.55. Becoming independent learner and time availability hold second and third highest mean which are 3.97 and 3.94 respectively along with SD 0.86 and 0.97. Likewise, it has Skewness of -0.93 and -1.45 simultaneously.

Table 22: *Effectiveness and Satisfaction*

Category	Variables	Frequency	Percent
Effectiveness of online teaching-learning	Every student can hear the lecture clearly	60	19.6
	PPTs are available right in front of every student	111	36.3
	Students can ask doubts without much reservation	37	12.1
	Students need not walk long distance before reaching the class	98	32.0
True statements of online learning	No one disturbs me during my online leaning	119	38.9
	My friends, family members, roommate, neighbor occasionally disturb me	125	40.8
	My friends, family members, roommate, neighbor constantly disturb me	62	20.3
Satisfaction with online classes	Highly Satisfied	10	3.3
	Satisfied	184	60.1
	Neutral	56	18.3
	Dissatisfied	39	12.7
	Highly dissatisfied	17	5.6

Source: Field Survey, 2022

Table 22 describes about the effectiveness of online teaching- learning, true statements of online learning and satisfaction with online classes. Out of 306 respondents, 36.3% found the online learning effective because of easy availability of PPT in front of every student. Similarly, not walking long distance before reaching the class was found effective by 32% of the respondents. 19.6% found effective because every students can hear the lecture clearly whereas 12.1% found effective due to availability of asking doubts without much reservation.

In addition, around 41% agree that their friends, family members, roommate, neighbor occasionally disturb them whereas only around 20% agree that their friends, family members, roommate, neighbor constantly disturb them. Likewise, nearly 39% agree that no one disturbs them during their online learning. Lastly, while analyzing about the satisfaction with online classes, we found that 60.1% are satisfied whereas 3.3% are highly satisfied with online classes. 18.3% and 12.7% are neutral and dissatisfied while observing over satisfaction level. Furthermore, high dissatisfaction can be seen open 5.6% of respondents. From above, we can see that PPT seems effective tool for online teaching – learning. Most of the respondents find their friends and family disturbing them, and most importantly, majority of students are satisfied with the online classes.

5.3.1 Descriptive Statistics of Online Learning related Indices (Research Obj. 2)

Table 23: *Descriptive Statistics on Scales and Indexes*

	N	Min-Max	x̄	SD	Skewness
AccessofOnlineLearning Scale	306	5-25	17.33	4.16	-.69
Cognitive Efforts of Online Learning Scale	306	9-25	20.54	2.88	-.66
Emotional Efforts of OnlineLearning Scale	306	10-25	20.07	3.11	-.32
Behavioral Efforts of Online Learning Scale	306	1-25	19.44	3.32	-1.50
Teachers' Method of Online Learning Scale	306	4-25	18.28	3.41	-.29
Extrinsic Motivation to Learn Online Scale	306	.00-25	19.39	3.30	-1.60
Benefit of Online Learning Scale	306	1-25	19.64	3.84	-1.00
Effectiveness of Online Learning Scale	306	4-75	31.16	6.32	1.70
Problems Upon Online Learning Scale	306	4-25	20.11	4.27	-1.48
Multiple Efforts Index	306	27-75	60.06	7.75	-.674
Method Motivation Index	306	4-50	37.67	5.66	-1.39

Source: Field Survey, 2022

Table 23 represents that multiple efforts index holds the highest mean value which is 60.0556 with SD 7.75 and skewness -0.674 whereas least mean value can be seen in Access of Online Learning Scale with mean value 17.33 followed by SD 4.15 and skewness -0.68. Second and third highest mean can be seen in Extrinsic Motivation to Learn Online and Behavioral Efforts of Online Learning Scales which are 19.39 and 19.44 respectively along with SD 3.29 and 3.31 followed by Skewness -1.50 and -1.60 simultaneously. Nearly mean value of 20 can be seen in problem scale, Emotional Efforts of Online Learning Scale and Cognitive Efforts of Online Learning Scale. Method motivation index holds mean of 37.67 with SD 5.66 and skewness -1.39.

5.3.2 Department Wise Motivation of Online Learning Scale

Table 24: *Test of Normality*

	Department	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Extrinsic Motivation to Learn online scale	Physics	.192	34	.003	.790	34	.000
	Botany	.155	34	.037	.927	34	.025
	Computer Science	.228	34	.000	.786	34	.000
	Curriculum	.190	34	.003	.885	34	.002
	Health Education	.127	34	.182	.953	34	.153
	Game and Sports	.164	34	.021	.934	34	.042
	RD	.138	34	.099	.954	34	.163
	English	.167	34	.017	.955	34	.172
	Anthropology	.176	34	.009	.932	34	.037

a. Lilliefors Significance Correction

Source: Field Survey, 2022

The Table 24 illustrates the results from two well-known tests of normality, namely the Kolmogorov-Smirnov Test and the Shapiro-Wilk Test. The Shapiro- Wilk Test is more appropriate for the small sample sizes (<50 samples), but can also handle sample sizes as large as 2000. Likewise, the Kolmogorov- Smirnov is more appropriate for the big sample sizes which are more than 50 or equal to 50. For these reason, we used the Shapiro-Wilk test as our numerical means of assessing normality. We can see from the above table that forthe "Health Education", "RD" and "English" departments the dependent variable, "Extrinsic Motivation to Learn Online Scale", was normally distributed. If the Sig. value of the Shapiro-Wilk Test is greater than 0.05, the data is normal. If it is below 0.05, the data significantly deviate from a normal distribution.

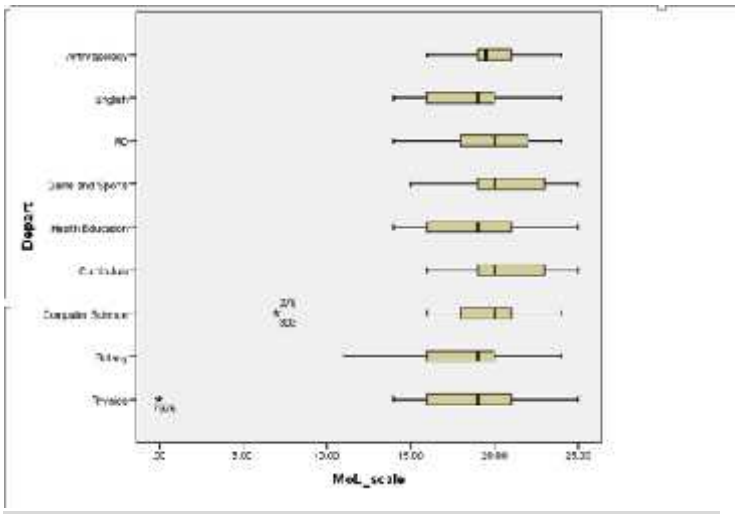


Figure 1: Box Plot I

The medians per departments are highest for Curriculum, Health Education and Rural Development (RD) and lowest for Physics, Botany, and Health Education and English departments. The variation per department is highest for Physics department, which can be seen by how long their box plot (Figure 1) is compared to other departments. The students with the highest motivation level per departments are on Curriculum, Game and sports and RD and students with the lowest level of motivation per departments is on Physics, Botany, Health Education and English. The data are fairly symmetrical in Curriculum, Health Education, Game and Sports, RD and English whereas moderately skewed data can be seen in Botany and Anthropology. Only in Physics and Computer Science data are highly skewed.

5.3.3 Faculty Wise Benefits of Online Learning Scale

Table 25: *Tests of Normality*

	Faculty	Kolmogorov-Smirnova			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Benefit of Online Learning Scale	Science	.105	102	.008	.876	102	.000
	Education	.138	102	.000	.929	102	.000
	Humanities	.112	102	.003	.958	102	.003

a. Lilliefors Significance Correction

Source: Field Survey, 2022

Table 25 illustrates the results from two well-known tests of normality, namely the Kolmogorov-Smirnov Test and the Shapiro-Wilk Test. The Shapiro- Wilk

Test is more appropriate for the small sample sizes (< 50 samples), but can also handle sample sizes as large as 2000. Likewise, the Kolmogorov- Smirnov is more appropriate for the big sample sizes which are more than 50 or equal to 50. For these reason, we used both the Shapiro-Wilk test and Kolmogorov – Smirnov test as our numerical means of assessing normality.

We can see from the above table that for the "Science", "Education" and "Humanities" faculties the dependent variable," Benefit of Online Learning Scale", was not normally distributed in both tests. If the Sig. value of the Shapiro-Wilk Test and Kolmogorov-Smirnov testis greater than 0.05, the data is normal. If it is below 0.05, the data significantly deviate from a normal distribution. The median per faculty is highest for Education faculty and lowest for Humanities faculty. The variation per faculty is highest for Science faculty, which can be seen by how long their box plot (Figure 2) is compared to other faculties. The students with the highest benefit level per faculty are on Education faculty, and students with the lowest level of benefits per faculty are on Humanities faculty. The data are fairly symmetrical in Humanities faculty whereas moderately skewed data can be seen in Education faculty. Only in Science faculty data are highly skewed.

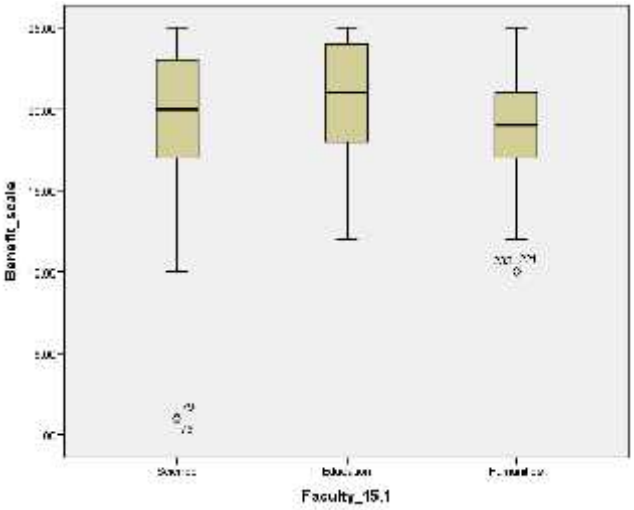


Figure 2: Box Plot II

5.3.4 Department Wise Problems of Online Learning Scale

Table 26: *Tests of Normality*

	Department	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Problem of Online Learning Scale	Physics	.148	34	.058	.868	34	.001
	Botany	.220	34	.000	.840	34	.000
	Computer Sci	.226	34	.000	.857	34	.000
	Curriculum	.172	34	.012	.888	34	.002
	H/Education	.176	34	.009	.801	34	.000
	Game/Sports	.241	34	.000	.845	34	.000
	RD	.135	34	.122	.943	34	.078
	English	.177	34	.008	.836	34	.000
	Anthropology	.128	34	.169	.908	34	.008

a. Lilliefors Significance Correction

Source: Field Survey, 2022

Table 26 illustrates the results from two well-known tests of normality, namely the Kolmogorov-Smirnov Test and the Shapiro-Wilk Test. The Shapiro- Wilk

Test is more appropriate for the small sample sizes (< 50 samples), but can also handle sample sizes as large as 2000. Likewise, the Kolmogorov- Smirnov is more appropriate for the big sample sizes which are more than 50 or equal to 50. For these reason, we used the Shapiro-Wilk test as our numerical means of assessing normality. We can see from the above table that for the "RD" department the dependent variable, "Problem of Online Learning Scale", was normally distributed. If the Sig. value of the Shapiro-Wilk Test is greater than 0.05, the data is normal. If it is below 0.05, the data significantly deviate from a normal distribution.

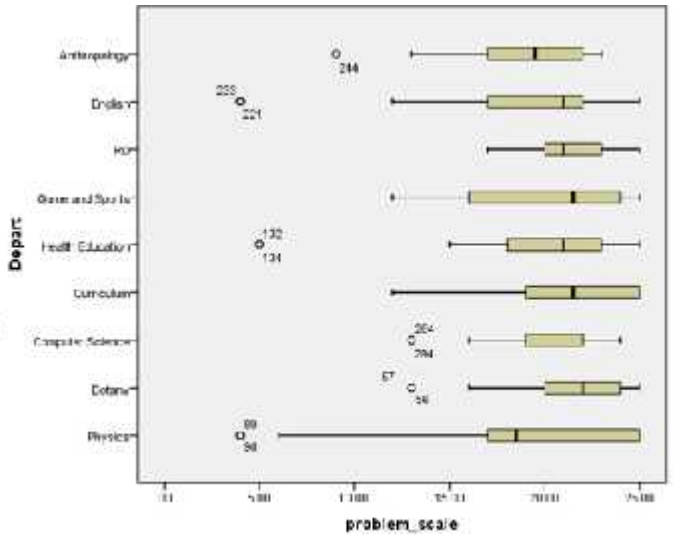


Figure 3: Box Plot III

The medians per departments are highest for Botany and Computer Science and lowest for Physics. The variation per department is highest for Physics department, which can be seen by how long their box plot (Figure 3) is compared to other departments. The students with the highest problem level per departments are on Botany and Compute Science and students with the lowest level of problem per departments is on Physics. The data are fairly symmetrical in RD whereas moderately skewed data can be seen in Curriculum, and Game and Sports. Only in Physic, Botany, Computer Science, Health Education, English and Anthropology data are highly skewed

5.3.5Faculty Wise Effectiveness of Online Learning Scale

Table 27: *Tests of Normality*

	Faculty	Kolmogorov-Smirnova			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Effectiveness of Online Learning Scale	Science	0.19	102	0	0.73	102	0
	Education	0.08	102	0.15	0.96	102	0.002
	Humanities	0.13	102	0	0.77	102	0

a. Lilliefors Significance Correction

Source: Field Survey, 2022

Normality of data presents core assumption of the observations, whether populations from where the samples are collected are normally distributed or not (Das & Imon, 2016). Geary (1947) claimed there never was and never will be a normal distribution. As a rule of thumb, we conclude that a variable is not normally distributed if "Sig." <0.05. Kolmogorov-Smirnov test reveals that education has greater significance level (>0.05), which shows that sample is normally distributed. However, Science and Humanities show less significance which indicates thatthe data deviate from normal distribution. In addition, Shapiro- Wilk test displays science, education and humanities are not normally distributed

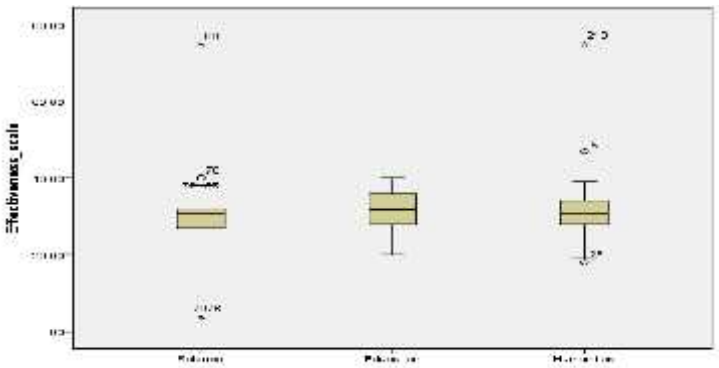


Figure 4: Box Plot IV

The median per faculty is highest for Education and lowest for Humanities and Science. The variation per faculty is highest for Science, which can be seen by how long their box plot (Figure 4) is compared to other faculties. The students with the highest effective level per faculty are on Education, and students with the lowest level of effectiveness per faculty are on Humanities and Science. The data are fairly symmetrical in Humanities and Education. Only in Science faculty data are highly skewed.

Table 28: *Tests of Normality*

	Depart	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Access of online learning scale	Physics	.171	34	.01	.93	34	.03
	Botany	.123	34	.20*	.95	34	.15
	Computer Science	.135	34	.12	.91	34	.01
	Curriculum	.133	34	.13	.91	34	.009
	Health Education	.118	34	.20*	.96	34	.30
	Game and Sports	.114	34	.20*	.95	34	.10
	RD	.220	34	.00	.92	34	.01
	English	.185	34	.01	.95	34	.14
	Anthropology	.113	34	.20*	.98	34	.61

*. This is a lower bound of the true significance.
a. Lilliefors Significance Correction

Source: Field Survey, 2022

Table 28 examines normality tests of Access of Online Learning scale with departments: Physics, Botany, Computer Science, Curriculum, Health Education, Game and Sports, RD, English and Anthropology.

Shapiro- Wilk test displays that Botany, Health Education, Game and Sports, English and Anthropology are normally distributed.

The medians per departments are highest for RD and Computer Science and lowest for Anthropology. The variation per department is highest for Botany department, which can be seen by how long their box plot (Figure 5) is compared to other departments. The students with the highest Access of Online Learning per departments are on RD and Compute Science and students with the lowest level of Access of Online Learning per departments is on Anthropology. The data are fairly symmetrical in Curriculum, Game and Sports,and Anthropology whereas moderately skewed data can be seen in Physics, Botany, Health Education, RD and English. Only in Computer Science data is highly skewed.

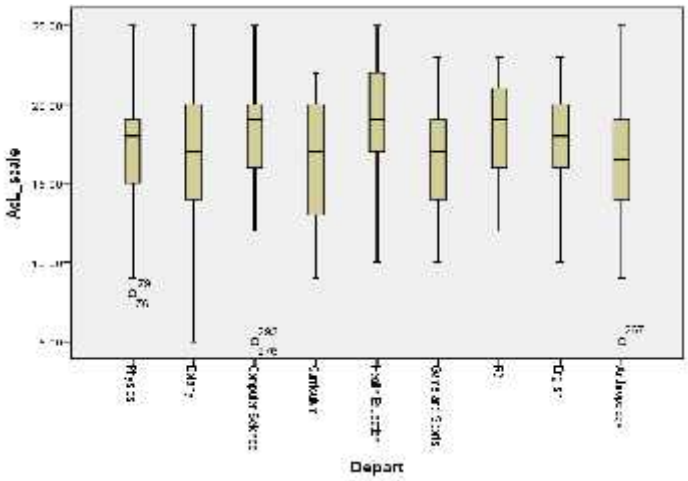


Figure 5: Box Plot V

5.4.1 Multivariate Analysis: Multiple Regressions Model I (Obj. 3)

Table 29: *ModelSummary of Multiple Efforts Index*

Model	R	R^2	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.34	0.11	0.02	7.49	1.99

a. Predictors: (Constant), Use of Online Media, Suffer from Covid19, Vaccinated FM, Marital Status, GPA MA, Caste, Status of employment, Get Vaccine, Family well-being, Bari, Home Quarantine, Family occupation, Sex, Faculty, Severely affected FM, Religion, Use of Social media, Family Monthly Income 12, PCR Test Antigen tests, Quarantined family members, Land holding Khet, Family system, PCR Antigen tested FM, GPA BA, BA Degree and Depart

b. Dependent Variable: Multiple Efforts Index

Source: Field Survey, 2022

Table 29 shows multiple correlation, R= 0.34 and R^2 = 0.11> 0.08. The R^2=0.11shows that 11%of the movement in the dependent variable can be explained by the independent variables and the rest 89% remains unexplained.

Table 30: *ANOVA of Multiple Efforts Index*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1742.556	26	67.021	1.194	.242
	Residual	13582.098	242	56.124		
	Total	15324.654	268			

a. Dependent Variable: Multiple Efforts Index

b. Predictors: (see in Table 29)

Source: Field Survey, 2022

The F-ratio in the ANOVA Table tests whether the overall regression model is a good fit for the data. The above table shows that the independent variables statistically significantly predict the dependent variable, F (26,242) = 1.194, p= 0.001<0.05 (i.e. the regression model is not a good fit of the data.

Table 31: *Coefficients of Multiple Efforts Index*

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	SE	Beta			Tolerance	VIF
1	(Constant)	42.22	10.67		3.95	0		
	Sex	-0.77	1.07	-0.05	-0.72	0.47	0.73	1.35
	Marital Status	-0.11	0.21	-0.03	-0.52	0.59	0.90	1.10
	Religion	-0.27	0.68	-0.02	-0.40	0.68	0.72	1.37
	Caste	0.16	0.57	0.02	0.28	0.77	0.76	1.30
	Family system	-0.00	1.30	0	-0.00	0.99	0.46	2.15
	Family well being	0.96	1.80	0.03	0.51	0.61	0.83	1.19
	Family occupation	0.48	0.29	0.11	1.64	0.10	0.75	1.33
	Land holding Khet	1.18	0.61	0.16	1.92	0.05	0.51	1.94
	Bari	-1.22	0.64	-0.16	-1.90	0.05	0.47	2.09
	Family Monthly Income	0.44	0.56	0.06	0.78	0.43	0.63	1.57
	Status of employment	-0.46	0.63	-0.04	-0.72	0.46	0.85	1.16
	B.A Degree	0.66	0.65	0.18	1.01	0.31	0.11	8.85
	Faculty	2.78	2.24	0.30	1.23	0.26	0.06	16.27
	Department	-0.17	0.59	-0.05	-0.29	0.77	0.08	11.31
	GPA B.A	-0.93	0.89	-0.09	-1.04	0.29	0.45	2.19
	GPA M.A	-0.48	1.02	-0.04	-0.47	0.63	0.42	2.37
	Home Quarantine	0.17	1.14	0.01	0.15	0.88	0.63	1.56
	PCR Test /Antigen tests	0.85	0.84	0.08	1.02	0.38	0.54	1.82
	Suffer from Covid19	0.53	0.69	0.06	0.77	0.44	0.60	1.65
	Getting Vaccine	7.46	3.05	0.15	2.44	0.01	0.88	1.13
	Quarantined family members	-0.50	0.41	-0.10	-1.25	0.22	0.54	1.84
	PCR /Antigen tested F.M	0.327	0.382	0.076	0.86	0.39	0.46	2.15
	Severely affected F.M	0.635	0.654	0.071	0.97	0.33	0.68	1.46
	Vaccinated F.M	0.221	0.307	0.065	0.71	0.47	0.44	2.24
	Use of Social media	2.893	2.523	0.083	1.14	0.25	0.69	1.44
	Use of Online Media	-0.818	1.08	-0.057	-0.75	0.45	0.60	1.53

a. Dependent Variable: Multiple Efforts Index

Source: Field Survey, 2022

Table 31 shows the causal effect of sex, marital status, religion, caste, family system, family well- being, family occupation, land holding Khet, Bari, Family monthly income, status of employment, B.A degree, faculty, department, GPA BA, GPA MA, home quarantine, PCR test / Antigen tests, suffer from Covid-19, get vaccine, quarantined family members, PCR antigen tested family members, severely

affected family members, vaccinated family members, use of social media and use of online media on multiple efforts index.

This table also displays the unstandardized (B) and standardized (Beta) regression coefficients, and the value of statistic and its associated p-value for Dependent Variable: Multiple Effort Index. In addition, the study shows that getting vaccine have the value 0.015 i.e. *p < 0.05, **p < 0.01 and statistically significant. It indicates that using one variable and holding other constant. Caste, family wellbeing, family occupation, land holding Khet, family monthly income, BA degree, faculty, home quarantine, PCR test/ antigen tests, suffer from Covid-19, getting vaccine, PCR antigen tested family members, severely affected family members, vaccinated family members and use of social media will increase multiple efforts index by 0.2%,0.3%,1.1%,1.6%, 0.6%, 1.8%, 3%, 0.1%, 0.8%, 0.6%, 1.6%, 0.7%, 0.7%, 0.6% and 0.8 % respectively.

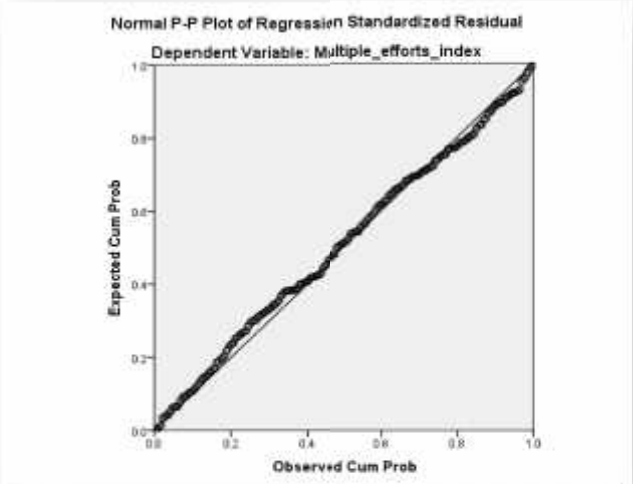


Figure 6: P-P Plot I

Figure 6 shows that the scatter of residuals in the starting and ending deviate slightly however in the other parts the observed and expected values were found along the line, without any significant departures from it. Normally, it falls straightly on the normal distribution line, indicating a normal distribution of residual. From the above graph, it can be concluded that there is slight deviation of residuals from the normal line and data is deviating from normal distribution. Additionally, it can be seen that the data set is going through the origin. So it indicates that the residuals are approximately normally distributed. Hence, instead of slight deviation, it may conclude that the observed data is normally distributed.

5.4.2 Multiple Regressions Model II

Table 32: *Model Summary of Method Motivation Index*

Model	R	R^2	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.465	0.217	0.114	5.30585	1.887

a. Predictors: (Constant), Apart from online sessions joining online, Status of employment, Family well-being, GPA BA, Get Vaccine, Bari , Devices for online Learning, Age, Caste, Severely affected FM, Family system, Use of Social media, Local Level, Marital Status, Home Quarantine, Frequency of attend online session, Family occupation, PCR Test Antigen tests, Religion, Sex, Depart, Family Monthly Income, Use of Online Media, Suffer from Covid-19, Quarantined family members, Land holding Khet, PCR Antigen tested FM, Vaccinated FM , GPA MA, BA Degree and Faculty

b. Dependent Variable: Method of Motivation Index

Source: Field Survey, 2022

Table 32 illustrates multiple correlation coefficient, R= 0.465 and R^2= 0.217. We can see from the value of 0.217 that the independent variables explain 21.7% of the variability of the dependent variable. The adjusted R = 0.217 gives the idea of how well the model generalizes. The difference between the R^2 and adjusted R is 0.217- 0.114 = 0.103; it means if the model was derived from the population rather than a sample it would account for approximately 10.3% less variance the outcome.

Table 33: *ANOVA of Method Motivation Index*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1844.49	31	59.5	2.114	.001
	Residual	6672.045	237	28.152		
	Total	8516.535	268			

a. Dependent Variable: Method Motivation Index

b. Predictors: (see in Table 32)

Source: Field Survey, 2022

The F- ratio in the ANOVA tests whether the overall regression model is a good fit for the data. The table 26 shows that the independent variables statistically significantly predict the dependent variable,F(31, 237) = 2.114, p=0.001 <0.05 (i.e. the regression is a good fit of the data).

Table 34: *Coefficients of Method Motivation Index*

Model	**Unstandardized Coefficients**		**Standardized Coefficients**	**t**	**Sig.**	**Collinearity Statistics**	
	B	S.E	Beta			Tolerance	VIF
(Constant)	46.07	8.19		5.62	0		
Local Level	-0.04	0.48	-0.00	-0.09	0.92	0.81	1.23
Age	-0.20	0.12	-0.10	-1.59	0.11	0.76	1.31
Sex	-0.04	0.80	-0.00	-0.05	0.95	0.65	1.51
Marital Status	0.04	0.16	0.01	0.30	0.76	0.83	1.19
Religion	0.94	0.49	0.13	1.92	0.05	0.71	1.39
Caste	-0.10	0.41	-0.01	-0.24	0.80	0.74	1.33
Family system	-0.38	0.95	-0.03	-0.40	0.68	0.46	2.15
Family well being	0.61	1.36	0.02	0.45	0.65	0.80	1.23
Family occupation	0.03	0.21	0.01	0.14	0.88	0.69	1.43
Land holding Khet	0.89	0.44	0.16	2.01	0.04	0.49	2.00
Bari	-1.25	0.46	-0.22	-2.72	0.00	0.47	2.13
Family Monthly Income	0.37	0.40	0.06	0.91	0.36	0.62	1.61
Status of employment	-0.42	0.45	-0.05	-0.94	0.34	0.84	1.17
B.A Degree	-0.24	0.47	-0.09	-0.51	0.60	0.11	9.11
Faculty	-1.78	1.62	-0.26	-1.09	0.27	0.05	17.02
Department	0.57	0.41	0.26	1.34	0.18	0.08	11.67
GPA BA	-0.53	0.63	-0.07	-0.84	0.40	0.44	2.24
GPA MA	-0.86	0.73	-0.10	-1.17	0.24	0.41	2.44
Home Quarantine	0.71	0.81	0.06	0.87	0.38	0.63	1.58
PCR Test Antigen tests	-0.04	0.59	-0.00	-0.06	0.94	0.54	1.84
Suffer from Covid-19	0.02	0.49	0.00	0.05	0.95	0.59	1.68
Getting Vaccine	2.59	2.16	0.07	1.19	0.23	0.88	1.13
Quarantined family members	-0.01	0.29	-0.00	-0.03	0.97	0.53	1.88
PCR Antigen tested F.M	0.34	0.27	0.10	1.26	0.20	0.45	2.19
Severely affected F.M	-0.32	0.46	-0.04	-0.69	0.48	0.68	1.46
Vaccinated F.M	-0.05	0.22	-0.02	-0.24	0.80	0.43	2.28
Use of Social media	2.97	1.82	0.11	1.63	0.10	0.64	1.49
Use of Online Media	-1.13	0.78	-0.10	-1.43	0.12	0.61	1.62
Devices for online Learning	-0.02	0.33	-0.00	-0.08	0.93	0.74	1.25
Frequency of attend online sessions	-0.35	0.26	-0.08	-1.36	0.17	0.83	1.20
Apart from online sessions joining online	-0.81	0.23	-0.22	-3.54	0	0.79	1.26
a. Dependent Variable: Method Motivation Index							

Source: Field Survey, 2022

Table 34 shows that land holding Khet and Bari are statistically significant. Here,land holding Khet and Bari have the value 0.04 and 0.01 i.e. *p < .05, **p < .01 and are statistically significant. It indicates that using one variable and holding other constant. Marital status, religion, family well-being, family occupation, land holding Khet, family monthly income, department, home quarantine, suffer from Covid-19, getting vaccine, PCR/ antigen tested family members and use of social media will increase method motivation index by 0.2%, 1.3%, 0.3%, 0.1%, 1.6%, 0.7%, 2.6%, 0.6%, 0.04%, 0.7%, 1.1% and 1.6% respectively.

Figure 7 shows that the scatter of residuals in the starting and ending deviate slightly however in the other parts the observed and expected values were found along the line, without any significant departures from it. Normally, it falls straightly on the normal distribution line, indicating a normal distribution of residual. From the above graph, it can be concluded that there is slight deviation of residuals from the normal line and data is deviating from normal distribution. Additionally, it can be seen that the data set is going through the origin. So it indicates that the residuals are approximately normally distributed. Hence, instead of slight deviation, it may conclude that the observed data is normally distributed.

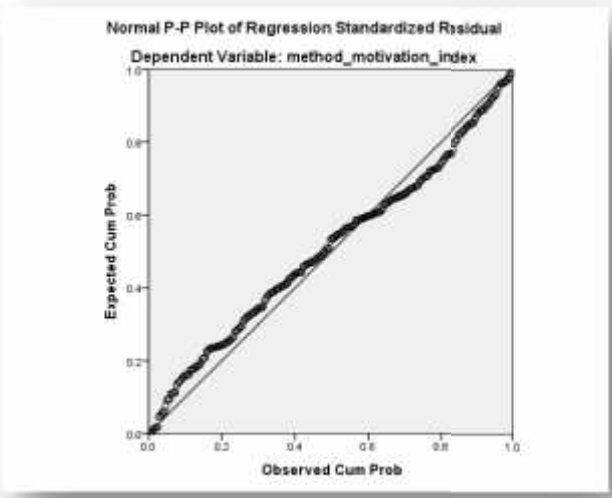


Figure 7:P-P Plot II

5.4.3 Multiple Regressions Model III

Table 35: *Model Summary of Benefit Scale*

Model	R	R^2	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.45	0.20	0.10	3.67	1.89

a. Predictors: (Constant), Apart from online sessions joining online, Status of employment, Family well-being, GPA BA, Get Vaccine, Bari, Devices for online Learning, Age, Caste, Severely affected FM, Family system, Use of Social media, Local Level, Marital Status, Home Quarantine, Frequency of attend online sessions, Family occupation, PCR Test Antigen tests, Religion, Sex, Depart, Family Monthly Income, Use of Online Media, Suffer from Covid-19, Quarantined family members, Land holding Khet, PCR Antigen tested FM, Vaccinated FM, GPA MA, BA Degree, Faculty

b. Dependent Variable: Benefit Scale

Source: Field Survey, 2022

Table 35 shows multiple correlation coefficient, R=0.45 and R^2 =0.2>0.08. We can see from the value of 0.2 that the independent variables explain 20 percent of the variability of the dependent variable.

Table 36: ANOVA of Benefit Scale

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	815.231	31	26.298	1.924	.004
	Residual	3239.207	237	13.668		
	Total	4054.439	268			

a. Dependent Variable: Benefit Scale

b. Predictors: (see in Table 35

Source: Field Survey, 2022

The F-ratio in the ANOVAtable tests whether the overall regression model is a good fit for the data. Table 36 shows that the independent variables statistically significantly predict the dependent variable, F(31, 237) = 1.924, p=0.001 <0 .05 (i.e., the regression model is a good fit of the data).

Table 37: *Coefficients of Benefit Scale*

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	SE	Beta			Tolerance	VIF
(Constant)	27.16	5.71		4.76	0		
Local Level	-0.21	0.33	-0.04	-0.62	0.54	0.81	1.23
Age	0.04	0.09	0.03	0.41	0.68	0.76	1.31
Sex	-0.46	0.56	-0.06	-0.82	0.41	0.66	1.52
Marital Status	0.11	0.11	0.06	1.00	0.32	0.84	1.19
Religion	0.77	0.34	0.16	2.26	0.03	0.72	1.40
Caste	-0.11	0.29	-0.02	-0.38	0.71	0.75	1.34
Family system	-0.77	0.66	-0.10	-1.16	0.25	0.46	2.16
Family well being	0.80	0.95	0.06	0.85	0.40	0.81	1.24
Family occupation	0.24	0.15	0.11	1.58	0.12	0.70	1.44
Land holding Khet	0.02	0.31	0.005	0.06	0.96	0.50	2.01
Bari	-0.42	0.32	-0.11	-1.30	0.20	0.47	2.13
Family Monthly Income	0.06	0.28	0.02	0.20	0.84	0.62	1.61
Status of employment	-0.31	0.31	-0.06	-0.98	0.33	0.85	1.18
B.A Degree	-0.19	0.33	-0.10	-0.57	0.57	0.11	9.11
Faculty	-2.03	1.13	-0.43	-1.79	0.07	0.06	17.03
Department	0.31	0.30	0.20	1.03	0.31	0.09	11.67
GPA B.A	-0.20	0.45	-0.04	-0.44	0.66	0.45	2.25
GPA M.A	-0.11	0.51	-0.02	-0.21	0.84	0.41	2.44
Home Quarantine	0.50	0.57	0.07	0.89	0.38	0.63	1.58
PCR Test /Antigen tests	-0.34	0.42	-0.06	-0.81	0.42	0.54	1.84
Suffer from Covid-19	0.71	0.34	0.16	2.05	0.04	0.59	1.68
Get Vaccine	-2.25	1.51	-0.09	-1.49	0.14	0.88	1.14
Quarantined family members	0.003	0.21	0.001	0.014	0.99	0.53	1.88
PCR /Antigen tested FM	0.44	0.19	0.20	2.32	0.02	0.46	2.19
Severely affected FM	-0.05	0.32	-0.01	-0.15	0.88	0.68	1.47
Vaccinated FM	-0.18	0.15	-0.10	-1.18	0.24	0.44	2.29
Use of Social media	0.89	1.27	0.05	0.70	0.49	0.67	1.50
Use of Online Media	-0.75	0.55	-0.10	-1.38	0.17	0.61	1.63
Devices for online Learning	-0.47	0.23	-0.13	-2.04	0.04	0.79	1.26
Frequency of attend online sessions	0.05	0.18	0.02	0.25	0.80	0.83	1.20
Apart from online sessions joining online	-0.58	0.16	-0.24	-3.65	0	0.79	1.27

a. Dependent Variable: Benefit Scale

Source: Field Survey, 2022

From Table 37, religion, suffer from Covid-19, PCR/Antigen tested family members and devices for online learning are statistically significant with the value of 0.03, 0.04, and 0.02 and 0.04 respectively. Age , marital status, family well- being, family occupation, land holding Khet, family monthly income, department , home quarantine, quarantined family members , use of social media, frequency of attend and online sessions increase benefit scale by 0.3%, 0.6%, 0.6%, 1.1%, 0.05%, 0.2%, 2%, 0.7%, 0.1%, 0.5%, 0.2%, 1.6%, 1.6% and 2% respectively.

Figure 8 shows that the scatter of residuals in the starting and ending deviate slightly however in the other parts the observed and expected values were found along the line, without any significant departures from it. Normally, it falls straightly on the normal distribution line, indicating a normal distribution of residual. From the above graph, it can be concluded that there is slight deviation of residuals from the normal line and data is deviating from normal distribution. Additionally, it can be seen that the data set is going through the origin. So it indicates that the residuals are approximately normally distributed. Hence, instead of slight deviation, it may conclude that the observed data is normally distributed.

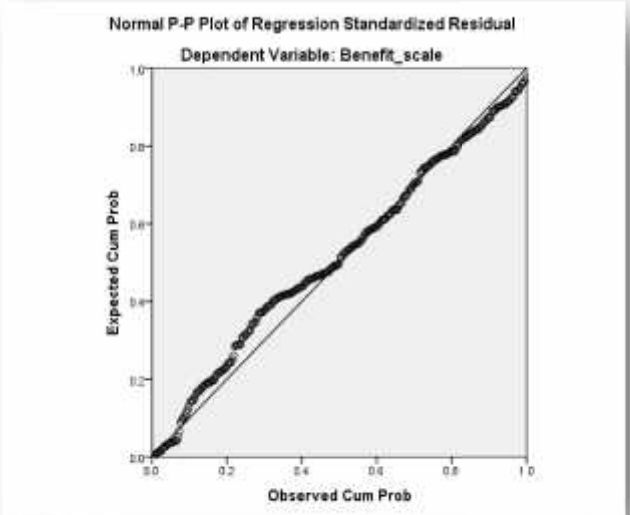


Figure 8: P-P Plot III

5.4.4 Multiple Regressions Model IV

Table 38: *Model Summary of Effective Scale*

Model	R	R^2	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.411	0.169	0.061	6.23692	1.93

a. Predictors: (Constant), Apart from online sessions joining online, Status of employment, Family wellbeing, GPA BA, Get Vaccine, Bari, Devices for online Learning, Age, Caste, Severely affected FM, Family system, Use of Social media, Local Level, Marital Status, Home Quarantine, Frequency of attend online sessions, Family occupation, PCR_ Test Antigen tests , Religion, Sex, Depart, Family Monthly Income, Use of Online Media, Suffer from Covid-19, Quarantined family members, Land holding Khet, PCR Antigen tested FM, Vaccinated FM, GPA MA, BA Degree and Faculty

b. Dependent Variable: Effectiveness Scale

Source: Field Survey, 2022

Table 38 shows multiple correlation coefficient, R=0.411 and R^2 =0.169 >0.08.We can see from the value of 0.169 that the independent variables explain 16.9 percent of the variability of the dependent variable.

Table 39: ANOVA of Effective Scale

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1878.809	31	60.607	1.558	.036
	Residual	9219.102	237	38.899		
	Total	11097.911	268			

a. Dependent Variable: Effectiveness Scale

b. Predictors: (see in Table 38)

Source: Field Survey, 2022

The F-ratio in the ANOVA tests whether the overall regression model is a good fit for the data. Table 39 shows that the independent variables statistically significantly predict the dependent variable, F(31, 237) = 1.558, p=0.001 <0 .05 (i.e., the regression model is a good fit of the data).

Table 40: *Coefficients of Effective Scale*

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	SE	Beta			Tolerance	VIF
1	(Constant)	20.80	9.64		2.16	0.03		
	Local Level	0.09	0.56	0.01	0.15	0.88	0.81	1.23
	Age	-0.22	0.15	-0.10	-1.47	0.14	0.76	1.31
	Sex	1.02	0.95	0.08	1.07	0.29	0.66	1.52
	Marital Status	0.05	0.19	0.02	0.26	0.80	0.84	1.19
	Religion	1.75	0.58	0.21	3.02	0.003	0.72	1.40
	Caste	-0.36	0.48	-0.05	-0.74	0.46	0.75	1.34
	Family system	0.64	1.12	0.05	0.57	0.57	0.46	2.16
	Family well being	4.27	1.60	0.18	2.67	0.01	0.81	1.24
	Family occupation	0.17	0.25	0.05	0.68	0.50	0.70	1.44
	Land holding Khet	0.89	0.52	0.14	1.70	0.09	0.50	2.01
	Bari	-0.80	0.54	-0.13	-1.48	0.14	0.47	2.13
	Family Monthly Income	0.33	0.48	0.05	0.69	0.49	0.62	1.61
	Status of employment	0.09	0.53	0.01	0.17	0.87	0.85	1.18
	B.A Degree	0.09	0.56	0.03	0.16	0.88	0.11	9.11
	Faculty	-0.52	1.91	-0.07	-0.27	0.79	0.06	17.03
	Department	0.32	0.50	0.13	0.64	0.52	0.09	11.67
	GPA B.A	0.08	0.75	0.01	0.11	0.92	0.45	2.25
	GPA M.A	-0.76	0.87	-0.08	-0.88	0.38	0.41	2.44
	Home Quarantine	1.24	0.96	0.10	1.29	0.20	0.63	1.58
	PCR Test /Antigen tests	0.17	0.70	0.02	0.25	0.81	0.54	1.84
	Suffer from Covid-19	0.87	0.58	0.11	1.49	0.14	0.59	1.68
	Getting Vaccine	1.46	2.54	0.04	0.58	0.57	0.88	1.14
	Quarantined family members	-0.01	0.35	-0.001	-0.02	0.99	0.53	1.88
	PCR /Antigen tested FM	0.55	0.32	0.15	1.73	0.09	0.46	2.19
	Severely affected FM	0.47	0.55	0.06	0.86	0.39	0.68	1.47
	Vaccinated FM	0.04	0.26	0.015	0.17	0.87	0.44	2.29
	Use of Social media	0.89	2.14	0.03	0.42	0.68	0.69	1.50
	Use of Online Media	-1.09	0.93	-0.09	-1.18	0.24	0.61	1.63
	Devices for online Learning	0.001	0.39	0	0.002	1.00	0.79	1.26
	Frequency of attend online sessions	-0.77	0.31	-0.16	-2.50	0.01	0.83	1.20
	Apart from online sessions joining online	-0.56	0.27	-0.14	-2.07	0.04	0.79	1.27

a. Dependent Variable: Effectiveness scale

Source: Field Survey, 2022

Herein Table 40; religion, family well-being and use of social media havethe value 0.003, 0.01, 0.01 respectively i.e. *p < .05, **p < .01, and are statistically significant. It indicates that using one variable and holding other constant. Sex, marital status, religion, family system, family well-being, family occupation, land holding Khet, family monthly income, status of employment, BA degree, department, GPA BA, home quarantine, PCR/Antigen tests, suffer from Covid-19, getting vaccine, severely affected family members , vaccinated family members and use of social media will increase effective scale by 0.8%, 0.2%, 2.1%, 0.5%,1.8%,0.5%,1.4%,0.5%,0.1%,0.3%, 1.3%, 0.1%, 1.0%, 0.2%, 1.1%, 0.4%, 1.5%, 0.6%, 0.15% and 0.3% respectively.

Figure 9 shows that the scatter of residuals in the starting and ending deviate slightly however in the other parts the observed and expected values were found along the line, without any significant departures from it. Normally, it falls straightly on the normal distribution line, indicating a normal distribution of residual. From the above graph, it can be concluded that there is slight deviation of residuals from the normal line and data is deviating from normal distribution. Additionally, it can be seen that the data set is going through the origin. So it indicates that the residuals are approximately normally distributed. Hence, instead of slight deviation, it may conclude that the observed data is normally distributed.

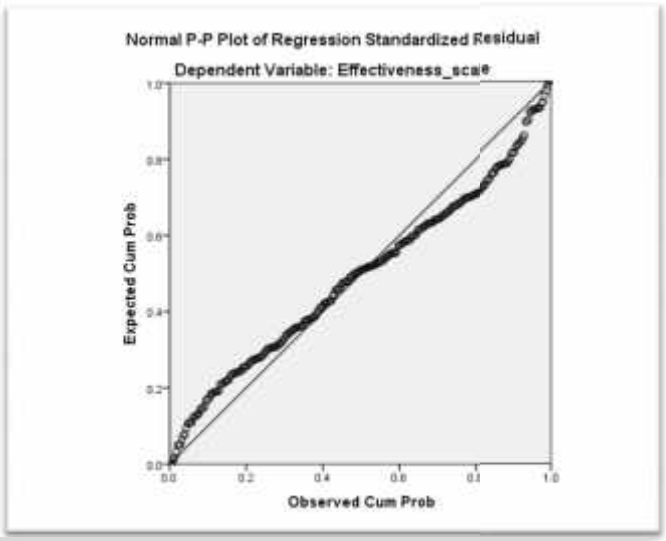


Figure 9 : P-P Plot IV

CHAPTER VI
SUMMARY OF FINDINGS, CONCLUSIONS AND IMPLICATIONS

7.1 Summary of Findings

7.1.1 Demographic Profile

- Out of the total 306 respondents, highest number of respondents belong to province number 3, which is 67(21.93%) and least number can be seen in province number 6, which is 5(1.63%).
- The primary respondents are found to be of age group below 25 with almost one-half (49.7%) of total respondents.
- The majorities of respondents fall on the male groups which is 58.2 percent for all three categories.
- While looking over marital status, majorities of respondents were single, which is 73.5 percent.

7.1.2 Social Cultural Status

- The primary respondents were found to be Hindu with almost fourth- fifth (85.9%) of total respondents.
- Almost two- fifth of respondents are Brahmins (36.6%) and the half of the respondents belongs to nuclear family (51.3%).
- More than four- fifth of respondents have medium family well-being, which is highest out of three categories.

7.1.3 Economic Status

- Half of respondents out of 306 have family occupation as agriculture.
- Out of 298 respondents, nearby two- fifth of respondents' holds 2-5 Ropani of land, Khet, whereas least number of respondents does not hold any land called Khet.
- Nearly one- third of respondents hold Bari out of 278 respondents whereas 28 are found to be not holding Bari.
- Almost three-fifth of respondents has monthly family income less than Rs. 1, 00,000.

7.1.4 Educational Status

- More than one-third of respondents have BA degree of pure science.
- Equal percent of respondents can be found in faculty and department which are 33.3% and 11.1% respectively.
- About half of respondents had obtained B+ (3.3/First Division) in their B. A. level and more than three- fifth of respondents had secured B+ (3.3/First Division) in their MA level.

7.1.5 Health Status

- Slightly more than half of respondents had stayed in home quarantine (51.3%) and more than three-fifth of respondents out of 306 had never taken PCR/ Antigen test (68%).
- Almost four-fifth of respondents was not suffered from Covid-19, which is 74.8%.
- Almost all the respondents had taken vaccine of Covid-19 which is 97.4% and slightly more than half of respondents' family members were quarantined, which is 53.6%, ranging between 1- 4.
- Half of respondents' family members had taken PCR/Antigen tests (50.7%).
- More than two-third of respondents' family members had zero severely affected persons, which is 70.9%.
- Nearly three- fifth of respondents' families have vaccinated members more than 4, which is 58.82%.

7.2 Online related Information

- Almost all the respondents use Facebook as social media, which is 97.7%.
- Regarding the use of online media, more than four-fifth of respondents use Microsoft team as online media.
- Slightly more than four-fifth of respondents use laptop for online learning, which is 93.1 %.
- Almost three- fifth of respondents attend all the online sessions every day, which is 57.2%.
- Apart from online session, almost three- third of respondents use online several times a day, this is 55.6 %.

7.2.1 Digital learning method and its motivation

- Half of respondents used digital learning method for individual assignment, which is 52.6 %.
- Two- fifth of respondents accept that PPT as digital approach motivates them to stay in online sessions, which is 40.2%.
- About two- fifth of respondents found online teaching- learning effective due to availability of PPTs in front of every students, which is 36.3%.
- About two- fifth of respondents agreed that their friends, family members, roommate and neighbor occasionally disturb them, which is 40.8%.
- Three-fifth of respondents was satisfied with online classes, which is 60.1%.

7.2.2 Descriptive Statistics

- Statistics on Access of online learning shows the mean of the students attending online classes regularly is highest, which is 3.99, followed by students familiar about online class which has mean value of 3.97.

- Statistics on cognitive efforts of online learning shows that students who collect shared reading materials have highest mean value of 4.30 which is followed by checking class routine properly and follow group message with mean value of 4.15.
- Statistics on emotional efforts of online learning shows that students positive towards teachers have highest mean value of 4.19 which is followed by students who are positive towards colleagues with mean value of 4.11.
- Statistics on behavioral effects of online learning shows that students who like to hear or say PowerPoint has the highest mean value of 4.05 which is followed by students who actively participate in online learning with mean value of 4.02.
- Statistics in teacher's method of online learning shows that receptive or lecture method has the highest mean value of 5 which is followed by guided discovery or discussion method with mean value of 3.76.
- Statistics on extrinsic motivation to learn online shows that learning technology related knowledge or skills has the highest mean value of 4.13 which is followed by improving presentation skills with mean value of 4.03.
- Statistics on benefits of online learning shows that flexibility has the highest mean value of 4.22 which is followed by cost effective with mean value of 4.
- Statistics on problems upon online learning shows that absence of physical interactions has the highest mean value of 4.25 which is followed by poor internet with mean value of 4.05.
- Statistics on effectiveness of online learning shows that improved computer access or online skills has the highest mean value of 4.08 which is followed by becoming independent learner with mean value of 3.97.
- Statistics on age, Land holding Khet, Bari, family's monthly income, BA GPA and MA GPA shows that age has the highest mean with value of 26.18 and family's monthly income hold the least value of mean i.e. 1.69.

7.2.3 Multiple Regressions Models

7.2.3.1 Multi Efforts Index

- 11.4 percent of the movement in the dependent variable (Multi efforts index) can be explained by the independent variables. The 0.337 of r value indicates that there is a significant relation between dependent variable (multi efforts index) and independent variables. Multi efforts index can be explained by the independent variables. Also significance value from ANOVA table is 0.242 more than 0.05, which means group of independent variables shows statistically insignificant relationship with the dependent variable which is overall multi efforts index.
- The study shows that getting vaccine have the value 0.015 i.e. $*p < .05$, $**p < .01$ and are statistically significant.
- The normal probability plot, a percentile – percentile plot (P-P Plot) depicts observed data is normally distributed.

7.2.3.2 Method Motivation Index

- 21.7 percent of the movement in the dependent variable (Method motivation index) can be explained by the independent variables. The 0.465 of R value indicates that there is a significant relation dependent variables (Method Motivation index) and independent variables. Also significance value from ANOVA table is 0.01<0.05, which means group of independent variables shows statistically significant relationship with the dependent variables which is overall method motivation index.
- The study shows that religion, land holding Khet, Bari and joining online apart from online sessions have the value 0.055, 0.045, 0.007 and 0.00 respectively. i.e $*p < .05$, $**p < .01$ and are statistically significant.
- The normal probability plot, a percentile – percentile plot (P-P Plot) depicts observed data is normally distributed.

7.2.3.3 Benefit Index

- 20 percent of the movement in the dependent variable (Benefit scale) can be explained by the independent variables. The 0.448 of r value indicates that there is a significant relation between dependent variable (benefit scale) and independent variables. Also, significance value from ANOVA table is 0.04 less than 0.05, which means group of independent variables shows statistically significant relationship with the dependent variable which is overall benefit scale.
- The study shows that religion, faculty, suffer from Covid-19, PCR/Antigen tested family members, devices for online learning and joining online apart from online sessions have the values 0.025, 0.074, 0.041, 0.021 ,0.043 and 0.00 respectively i.e. $*p < .05$, $**p < .01$ and are statistically significant.
- The normal probability plot, a percentile – percentile plot (P-P Plot) depicts observed data is normally distributed.

7.2.3.4 Effective Scale

- 16.9 percent of the movement in the dependent variable (Effective Scale) can be explained by the independent variables. The 0.411 of r value indicates that there is a significant relation between dependent variable (effective scale) and independent variables. Also, significance value from ANOVA table is 0.036 less than 0.05, which means group of independent variable which is overall effective scale.
- The study shows that religion, family well-being, frequency of attending online sessions and joining online apart from online sessions have values 0.003, 0.008,0.013 and 0.039 respectively i.e. $*p <.05$, $**p<.01$ and are statistically significant.
- The normal probability plot, a percentile – percentile plot (P-P Plot) depicts observed data is normally distributed.

7.2.3.5 Normality of Faculty wise Effective Scale

- Kolmogorov- Smirnov test reveals education has greater significance level (>0.05) which shows sample is normally distributed. Science and Humanities indicate that the data deviate from normal distribution.
- Shapiro–Wilk test displays science, education and humanities are normally distributed.
- Highest mean can be seen in Education faculty with value of 32.06 and least in Science with value of 30.27.
- Highest median can be seen in Education faculty with value of 32 and remaining both Science and Humanities have same medium of 31.
- Education appears to have larger variability than other two faculties

7.2.3.6 Normality of Access of Online Learning Scale and Departments

- Kolmogorov- Smirnov test reveals computer science, English and curriculum are found to have greater significance level (more than 0.05) which shows these samples are normally distribution.
- Shapiro- Wilk test reveals Botany, computer science, health education, game and sports, English and anthropology are normally distributed.

7.3 Discussions of Findings

The aim of this study is to investigate the students' perception of online during Covid-19: A cross-sectional study in Tribhuvan University located at Kirtipur, Kathmandu, Nepal. In this study, we can see that almost all the students use Facebook as social media. Microsoft team as online media seems popular among university students due to online teaching and learning.

As per the Nhan et al., (2022), most students use smart phones and laptops or desktops for online learning because of their convenience. In TU, about 93 percent of students use laptop for online classes. While looking over online classes of Tribhuvan University, three- fifth of students take online classes regularly. According to Faizah et al., (2021), the most widely used application was WhatsApp and Google classroom. The study in Tribhuvan University found that Microsoft teams and Facebook were mostly used by students for online learning sessions.

Most of the students in university have access of online learning, majority attends online meeting regularly. Likewise, university students like to collect and share reading materials obtained from online classes among peers. Most of students are positive towards teachers and they like to hear or see PowerPoint during the sessions of online classes.

Students are highly satisfied that their learning needs are met in the online learning environment amid the Covid-19 pandemic, especially with how teachers establish online communication and provide constant feedback on students' performance online. Online learning contents are also delivered effectively and

intelligibly by teachers(Baloran et al., 2021). In case of Tribhuvan University, students strongly agree that receptive or lecture method of online learning is mostly used rather than other methods. Opposite result can be seen regarding feedback or comments on time.

Similarly, sufficient reading materials are not provided through online teaching learning method. Half of students are found to be using digital learning method mostly for individual assignment (52.6% out of 306 respondents) whereas only one- fifth of students use for small group work, which is small comparing to above mentioned. In the similar study related of digital learning method, two- fifth of students are motivated towards it from PPT approach, which is 40.2%. In the same way, animation approach also played significant role towards motivating students on digital approach which is, 33.3%, one- third of students. We can see students are motivated mainly from PPT and animation to join online classes.

According to Satyawan et al., (2021), all most all, around 80%, students are highly motivated in the learning process with Undisksha e-learning platform. In case of Tribhuvan University (TU), Students highly are motivated in learning technology related knowledge or skills. Same case can be found in improving presentation skills. Most of students are motived towards online learning either for technological knowledge or improving presentation skills along with many other reasons.

According to Khan et al., (2021), more than half of respondents, 58.7%, believed that studying through online learning mode provides the flexibility to study at the time convenient to the learner. Similar result can be found in the study of TU where majority accepts that online is flexible for attending formal or informal classes and courses from any places.

As per the Tuladhar et al., (2020), students have faced problems in online leaning due to electrical disturbance. In opposite, it is found that majority students of TU have faced problems due to absence of physical interaction. After it, second most faced problem is electrical disturbance which completely agrees with Tuladhar et al, (2020.) Majority of TU students agree that online learning is effective because of improved computer access or online skills whereas Tuladhar et al., (2020), find online classes were not effective at all.

Khan et al., 2021, believes that online learning enables students to follow their studies irrespective of geographical disparities (73.4%). Whereas TU students have different believe than above mentioned. Students believe online teaching- learning takes effectively due to availability of PPT in front of every student. Only about one-third accepts that online learning- teaching is effective because students do not need to walk long distances before reaching the class. Furthermore, majority of respondents agree that their friends, family members, roommate and neighbor occasionally disturb them while having online sessions.

According to Baloran et al., (2021), students are highly satisfied with online learning delivery. In the study inside TU, we can see that majority (60.1%). of students are satisfied with online classes.

7.4 Conclusions

This study comes to the conclusion that ICT-related policies in education has been effectively implemented in Nepal during Covid-19. The University campus offered online classes with aimed to continue teaching and learning activities among the students. The large numbers of the students are belonging to Bagmati Province and medium level socio-economic status. During the Covid-19, half of respondents stayed in home quarantine and almost four- fifth of students got suffered from pandemic. Owing to that all the students got equitable access to online education which decrease the achievement gap to the students even in lock down periods. Online learning in the University becomes effective with access of Microsoft teams in general and online learning related skills of the students themselves in particular. Beside the Microsoft team, Facebook seem popular. May be due its flexibility, majority had used laptop instead of mobile. PPT as digital approach is mostly liked by all whereas it is also popular for individual assignment. Majority of students are positive towards teacher in same way, we can see that students like to hear or see power point presentation while having online classes. Respondents are positive towards teacher's method of online teaching – learning which is receptive or lecture method. Online classes have provided knowledge or skills related to technology which has motived students towards online classes

This might be reason, perceptions of the students of online learning seem positive as they got multiple benefits from online classes. They got access of laptops and other online electronic devices. They got technical skills to operate online classes and social media which have nourished their cognitive efforts and behavioral effort of online learning. Besides, they got access with different teacher's methods including voice record system, power online available of point slide and reading materials. The students also get idea about online jobs application and online job opportunities. Besides, the study also comes to the conclusion that students' perceptions of online learning related issues are positively supported by the theoretical prepositions of motivation theory of self-efficacy and goal oriented theory.

However, majority of students are not satisfied with absence of physical classes, they have seen it as problem. Availability of PPT is taken as positive aspect of online learning and many students are disturbed by their family members, peers and neighbors. Finally, majority of students are highly satisfied with online classes and extrinsic motivation from the teachers to learn online by the students belonging to different subjects and faculty streams. That is why the multiple effort scale, motivation scale, benefit scale and effectiveness of online learning scales are intertwined to each other.

7.5 Implications of the Study

For Knowledge Level;

- The results of the study will be helpful for the researchers, students and authority of Tribhuvan University including respected faculties deans, central departments as well as teachers.
- The study might be useful for knowing general characteristics of the respondents of the researched area.
- The study points out the importance of online education which can be useful for students' knowledge.
- This research paper might be applicable to the Tribhuvan University. So, they could make some relevant decision related to effective ways of conducting online classes in the future based on this paper.
- The relationship test calculated on this paper let the people know how one variable described the other variables. Based on it, researcher and policy maker will help to the university to make appropriate actions.

For Practice level;

- The data analysis results from the research paper might be helpful to the government and non-government officers and local elective bodies to understand in-depth the status of the management practices of the researched area.
- Based on the paper findings, it might help the expertise from such universities to function effectively to overcome problems and issues related to online teaching – learning.
- Teacher's feedback or comments on time in online teaching- learning were not properly done. Therefore, concerned department and university should manage this problem in online teaching- learning.
- Based on the paper findings, many students are disturbed by their roommates, family members and neighbors while having online classes. As much as possible, physical classes should be operated and online classes should be taken as alternative way.

For policy level;

- The governing body of the researched area could make plan and policies for online classes by making it more efficient and effective. I hope this paper findings could be helpful for them while making plan and policies.
- The finding could be helpful to them while they are preparing report, plan and policy related to the online teaching- learning of the study area.
- This research paper might be applicable to various departments who are conducting online classes.

7.6Future Direction

This dissertation has answered some of inquiry regarding this research. However, several new questions emerge in light of the discoveries presented here. Few of the most prominent are listed here.

- Researchers can conduct qualitative research approach by doing KII, in-depth interview, observation etc. to understand concepts, opinions, or experiences of people in depth.
- The researchers can also analyze perceptions of the teachers and university authorities while analyzing effectiveness of online learning.
- Research can be further extended to the other higher educational institutions located inside and outside the Kathmandu Valley.
- The research issue can be analyzed both in constituent and affiliated campuses and colleges of Tribhuvan University.

REFERENCES

Abbasi, S., Ayoob, T., Malik, A.& Memon, S. I. (2020). Perceptions of students regarding E-learning during Covid-19 at a private medical college. *Pakistan Journal of Medical Sciences*, *36*(Covid-19-S4), S57–S61. https://doi.org/10.12669/pjms.36.Covid-19-S4.2766

Aebli, A., Volgger, M.&Taplin, R. (2021). A two-dimensional approach to travel motivation in the context of the Covid-19 pandemic. *Current Issues in Tourism*. https://doi.org/10.1080/13683500.2021.1906631

Ames, C, & Archer, J. (1988). Achievement goals in the classroom: Student learning strategies and motivation processes. *Journal of Education al Psychology, 80*, 260-267.

Ametova, O.& Mustafoeva, N. (2020). The benefits and drawbacks of online education for law students in higher educational institutions. *Theoretical & Applied Science, 92*. https://doi.org/10.15863/TAS.2020.12.92.13

Bahasoan, A. N., Ayuandiani, W., Mukhram, M.& Rahmat, A. (2020). Effectiveness of Online Learning. In Pandemic Covid-19. *International Journal of Science, Technology & Management*, *1*(2), 100–106. https://doi.org/10.46729/ijstm.v1i2.30

Baloran, E. T., Hernan, J. T.& Taoy, J. S. (2021). Course satisfaction and student engagement in online learning amid covid-19 pandemic: a structural equation model. *Turkish Online Journal of Distance Education*, *22*(4), 1–12. https://doi.org/10.17718/tojde.1002721

Bandura, A. (1962). *Social learning through imitation: Nebraska symposium on motivation*. Nebraska Press.

Bandura, A. (1988). Self-regulation of motivation and action through goal systems.*Hamilton, 125*(6), 627-668.

Basnet, S., Basnet, H. B., & Bhattarai, D. K. (2021). Challenges and Opportunities of Online Education during Covid-19 Situation in Nepal. *Rupantaran: A Multidisciplinary Journal*, *5*, 89–99. https://doi.org/10.3126/rupantaran.v5i01.39867

Bernard, R.M., Abrami, P. C., Borokhovski, E. (2009). A Meta-Analysis of Three Types of Interaction.Treatments in Distance Education. *Rev Educ Res.*1243–1289.

Brdar,I., Rijavec, M. &Loncaric, D. (2006). Goal orientations, coping with school failure and school achievement.*European Journal of Psychology of Education, 21*(1), 53-70.

British Broadcasting Company [BBC]. (2020). *Will COVID-19 have a lasting impact on the environment*? https://bbc.in/3yJdN2d

Cambodia: Digital education is here to stay. (2020, September 24). IIEP-UNESCO. http://www.iiep.unesco.org/en/cambodia-digital-education-here-stay-13492

CEDA (n.d.). Retrieved July 24, 2022, from http://www.ceda.org.np/index.php?option=com_content&view=article&id=203&Itemid=167

CERID(n.d.). https://cerid.org/

Clark, R. E. (2007). Reconsidering Research on Learning from Media. *Rev Educ Res*, 445–459.

CNAS (n.d.). Retrieved July 24, 2022, from https://cnastu.edu.np/

Cohen, L., Manion, L., & Morrison, K. (2007). Research method in education (6th eds.). Taylor & Francis Group

Cohen,L., Manion, L.& Morrison, K. (2000). *Research methods in education (5th Ed.).Routledge/ Falmer.*

Consulting, W. (n.d.). *#CoronaVirus: Don't Let Our Children Down!* Global Campaign for Education. https://campaignforeducation.org/en/press-centre/coronavirus-dont-let-our-children-down.

Dawadi, S., Giri, R. &Simkhada, P. (2020). *Impact of Covid-19 on the Education Sector in Nepal-Challenges and Coping Strategies*. https://doi.org/10.31124/advance.12344336.v1

Dweck, C. S. (1986). Motivational processes affecting learning: An examining the affects of extrinsic rewards on intrinsic motivation.*Psychological Bulletin, Psychology, 41*, 1040-1048.

Edusanjal—Education Portal for Nepal. (n.d.). Edusanjal. Retrieved July 24, 2022. https://edusanjal.com/organization/institute-of-forestry-tribhuvan-university/

Elliot, A. J. (1999). Approach and avoidance motivation and achievement goals.*Educational Psychologist, 34*, 169-189.

Elliot, A. J., &Dweck, C. S. (2005).Competence as the core of achievement motivation. In A. J. Elliot & C. S. Dweck (Eds.),*Handbook of Competence and Motivation*(pp. 3-13). Guilford.

Faculty of Education. (n.d.). Retrieved July 24, 2022. https://www.tufoe.edu.np/

Faculty of Humanities and Social Sciences. (n.d.). Retrieved July 24, 2022. https://entrance.tufohss.edu.np/pages/aboutus

Faculty of Law, Tribhuvan University. (n.d.). https://www.fol.edu.np/

Faculty of Management. (n.d.). Retrieved July 24, 2022. https://tudoms.org/about-us

Faizah,U., Ambarwati, R., & Rahayu,D. A. (2021).From offline to online learning: Various efforts to secure the learning process during covid-19 outbreaks. *Journal of Physics: Conference Series, 1747(1), 012002.* https://doi.org/10.1088/1742-6596/1747/1/012002

Fortune, M. F., Spielman, M., & Pangelinan, D. T. (2011). Students' Perceptions of Online or Face-to-Face Learning and Social Media in Hospitality, Recreation and Tourism. *Undefined*. https://www.semanticscholar.org/paper/Students%27-Perceptions-of-Online-or-Face-to-Face-and-Fortune-Spielman/69ec10415eb160338c5398ea0556ce427d601930

Fredricks, J. A., Blumenfeld, P.C., Paris, A. H. (2004). School Engagement: Potential of the Concept, State of the Evidence. *Rev Educ Res*, 59–109.

Fry, K. (2001). E-learning markets and providers: some issues and prospects. *InfDiscovDeliv.*233–239.

Gautam, D. K.& Gautam, P. K. (2021). Transition to online higher education during COVID-19 pandemic: Turmoil and way forward to developing country of South Asia-Nepal. *Journal of Research in Innovative Teaching & Learning*, *14*(1), 93–111. https://doi.org/10.1108/JRIT-10-2020-0051

Gupta, C. B. & Gupta, V. (2015). *An introduction to statistical methods* (23rd eds.). Vikas Publishing House.

Harefa, S. &Sihombing, G.L.A. (2021).*Students' perception of online learning amidst the Covid-19 pandemic: A study of junior, senior high school and college students in a remote area*. https://doi.org/10.12688/f1000research.52152.1

Hashem, M. E. (2018). The role of new information technology in education and development: A case study of building trust in distance education. *Int J Arts Sciences*, 387–398.

Huck, K. A., & Shmis, T. (2020). *Managing the impact of COVID-19 on education systems around the world: How countries are preparing, coping, and planning for recovery*. https://blogs.worldbank.org/education/managing-impact-covid-19-education-systems-around-world-how-countries-are-preparing

Institute of Agriculture and Animal Science. (n.d.). https://www.iaas.edu.np/background

Institute of Medicine. (n.d.). http://iom.edu.np/about/

IOST (n.d.). https://www.tuiost.edu.np/

Jung, Y., Jeongmin, L. (2018). Learning engagement and persistence in massive open online courses (MOOCS). *ComputEduc, 122*(7), 9–22.

Kader, M. A. R. A., Aziz, N. N. A., Zaki, S. M., Ishak, M., & Hazudin, S. F. (2022). The effect of technostress on online learning behaviour among undergraduates. *Malaysian Journal of Learning and Instruction*, *19*(1), 183–211. https://doi.org/10.32890/mjli2022.19.1.7

Kaplan, A., & Maehr, M. L. (2002). Adolescents' achievement goals: Situating motivation in socio-cultural contexts. In T. Urdan & F. Pajaers (Eds.), Adolescence and education: Vol. 2, Academic motivation of adolescents (pp. 125– 167). Information Age.

Karahisar, T., & Unluer, A. O. (2022). A research on distance education and alienation in academic staff during the Covid-19 pandemic. *Turkish Online Journal of Distance Education*, *23*(3), 68–85. https://doi.org/10.17718/tojde.1137201

Karki, T. B., Mahat, D., & Kandel, D. R. (2021). Effectiveness of Online Class and Physical Class during Covid-19 Pandemic. *Nepal Journal of Multidisciplinary Research*, *4*(1), 14–30. https://doi.org/10.3126/njmr.v4i1.36615

Khan, M. A., Vivek, Nabi, M. K., Khojah, M., & Tahir, M. (2021). Students' Perception towards E-Learning during Covid-19 Pandemic in India: An Empirical Study. *Sustainability*, *13*(1), 57. https://doi.org/10.3390/su13010057

Khati, K. &Bhatta, K. R. (2020). Challenges of Online Education during Covid-19 Pandemic in Nepal. *International Journal of Entrepreneurship and Economic, 4*(1), 45-49. https://10.32674/ijeei.v4i1.45.

Khatri, S., Gurung, S. K., Chapagain, R. K., Sharma, S., & Dangi, N. B. (2021). Online Learning during the Covid-19 Pandemic: A Web-Based Survey of Undergraduate Students of Pokhara University, Nepal. *Quest Journal of*

Management and Social Sciences, *3*(2), 245–255. https://doi.org/10.3126/qjmss.v3i2.41579

Kim, J. Y.& Fienup, D. M. (2022). Increasing Access to Online Learning for Students with Disabilities during the COVID-19 Pandemic. *The Journal of Special Education*, *55*(4), 213–221. https://doi.org/10.1177/0022466921998067

Koohang, A., Paliszkiewicz, J., Nord, J. H.(2014). Advancing a theoretical model for knowledge construction in e-learning. *Online J Applied Knowledge Management*, 12–25.

Kulusakli, E. (2022). Exploring self-regulated online learning skills of efl learners in distance education. *Turkish Online Journal of Distance Education*, *23*(1), 86–96. https://doi.org/10.17718/tojde.1050356

Kurucav, M., &Inan, F. A. (2017). Examining the effects of learner-learner interactions on satisfaction and learning in an online undergraduate course. *ComputEduc*, *115*, 20–37.

Lee, K. (2017). Rethinking the accessibility of online higher education: A historical review. *Internet High Educ*, 15–23.

Mahmud, Y. S., & German, E. (2021). Online self-regulated learning strategies amid a global pandemic: insights from Indonesian university students. *Malaysian Journal of Learning and Instruction*, *18*(2), 45–68. https://doi.org/10.32890/mjli2021.18.2.2

Menon, P., Pande, V., Jadhav, S.& Agarkhedkar, S. (2020). *Perception of Faculty and Students about E Learning About Feasibility, Acceptance and Implementation in Covid Crisis*. https://doi.org/10.21203/rs.3.rs-42343/v1

Mukhtar, K., Javed, K., Arooj, M., & Sethi, A. (2020). Advantages, Limitations and Recommendations for online learning during Covid-19 pandemic era. *Pakistan Journal of Medical Sciences*, *36*(Covid-19-S4), S27–S31. https://doi.org/10.12669/pjms.36.COVID19-S4.2785

Muthuprasad, T., Aiswarya, S., Aditya, K. S., & Jha, G. K. (2021). Students' perception and preference for online education in India during Covid-19 pandemic. *Social Sciences & Humanities Open*, *3*(1), 100101. https://doi.org/10.1016/j.ssaho.2020.100101

Nair, K. R., Aedo, C., Aryal, M. P., Sherpa, M., & Sharma, U. (2020). *Nepal steps up remote learning during Covid19*. https://blogs.worldbank.org/endpovertyinsouthasia/nepal-steps-remote-learning-during-covid-19

Nepal_school_sector_reform_2009.pdf.(n.d.). https://planipolis.iiep.unesco.org/sites/default/files/ressources/nepal_school_sector_reform_2009.pdf

Neuwirth, L. S., Jović, S.& Mukherji, B. R. (2021). Reimagining higher education during and post-Covid-19: Challenges and opportunities. *Journal of Adult and Continuing Education*, *27*(2), 141–156. https://doi.org/10.1177/1477971420947738

Nhan, N. T. P., Nguyen,P.,Ngoc Phi,N., Lan, N., Ta, H., &Tuyen, V.(2022). The Relationship between Online Learning and Student satisfaction with Training Quality in Private Universities during the Covid-19 Pandemic. *Journal of*

Education and E-Learning Research, 9,8-16.https://doi.org/10.20448/jeelr.v9il.3660

Ni, A.Y., Wart, M.V., Medina, P. (2020). A profile of MPA students' perceptions of online learning: What MPA student's value in online education and what they think would improve online learning experiences. *J Public Affairs Education*, 1–23.

Opalka, A., & Gross, B. (2020, June 10). *Too Many Schools Leave Learning to Chance during the Pandemic*. Center on Reinventing Public Education. https://crpe.org/too-many-schools-leave-learning-to-chance-during-the-pandemic/

Paudel, P. (2021). Online Education: Benefits, Challenges and Strategies During and After COVID-19 in Higher Education. *International Journal on Studies in Education*, *3*(2), 70–85. https://doi.org/10.46328/ijonse.32

Piryani, R. M., Piryani, S., Piryani, S., Shankar, P. R., & Shakya, D. R. (2020). Impact of COVID-19 Pandemic on Medical Education: Challenges and Opportunities for Medical educators in South Asia. *Journal of BP Koirala Institute of Health Sciences*, *3*(1), 28–38. https://doi.org/10.3126/jbpkihs.v3i1.30318

Purbudak, A., Yilmaz, M., & Cakir, O. (2022). Emergency distance education during the covid-19 pandemic: a qualitative research from a special education perspective. *Turkish Online Journal of Distance Education*, *23*(3), 86–102. https://doi.org/10.17718/tojde.1137208

Qashou, A. (2022). Obstacles to effective use of e-learning in higher education from the viewpoint of faculty members. *Turkish Online Journal of Distance Education*, *23*, 144.

Rashid, S., & Yadav, S. S. (2020). Impact of Covid-19 Pandemic on Higher Education and Research—Shazia Rashid, Sunishtha Singh Yadav, 2020. *SAGE Journals*, *14*(2), 340–343.

RECAST. (n.d.).https://recast.edu.np/

Ryan, T. G. &Young, C. D. (2015). Online (Distance) Education: Evolving Standards. *J Technologies Education*, 15–30.

Satyawan, I. M., Wahjoedi, W., & Swadesi, I. K. I. (2021). The Effectiveness of Online Learning through Undiksha E-Learning during the Covid-19 Pandemic. *Journal of Education Technology*, *5*(2), 191–199. https://doi.org/10.23887/jet.v5i2.32364

Şen Akbulut, M., Umutlu, D., Oner, D., & Arikan, S. (2022). Exploring University Students' Learning Experiences in the Covid-19 Semester through the Community of Inquiry Framework. *Turkish Online Journal of Distance Education*, *23*, 1–18. https://doi.org/10.17718/tojde.1050334

Shrestha, S. (2016). *Exploring mobile learning opportunities and challenges in Nepal: The potential of open-source platforms* [Doctoral, University of West London]. https://repository.uwl.ac.uk/id/eprint/2962/

Singh, M., Adebayo, S. O., Saini, M.& Singh, J. (2021). Indian government E-learning initiatives in response to Covid-19 crisis: A case study on online learning in Indian. *Education and Information Technologies*, *26*(6), 7569–7607. https://doi.org/10.1007/s10639-021-10585-1

Tahar, A., Sofyani, H., Arisanti, E. N., & Amalia, F. A. (2022). Maintaining higher education institution performance amid the covid-19 pandemic: the role of it governance, it capability and process agility.*MOJEM: Malaysian Online Journal of Educational Management, 10*(1), 45–61.

Talidong, K. J. &Toquero, C. M. (2020). Philippine Teachers' Practices to Deal with Anxiety amid Covid-19. *J Loss Trauma,* 1–8.

Three Year Interim Plan. (n.d.). https://www.npc.gov.np/images/category/11tyip_eng.pdf

Toquero, C. M. (2020). Challenges and Opportunities for Higher Education amid the Covid-19 Pandemic: The Philippine Context. *Pedagogical Research*, *5*(4), em0063. https://doi.org/10.29333/pr/7947

Tratnik, A., Urh, M., & Jereb, E. (2019). Student satisfaction with an online and a face-to-face Business English course in a higher education context. *Innovations in Education and Teaching International*, *56*(1), 36–45. https://doi.org/10.1080/14703297.2017.1374875

Tribhuvan University of Nepal. (n.d.).http://www.tribhuvan-university.edu.np/page/5_5dd4e523dc74a

Tuladhar, S. L., Pradhan, D., Parajuli, U., Manandhar, P., & Subedi, N. (2020). Study on the effectiveness of online classes for undergraduate medical and dental students of Gandaki Medical College during Covid-19 pandemic period in Nepal. *Orthodontic Journal of Nepal*, *10*(2), 36–40. https://doi.org/10.3126/ojn.v10i2.31146

Tuladhar, S. L., Pradhan, D., Parajuli, U., Manandhar, P.& Subedi, N. (2020). Study on the effectiveness of online classes for undergraduate medical and dental students of Gandaki Medical College during Covid-19 pandemic period in Nepal. *Orthodontic Journal of Nepal*, *10*(2), 36–40. https://doi.org/10.3126/ojn.v10i2.31146

Turan, S., Yaman, M. S., Genç, H. İ., Donmez, A., Hergüner, G.& Yaman, Ç. (2022). Predictive of Perceived Learning: Academic Motivation and Attitudes to Mobile Learning. *The Turkish Online Journal of Educational Technology*, *21*(1), 8.

Vision Mission Goals and Objectives—Institute of Engineering | Tribhuvan University. (n.d.). https://ioe.edu.np/about-ioe/vision-mission-goals-and-objectives/

Wentzel, K.R. (1991). Social and academic goals at school: Motivation and achievement in context. InM.L.Maher& P.R.Pintrich (Eds.),*Advances in motivation and achievement* (pp.185-212). JAI Press.

Wu, S.-Y. (2021). How Teachers Conduct Online Teaching During the Covid-19 Pandemic: A Case Study of Taiwan. *Frontiers in Education*, *6*. https://www.frontiersin.org/articles/10.3389/feduc.2021.675434

Xhaferi, B., & Xhaferi, G. (2020). Online Learning Benefits and Challenges during the Covid-19—Pandemic-Students' Perspective from SEEU. *SEEU Review*, *15*(1), 86–103. https://doi.org/10.2478/seeur-2020-0006

APPENDICES

Appendix A: Research Consent Letter

TRIBHUVAN UNIVERSITY
त्रिभुवन विश्वविद्यालय
CENTRAL DEPARTMENT OF RURAL DEVELOPMENT
ग्रामीण विकास केन्द्रीय विभाग

विभागीय प्रमुखको कार्यालय
कीर्तिपुर, काठमाडौं, नेपाल ।
Office of the Head of Department
Kirtipur, Kathmandu, Nepal.

Ref. No. :.....

Tribhuvan University Central Department of Rural Development Kirtipur

Date मिति...07/02/2022.....

To Whom It May Concern

This is to certify that **Mr. Levi Gharti Chhetri**, resident of Surkhet District a regular student of this department. He has been admitted in Master Level of Rural Development for the academic year 2019-2021

Mr. Chhetri is currently conducting his MA thesis entitled **Students' Perception of Online Learning During Covid-19: A Cross Sectional Study in University Campus, Kirtipur.** For this purpose, he has not yet received any fellowship and support grant from other institutions.

During the study in the department he is well disciplined, sincere and dedicated student.

In addition, he possesses interactive and amicable personality.

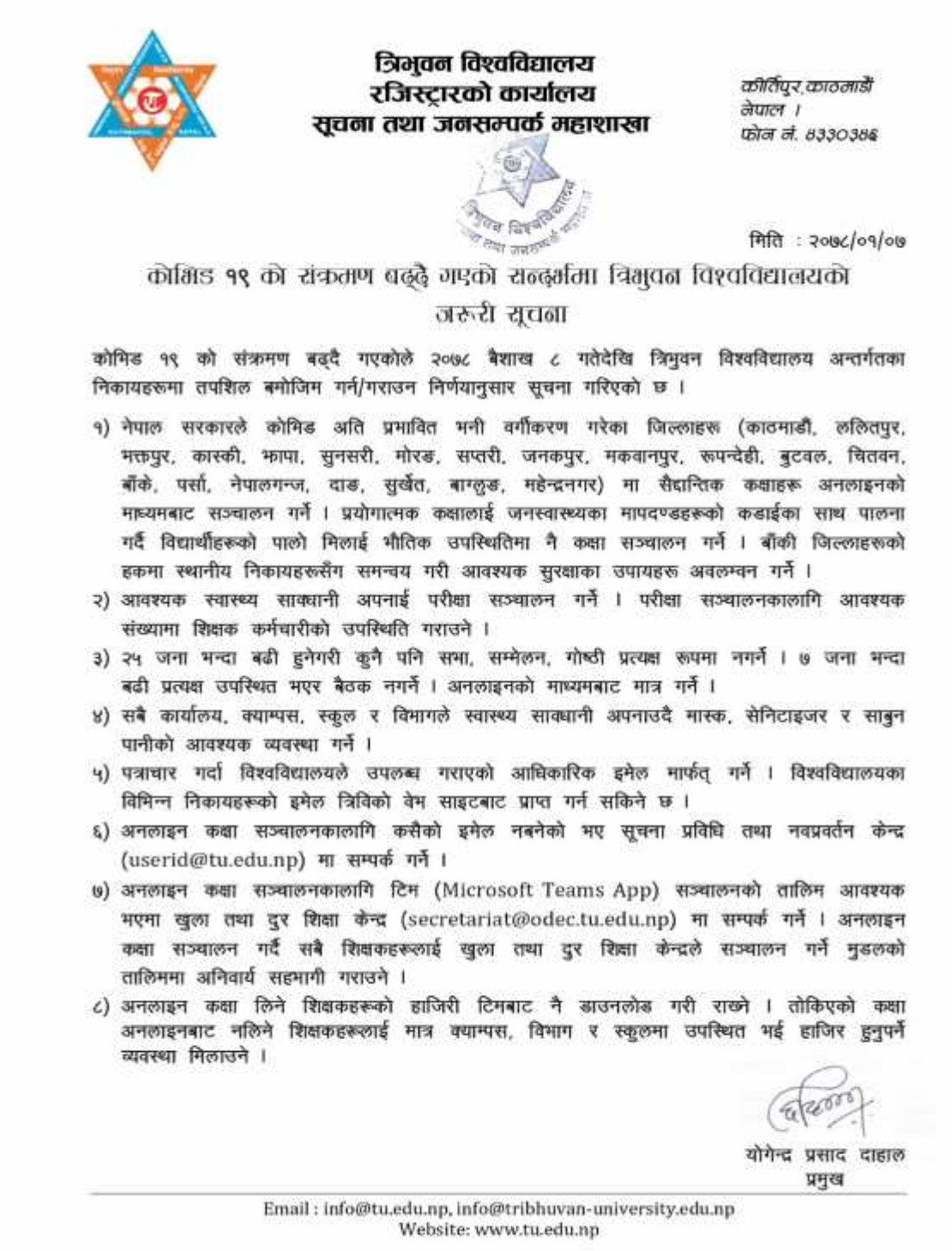
I wish every success in his future endeavours.

.....

Bishnu Bahadur Khatri
Associate Prof. and Head of Department
Cell no. 9841288432
Email: bishnu.khatri@cdrd.tu.edu.np

Tel.: 977-1- 4333581, 977-1- 4331383, Website: www.cdrd.edu.np. E-mail : contact@cdrd.edu.np

Appendix B: Covid-19 related Notices



त्रिभुवन विश्वविद्यालय
रजिस्ट्रारको कार्यालय
सूचना तथा जनसम्पर्क महाशाखा

कीर्तिपुर, काठमाडौं
नेपाल ।
फोन नं. ४३३०३४६

मिति : २०७८/०१/०७

कोभिड १९ को संक्रमण बढ्दै गएको सन्दर्भमा त्रिभुवन विश्वविद्यालयको

जरूरी सूचना

कोभिड १९ को संक्रमण बढ्दै गएकोले २०७८ बैशाख ८ गतेदेखि त्रिभुवन विश्वविद्यालय अन्तर्गतका निकायहरूमा तपशिल बमोजिम गर्न/गराउन निर्णयानुसार सूचना गरिएको छ ।

१) नेपाल सरकारले कोभिड अति प्रभावित भनी वर्गीकरण गरेका जिल्लाहरू (काठमाडौं, ललितपुर, भक्तपुर, कास्की, झापा, सुनसरी, मोरङ, सप्तरी, जनकपुर, मकवानपुर, रूपन्देही, बुटवल, चितवन, बाँके, पर्सा, नेपालगन्ज, दाङ, सुर्खेत, बाग्लुङ, महेन्द्रनगर) मा सैद्धान्तिक कक्षाहरू अनलाइनको माध्यमबाट सञ्चालन गर्ने । प्रयोगात्मक कक्षालाई जनस्वास्थ्यका मापदण्डहरूको कडाईका साथ पालना गर्दै विद्यार्थीहरूको पालो मिलाई भौतिक उपस्थितिमा नै कक्षा सञ्चालन गर्ने । बाँकी जिल्लाहरूको हकमा स्थानीय निकायहरूसँग समन्वय गरी आवश्यक सुरक्षाका उपायहरू अवलम्वन गर्ने ।

२) आवश्यक स्वास्थ्य सावधानी अपनाई परीक्षा सञ्चालन गर्ने । परीक्षा सञ्चालनकालागि आवश्यक संख्यामा शिक्षक कर्मचारीको उपस्थिति गराउने ।

३) २५ जना भन्दा बढी हुनेगरी कुनै पनि सभा, सम्मेलन, गोष्ठी प्रत्यक्ष रूपमा नगर्ने । ७ जना भन्दा बढी प्रत्यक्ष उपस्थित भएर बैठक नगर्ने । अनलाइनको माध्यमबाट मात्र गर्ने ।

४) सबै कार्यालय, क्याम्पस, स्कुल र विभागले स्वास्थ्य सावधानी अपनाउदै मास्क, सेनिटाइजर र साबुन पानीको आवश्यक व्यवस्था गर्ने ।

५) पत्राचार गर्दा विश्वविद्यालयले उपलब्ध गराएको आधिकारिक इमेल मार्फत् गर्ने । विश्वविद्यालयका विभिन्न निकायहरूको इमेल त्रिविको वेभ साइटबाट प्राप्त गर्न सकिने छ ।

६) अनलाइन कक्षा सञ्चालनकालागि कसैको इमेल नबनेको भए सूचना प्रविधि तथा नवप्रवर्तन केन्द्र (userid@tu.edu.np) मा सम्पर्क गर्ने ।

७) अनलाइन कक्षा सञ्चालनकालागि टिम (Microsoft Teams App) सञ्चालनको तालिम आवश्यक भएमा खुला तथा दुर शिक्षा केन्द्र (secretariat@odec.tu.edu.np) मा सम्पर्क गर्ने । अनलाइन कक्षा सञ्चालन गर्दै सबै शिक्षकहरूलाई खुला तथा दुर शिक्षा केन्द्रले सञ्चालन गर्ने मुडलको तालिममा अनिवार्य सहभागी गराउने ।

८) अनलाइन कक्षा लिने शिक्षकहरूको हाजिरी टिमबाट नै डाउनलोड गरी राख्ने । तोकिएको कक्षा अनलाइनबाट नलिने शिक्षकहरूलाई मात्र क्याम्पस, विभाग र स्कुलमा उपस्थित भई हाजिर हुनुपर्ने व्यवस्था मिलाउने ।

योगेन्द्र प्रसाद दाहाल
प्रमुख

Email : info@tu.edu.np, info@tribhuvan-university.edu.np
Website: www.tu.edu.np

त्रिभुवन विश्वविद्यालय
रजिष्ट्रारको कार्यालय
सूचना तथा जनसम्पर्क महाशाखा

कीर्तिपुर,काठमाडौं
नेपाल ।
फोन नं. ४३३०३४६

११) **कक्षा एवम् परीक्षा सञ्चालन :**

- सम्पूर्ण आगिक तथा सम्बन्धन प्राप्त क्याम्पसका सैद्धान्तिक कक्षाहरु र सम्भव भएसम्मका प्रयोगात्मक कक्षाहरू अनलाइनको माध्यमबाट सञ्चालन गर्ने । अनलाइन, भर्चुअल वा विद्युतीय माध्यमबाट कक्षा/कार्य सञ्चालनको व्यवस्था सम्बन्धित क्याम्पस/कार्यालय प्रमुखले मिलाउने ।
- अर्को सूचना नभएसम्मका लागि भौतिक उपस्थितिमा हुने परीक्षाहरू स्थगित गर्ने ।
- सम्बन्धित क्याम्पस/विभाग/स्कुलले तोके अनुसारको अनलाइन कक्षा लिने शिक्षकहरूको सोही रेकर्डलाई आधारमानी हाजिरी जनाउने ।

१२) **निषेध आदेश जारी भएका क्षेत्रहरूमा :**

- नेपाल सरकार, स्थानीय प्रशासन तथा निकायहरूबाट गरिएका सूचनाहरू बमोजिम घोषणा भएको लकडाउन/निषेध आदेश अवधि कायम रहुञ्जेल सम्मकालागि त्रिभुवन विश्वविद्यालयका निकायहरूबाट प्रदानगरिने अत्यावश्यक सेवासँग सम्बन्धित कामहरू बाहेक अन्य जनसम्पर्कका कार्यहरू बन्द गर्ने ।
- सभा, सम्मेलन सेमिनार तथा तालिमहरू एवं ७ जनाभन्दा बढीको उपस्थितिमा हुने बैठकहरू अनलाइनको माध्यमबाट मात्र गर्ने ।

१३) **नियमित प्रशासनिक कार्य सञ्चालनः**

- विश्वविद्यालयका नियमित प्रशासनिक कामहरू आलोपालो पद्धति अनुसार कर्मचारी खटाई काम सुचारू राख्ने व्यवस्था मिलाउने र घरबाटै काम गर्न सकिने कामहरूको हकमा अनलाइनको माध्यमबाट घरबाटै (*Work from home*) काम सञ्चालन गर्ने व्यवस्था मिलाउने । पालोमा अनुपस्थित हुने कर्मचारीको हकमा सम्बन्धित प्रमुखले कोभिड काज जनाउने ।
- कर्मचारीको व्यवस्थापन गर्न सम्बन्धित निकाय/कार्यालय/महाशाखा प्रमुखलाई जिम्मेवारी दिने । अनलाइन, भर्चुअल वा विद्युतीय माध्यमबाट सेवा प्रवाह गर्न सम्भवन हुने र बढी जनसम्पर्क हुने प्रकृतिका कार्यहरू स्थगित गर्ने ।
- त्रि.वि.का सबै पदाधिकारी, शिक्षक, कर्मचारीहरू आ-आफ्नो निकाय प्रमुखसँग सम्पर्कमा रहने ।
- आलोपालो गरी कार्यालयमै उपस्थित भई काम गर्ने जनशक्ति व्यवस्थापन सम्बन्धित निकाय प्रमुखले समन्वय गरी नेपाल सरकारद्वारा जारी गरिएका स्वास्थ्य सुरक्षाका मापदण्डको अनिवार्य रूपमा पालना गरी कार्य गर्ने गराउने ।
- अस्पताल बाहेक अन्य क्षेत्रहरूमा अतिरिक्त पारिश्रमिक दिई अतिरिक्त समय काममा लगाइएको भए सो बन्द गर्ने । अत्यावश्यक परी कुनै कर्मचारीलाई अतिरिक्त समय काममा लगाउनु पर्ने भएमा त्रि.वि. केन्द्रीय कार्यालयको स्वीकृति लिएर काममा लगाउने ।

योगेन्द्र प्रसाद दाहाल
प्रमुख

Email : info@tu.edu.np, info@tribhuvan-university.edu.np
Website: www.tu.edu.np

Appendix B: Survey Questionnaires

STUDENTS' PERCEPTION OF ONLINE LEARNING DURING COVID-19: A CROSSSECTIONAL STUDY IN UNIVERSITY CAMPUS KIRTIPUR, KATHMANDU

Dear Respondent,
This is completely a dissertation work and it does not carry any official record. The importance of this study depends on your valuable answer. Please answer the questions honestly. Your privacy will always be secured, and information you provide does not effect on it. For more details, do not hesitate to consult with the researcher Mr. Levi Gharti Chhetri (9841853869). Thanking you!

Section A: Personal Profile of the Respondents

0. Name: .....
1. Permanent Address: ☐ District..... ☐Metropolitan ☐Sub-metropolitan ☐Municipality ☐R/ Municipality

A_1: Demographic Profile

2. Your age :.....
3. Your sex group: ☐Female ☐Male ☐LGBTI (Lesbian, Gay, Bisexual, Transgender and intersex)
4. Are you currently? ☐Married ☐Living together as married ☐Divorced ☐Separated ☐Widowed ☐Single

A_2: Socio-cultural Status

5. Religion: ☐Hindu ☐Buddhist ☐Kirat ☐Christian ☐ Others , then please specify.....
6. Caste/ethnicity: ☐Brahmin ☐Chhetri ☐Janajati ☐ Dalit
7. Family system: ☐Joint family ☐Nuclear family Total family numbers:.....
8. Family well-being ranking: ☐High ☐Medium ☐Low ☐ Lowest

A_3: Economic Status

9. Family occupations: ☐Agriculture ☐Enterprises ☐Business ☐Govt. job ☐Private job ☐Remittance☐Other: .....
10. Land holding Khet: ☐≤1Ropani ☐ 2-5Ropani☐6-9 Ropani☐ ≥10Ropani
11. Bari: ☐≤1Ropani ☐ 2-5Ropani☐6-9 Ropani☐ ≥10Ropani
12. Family monthly income: ☐≤1,00,000 ☐1,00,000-1,99,000 ☐2,00,000-2,99,000 ☐ ≥3,00,000
13. Status of employment: ☐Full time student ☐Part-time job ☐ Looking for job opportunities

A_4: Educational Status and health

14. B.A Degree: ☐Arts ☐Management ☐Education ☐Law ☐ Public health ☐Pure science
15. Currently studying MA Degree: ☐Science and Technology: ☐Physics ☐Botany ☐Computer Science
☐Education: ☐Curriculum ☐Health Education ☐Game and Sports
☐Humanities and Social Sciences: ☐RD ☐English ☐Anthropology
16. Obtained GPA: BA: ☐A (4.0/Distinction) ☐A- (3.7/Very good) ☐B+ (3.3/First division)
☐B (3.0/Second division) ☐B- (2.7/Pass)
MA: ☐ A (4.0/Distinction) ☐A- (3.7/Very good) ☐B+ (3.3/First division)
☐B (3.0/Second division) ☐B- (2.7/Pass)
17. Coronavirus pandemic related information:

Did you stay in home quarantine	☐Yes ☐Not yet	Quarantined family members(FM):
Did you test PCR/Antigen tests	☐- ☐+ ☐Not tested	PCR/Antigen tested FM:
Did you suffer from COVID-19	☐Simply ☐Severely ☐Not affected	Severely affected FM:
Did you get vaccine	☐Yes ☐Not yet	Vaccinated FM:

1 | Page

STUDENTS' PERCEPTION OF ONLINE LEARNING DURING COVID-19: A CROSSSECTIONAL STUDY IN UNIVERSITY CAMPUS KIRTIPUR, KATHMANDU

A_5: Online related information

18. Online devices:

18.1 Use of social media: ☐Facebook ☐Instagram ☐Viber ☐Whatsapp
18.2 Use of online media: ☐Zoom cloud ☐Webex ☐Microsoft teams ☐Google Hangouts ☐Dialpad Meetings ☐True Conf Online ☐Skype ☐Facebook Live ☐YouTube Live

19. Online session:

19.1 Use of devices do you use for your online learning: ☐A laptop ☐Desktop ☐Tablet ☐Smartphone ☐Other devices
19.2 Frequency of attend online sessions? ☐All sessions everyday ☐Selected sessions everyday ☐All sessions once a week ☐Selected sessions once a week ☐All sessions > once a week ☐Selected sessions > once a week
19.3 Apart from online session, how often do you join online? ☐Several times a day ☐Twice a day ☐Once a day ☐ Several times each week ☐Once a week ☐Less often

Section B: Online Learning related Information

		Strongly agree	Agree	Neutral	Disagree	SD	NA
		5	4	3	2	1	0
Access of online learning							
20	I was familiar about online class						
21	I attend online meetings regularly						
22	I attend online training program regularly						
23	I attend online workshop regularly						
24	I attend online classes regularly						
Cognitive efforts of online learning							
25	I check class routine properly						
26	I attend every class on time						
27	I follow group message for class activities						
28	I collect shared reading materials						
29	I like to share my Ppt slides among peers						
Emotional efforts of online learning							
30	Positive towards teachers						
31	Positive towards administrative staffs						
32	Positive towards colleagues						
33	Positive towards peers groups						
34	Positive towards online learning						
Behavioral efforts of online learning							
35	I actively participate in online learning						
36	I give full attentions to online activities						
37	I like to hear/see PowerPoint						
38	I like to check group chat						

		Strongly agree	Agree	Neutral	Disagree	SD	NA
		5	4	3	2	1	0
39	I like to interact during class presentation						
Teachers' method of online learning							
40	Receptive or lecture						
41	Guided discovery or discussion						
42	Directives or programmed learning						
43	Provide sufficient reading materials						
44	Provide feedback/comments on time						
45	Applied digital learning method	☐Individual assignment ☐Small group work ☐Large group work ☐Project based learning ☐All of above					
46	Which of the digital approaches motivate you to learn	☐Animation ☐White board and pen ☐Ppt ☐Digital pen and slates					

Extrinsic motivation to learn online							
		Strongly agree	Agree	Neutral	Disagree	SD	NA
		5	4	3	2	1	0
47	Participating in group activities						
48	Improving presentation skills						
49	Learning technology related knowledge/skills						
50	Use of saving time in other activities						
51	Get ideas about freelance jobs						

Benefits of online learning							
		Strongly agree	Agree	Neutral	Disagree	SD	NA
		5	4	3	2	1	0
52	Flexibility (in/formally attend classes and courses from any places)						
53	Availability (reading materials/audio visual available 24/7)						
54	Cost effective (No need to pay transportation cost)						
55	Students control study time: lessons paused and read						
56	Easy to engage in both job and study						
Problems upon online learning							
57	Poor internet connection						
58	Electricity disturbance						
59	Detach from university environment						
60	Absence of physical interactions						
61	Weakness on eyesight						

Effectiveness of online learning

		Strongly agree	Agree	Neutral	Disagree	SD	NA
		5	4	3	2	1	0
62	Increased self-aware and informed						
63	Increased reading skills/Writing skills						
64	Becoming independent learner						
65	Becoming organizer (Able to plan, prioritize, and organize tasks and assignments)						
66	Becoming problem solver, resourceful and able to find solutions to questions						
67	Becoming active participant						
68	Time availability (Able to participate in the course along with other activities)						
69	Improved computer access/online skills						
70	Online teaching–learning takes place effectively because	☐Every student can hear the lecture clearly ☐PPTs are available right in front of every student ☐Students can ask doubts without much reservation ☐Students need not walk long distances before reaching the class					
71	Which of the following statements is true of online learning?	☐ No one disturbs me during my online learning ☐My friend/family member/roommate/neighbor occasionally disturb me ☐My friend/family member/roommate/neighbor constantly disturb me					
72	How satisfied are you with online classes?	☐Highly satisfied ☐Satisfied ☐Neutral ☐Dissatisfied ☐Highly dissatisfied					

Thank you for better cooperation!