Chapter I

INTRODUCTION

Background of the Study

Assigning Homework to the students is an all-important aspect of the mathematics instruction. Because it carries educational benefits for all age groups and students of different intelligent levels, including time management and organization. Oxford Learning Center (2016) states that homework provides students with the ability to think beyond what is taught in the class. In addition to this, students may develop their own approach to learning, while they are completing the homework in mathematics. Thus, homework can improve students' performance in mathematics learning.

However, Kohn (2006) asserts that there is not sufficient evidence for claiming that homework underwrites to academic achievement and that students' academic performance will not drop even if they are not given any homework. It seems that homework has both positive and negative effects on the achievement of students in mathematics learning. In fact, the excessive amount of homework in mathematics learning result in the frustration among the students and they are less active in their learning (Oxford Learning Center, 2016). However, there is notan exact rule about how to assign homework in mathematics learning. Because opinions and beliefs about the right amount of homework also fluctuateenormously.Walberg, Paschal and Weinstein (1985) claim that 'a little' homework may lead to more academic achievement than 'a lot' of homework does.

In the context of Nepal, teachers of mathematics assign homework to the students in order to engage them at home doing mathematics. NASA report 2017 stated that attitudes of students towards mathematics learning affect their performance in mathematics. Furthermore, Cooper (1989a) stated that there is a relationship between homework and academic achievement. Therefore, this research was aimed at identifying perceptions of students towards homework assignments in mathematics learning.

Statement of the Problem

It is a commonly accepted notion that homework can improve the students' performance in mathematics because it provides a range of drills in the problems and hence the contents of mathematics. However, there are not unique rules to assign the homework to the students in order to increase their performance in mathematics. It means that teachers of mathematics provide the homework to the students in their own without understanding the students. The homework is not specifically related to the curriculum of mathematics regarding to making the connection between the amount of home and allocated credit hours of the contents of mathematics. The work load of homework demotivates towards learning and hence students' achievement can start to slip (Oxford Learning Center, 2016). Hallam (2004) asserts that a certain amount of homework increases academic performance but 'more' of it will not cause any further increase. Furthermore, Cooper (1989a) stated that there is a relationship between homework and academic achievement. The perfect use of homework can have a positive impact on the performance of students in mathematics. However, the teachers of mathematics given a huge amount of homework to the students in mathematics learning without considering other aspects. It has made students less active in mathematics classroom. In this research, thus, the researcher intended to examine the following research questions:

- What was the perceptions of students towards Homework in mathematics learning?
- What are the factors that influence students' perceptions about doing homework in mathematics learning?

Objectives of the Study

The primary objective of this study was to explore the students' perceptions towards the homework in mathematics. This objective is stated in the following specific form:

- To identify the students' perceptions towards the homework in mathematics learning.
- To explore factors that influence students' perceptions about homework.

Significance of the Study

The findings of this study would be beneficial toindividuals who are interested in the pedagogy of mathematics. This research may also be useful to make homework less stressful

for the students. In this way, the result of this study will be helpful for mathematics teachers, schools, curriculum developers, planners, and other personnel allied to education in the following ways:

- Finding of this study may provide an important cue to mathematics teachers about students' perception towards the homework that can lead valuable insight into assigning the homework to the students in a systematics way. Consequently, the amount of homework is assigned to students in a less stressful way.
- This study might be all important to the school providing a clear way of how different students perceive the homework in mathematics learning and to encourage differentiated instructions for assigning homework to the students. Moreover, this study would provide information about not to use too much homework without assessing students' existing knowledge and experiences.
- This study could help researchers to uncover the critical areas related to mathematics instruction that many researchers are not able to explore.
- Apart from these, it would be useful to educational planners to conceptualize the strategy that makes homework as the best contributor for improving students' achievements in mathematics.

Delimitations of the Study

Delimitation draws the boundary of the research area in which the researcher conducts the study using different tools and research methods. This study had delimited in the following areas:

- This was a cross-sectional survey design having a group of 120 students those have been studying at grade 10 selected from Kathmandu Valley.
- This study was focused on the perceptions of students towards homework assignment rather than other aspects.
- The data collection process was completed within 45 days including the development of data collection tools, pilot study, and determination of reliability and validity of tools.

Definition of Key terms

Perception. Perception refers to the way of understanding and interpretation of the contents. It includes how students of grade 10 perceive the homework assignment in mathematics learning.

Homework. Homework refers to extra task given to the students in order to improve student learning in mathematics. It is also given to the students to make students busy at their home.

Chapter II

REVIEW OF THE RELATED LITERATURE AND THEORETICAL FRAMEWORK

The review of related literature refers to systematically identifying, locating, and analyzing documents pertaining to the issue which is planning to be studied (Gay, Mills & Airasian, 2012). Moreover, the review of the literature means critical analysis of related research articles. After depth and concise review of the literature, the researcher can identify the gap between the literature and adds the significance to the study. In addition, it helps the researcher to operationalize the new research approach by providing the general outline of the study and avoid the unnecessary duplication. This chapter presents the empirical review of the literature, the theoretical framework and conceptual framework.

Empirical Review

Burriss and Snead (2017) conducted a study entitled on "Middle School Students' Perceptions Regardingthe Motivation and Effectiveness of Homework" to understand students' perspectives on therole of homework. The researchers used survey design on a sample of 506 students of middle school. The result of this research shows that there were various reasons to complete homework among the students such as practice for getting a high score and avoid punishment. Furthermore, as a result, the study underscored that students had negative attitudes towards homework assignment and teachers as well as parents' motivation toward completing homework.

A study carried out by Tam and Chan (2016) entitled on "What Is Homework for? Hong Kong PrimarySchool Teachers' Homework Conceptions" aiming at how teachers thinkabout or perceive the nature and purpose of homework. They used a mixed method of study along with a survey questionnaire over 317 teachers and interview among 38 teachers in Hong Kong. The result of this study indicates that teachers focuses on a positive perspective towards the homework assignment for students because participants believed that it serves various academic and non-academic functions. However, the nature of homework such as drilling and non-drilling made tension among students.

Buchel (2016) studied on "English Homework: What Makes Sense?" to enhance the purpose of this article is to persuade English as a foreign language (EFL) teachers and teacher trainers that homework is indeed beneficial by presenting multiple examples of high-quality homework assignments, as Dettmers et al. (2010) found in mathematics. The research finding until conclusive evidence is found about when to start assigning homework and how much to give, perhaps the best thing teachers can do is to take a healthy look at their own practices and ask themselves if they are serving the needs of their learners and if their homework principles reflect good teaching principles.

Limin Gu (2015) conducted a study entitled on "Swedish Lower Secondary School Teachers' Perceptions and Experiences Regarding Homework" to investigates homework in Swedish lower secondary schools: teachers' perceptions and experiences about it and their understanding of its potentials and challenges for students' learning and development. the researcher used survey method and data collected from survey method to the sample is 201. The main result indicated that most teachers assign homework and believe it will benefit students' learning when it addresses consolidating and reinforcing knowledge already taught and increases skills through repetition. Further, the findings highlight the educational implications of critical reflections on the design of homework and the quality of homework assignments.

Flunger et al. (2015) examined the effort students put into homework. After acknowledging that most researchers look primarily at time spent on homework as the main indicator of a study, they examined the amount of effort put forth by eighth-grade students. Students were divided into five groups for the purpose of analysis, based on their responses to a Likert-scale questionnaire. Students were labeled as fast learners, high-effort learners, average students, struggling learners, and minimalists. These categories were based on time spent, completion, and effort on homework. Flunger et al. (2015) noted that time is often poorly estimated by students because they do not distinguish between active work and the time they say they dedicate. They found that effort was a better indicator of success than time spent on homework. Those students who put more effort into homework achieved better results than those who put in more time. In the Flunger et al. (2015) study, the time spent on homework showed that students who were struggling or who were easily distracted often reported spending more time on homework

Zuzanek (2009) analyzed student perceptions of time spent on homework and found that the attitudes students had about homework skew their reporting of how it negatively affects their ability to participate in other activities. Zuzanek stated that the results showed students' unstructured time (i.e. television watching, electronic gaming, and socializing) were more affected by homework. However, additional homework correlated to better grades. While students did not show a high interest in doing homework, they reported being more interested in homework than spending time in class.

Jackson (2007) suggested that research could not reveal the impact of homework. He stated that anecdotal evidence was powerful but did not translate into quantitative data. It was not possible to quantify nonacademic purposes such as developing good habits. By the time students reached secondary school age, they had accumulated many years of homework practice and begun to rebel against it. During the elementary and middle school years, students learned that teachers minimized homework because fewer students did it as they progressed through the grade levels. Homework became a punishment for teachers who had to plan separately for those

who finished and those who did not. When students began high school and homework affected achievement, they had amassed too many negative experiences with homework. According to Jackson (2007), well-designed homework played a significant role in secondary success, but he emphasized that early elementary homework should be carefully considered.

From the review of these literature, it seems clear that only few research focused on homework assigned to the students as means of reactivation of mathematics learning at beyond the school hours. However, the amount of homework to be given to the students in mathematics learning is vary from teacher to teacher. This variation and overload of homework in mathematics may hinge on achievement of students in mathematics (Oxford Learning Center, 2016). There is a relationship between homework and achievement in mathematics (Copper, 1989a). Furthermore, students' perceptions and achievement of students in mathematics are related to each other. However, there may not be investigated that how studentsperceive the Homework in mathematics learning, including time management for homework, approaches to homework and time spending on homework. Therefore, this study hasfocused on exploring perceptions of students towards the homework assignments in mathematics in the context of Nepal.

Theoretical Framework

One theoretical framework that taps into homework management is self-regulated learning (Zimmerman, 2008), particularly from the perspective of volitional control (Boekaerts & Corno, 2005). Volitional control is mainly concerned with issues of implementation (an implementation mindset) that occur after a goal is set, to protect the intention to pursue that goal in the face of an array of alluring distractions, enticing temptations, or competing personal strivings (Corno, 2004). Particularly, it is characterized by the self-regulation activities of purposive and persistent striving, including, for example, planning goals, setting priorities, budgeting time, coping with distractions, controlling motivation, and monitoring emotion (Boekaerts & Corno, 2005).

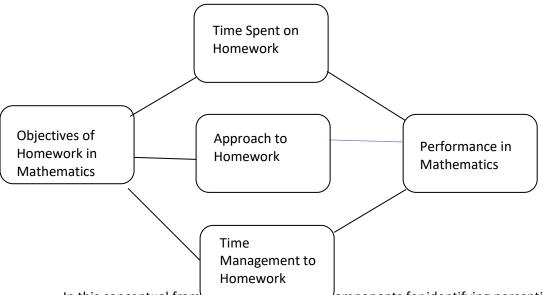
Volitional control is especially important to the task of homework management because goals of homework tasks are typically set by teachers; the main charge for students is to navigate the demands of doing homework (i.e., engaging purposively in maneuvers that effectively protect homework intention). They are asked to maintain the needed focus and effort to complete homework assignments, with less structure, supervision, social pressures, and time constraints than exist in the classroom (Wolters, 2003). They are required to independently manage homework, including organizing the study environment, allocating their time, preventing or minimizing homework distractions, maintaining or enhancing the strength of homework intention, and coping with negative emotions surrounding homework tasks (Corno, 2004).

Informed by Corno's model on volitional control, Xu and Corno (2003) developed five features of homework management, including arranging environment, managing time, focusing attention, monitoring motivation, and controlling emotion. These features of homework management constitute a set of skills that have often been assumed, yet rarely examined empirically (Cooper & Valentine, 2001). Taken together, these efforts to manage homework reflect an underlying self-regulation construct that has been independent of academic achievement and ability measures in other research (Stanford Aptitude Seminar, 2002).

Conceptual Framework

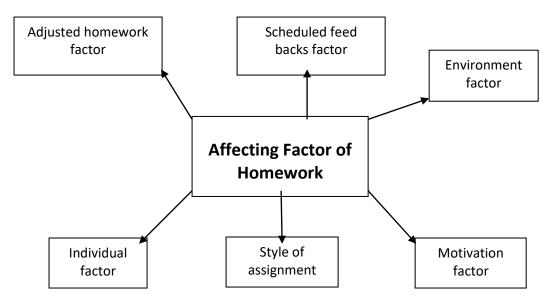
A conceptual framework refers to the connection of the research variables in the study as in compact form. The conceptual framework is developed based on the researcher's understanding about the research variable and research process using some aspects of the theoretical framework. It maps out the actions required in the course of the study given his

previous knowledge of other researchers' point of view and his observations on the subject of research (Regoniel, 2015). The conceptual framework "sets the stage" for the presentation of the particular research question that drives the investigation being reported based on the problem statement (McGaghie, Bordage & Shea, 2001). It is the narrow form of the theoretical framework by which study variables and circumstances of the study are presented in thediagrammatic form.



The researcher has developed the following conceptual framework:

In this conceptual fram _________omponents for identifying perceptions of students towards the homework assignment in mathematics learning. As it can be seen, a clearly specified plan specifying the objectives of the homework is related to three components directly including time management to homework, approaches to homework and time spent on homework. However, indirectly related with performance of students in mathematics. Time management to homework refers to the how students manage time for each task completion. Time spent on homework refers to both productive time and nonproductive time that students spend on doing mathematics homework. It is directly related with objectives of homework and performance of students in mathematics. Approaches to homework refer to what learning approach student prefer to complete the homework in mathematics. It also includes the learning preferences to learn more about mathematics during non-school hours. Performance in mathematics refers to overall achievement in mathematics that is measured by time series analysis.



The conceptual framework of the affecting factors of homework

In this conceptual framework, there are six components for identifying Affecting factors students perception towards homework. As the Aim of second objective of this study to find the motivational factors affecting student. perception towards homework these. Six factors were used to prepare the Google questionnaire schedule. These factors are tick by teacher of mathematics these factors are affecting students perceptions towards homework. Adjusted homework factor refers to teachers homework to their student in term of student level of intelligence and difficulty level of contents. Scheduled feedback refers to providing feedback to the student on regular basis. Environment factors refers to intrinsic nature of the work, but not necessarily to the surrounding circumstances or the environment. Style of assignments refers to many different types of assignments set at schooling mathematics. Individual skills refer to students skill such language reasoning and mathematics.

Chapter III

METHODS AND PROCEDURES

This chapter presents the design of the study which is adopted by the researcher for this research purpose, sample and population of the study, data collection tools and mechanism of their validity and reliability, data collection process and data analysis procedures. In addition to this data section, this chapter also includes ethical considerations that the researcher considers throughout the investigation as the last section.

Design of the Study

The researcher used survey design to complete this research. A survey is an instrument to collect data that describe one or more characteristics of a specific population (Gay et al, 2012). Survey can be used to answer the questions about the people's opinion on the exigent issues. Moreover, it can be used to gather information

about a group's beliefs, attitudes, behaviors, and demographic composition (Gay et al, 2012). There are different types of the survey design and, in this study, the researcher will use cross-sectional survey design. Cross-sectional survey design is a survey design in which the researcher collects data from a sample group of individuals at a single point in time. The researcher usedthe cross-sectional design of survey because the researcher's intention was to identify the students' perception towards the homework assignment, and it is effective for providing a snapshot of current behaviors, attitudes, understanding of the phenomena and belief of the population (Gay et al, 2012).

Sample and Population of the Study

The population of the study was the grade 10 students those studying mathematics under the national curriculum stream of Nepal in Kathmandu Valley. The sample of the study was a group of 120 students. Furthermore, 30 teachers of mathematics were also taken as the sample of the study and they were participated through google questionnaire. The sample of this study was drawn based on random sampling techniques from population of the study.

Sources of Data

The researcher usedboth primary and secondary sources of data in order to answer the research questions. A set of questionnaire and semi- structured interview were taken as primary sources of data. Moreover, the researcher visited the computer database such as Scribed, NCTM and Eric in order to organize the literature review and such piece of information was used as secondary sources.

Tools of Data collection

For the purpose of collecting primary data, the researcher used the questionnaire and semi-structured interview.

Questionnaire. The researcher used the questionnaire based on five point Liket's scale to identify the students' perceptions towards the Homework. More importantly, the researcher developed the questionnaire by modifying the two set of questionnaire developed by Huisman (2016) and Turanli (2009). The Questionnaire comprised30 items across the four dimensions of the questionnaire, after ensuring the validity and reliability and validity of the questionnaire. The distribution of items across each dimension of the questionnaire is presented in the following table I:

Dimensions	OHWM	TSMHM	ATMH	ТМТМН
Number of	9	6	11	4
Items				

Where, OHWM = Objective of Homework in mathematics

TSMHM = Time spend on mathematics Homework

ATMH = Approaches to Complete Homework in mathematics

TMTMH = Time Management in mathematics homework.

Semi-structured Interview. The researcher usedsemi-structured interview to explore more about student perceptions towards Homework in mathematics. The semi-structured interview was taken with ten students who participated in the survey. The semi-structured interview was comprised of 4 open ended questions, however, each item related to one dimension of the survey questionnaire.

Questionnaire for Teachers. The researcher developed the questionnaire using google questionnaire. This questionnaire consisted 6 items intended to identify factors that affects student perceptions towards Homework in mathematics. The reliability of this questionnaire was ensured by calculating Cronbach's Alpha. The reliability coefficient was 0.89 which was good with reference of the interpretation criteria of George and Mallary (2003). The validity of the questionnaire was ensured by subject experts. The researcher retained 6 items in this study.

Reliability and Validity of the tools

The researcher conducteda pilot study to a group of 20 students those represent the population but not included in the sample of the study. The researcher organized the data and performed SPSS 21.0. Then the calculated Cronbach's Alpha (the reliability coefficient) was 0.8. This reliability coefficient was very good with reference to the interpretation criteria provided by George and Mallery (2003, 231). It means that there was greater internal consistency of the items in the scale. The validity of the data collection tools was ensured by expert judgement.

Data Collection Procedures

The researcher visited the schools and requested the permission to conduct survey. For the purpose of rapport building teachers of mathematics and school principals, the researcher provideda general overview of the research project. After granting the permission from the teachers of mathematics and school principals, the researcher conducted the survey. During the distribution of the questionnaire to the students, the researcher provided general information about how to fill up the questionnaire. Moreover, the researcher helped the participant in language difficulty if they had in the questionnaire reading. The researcher administered the questionnaire among the 120 students into three phases. In the first phase, the researcher collected data from 35 students and in the second phase the researcher took 55 students and in the third phase, the researcher collected data from 30 students.

After collecting the questionnaire from the participants, the researcher started storage and analysis of the data obtained from the questionnaire. Then the researcher conducted a semi structured interview with 10 students who took the part of survey. More importantly, these interviewees were selected randomly from 120 sample of the study. The researcher then contacted to the teachers of mathematics where survey was conducted to take part of the study. The researcher collected the emails from the 30 teachers of mathematics to collect data. Then the researcher sent questionnaire to the teachers of mathematics and their response was accepted up to 12 days. After receiving the data from google mail the researcher used google analytical method to analyze the data. Then the final form of data wasstored and protected using a computer software.

Data Analysis and Interpretation Procedures

After collecting the data using a questionnaire and semi-structured interview, the researcher started the data analysis. The researcher calculatedmean and frequency of each item of the questionnaire assigned by the participants using SPSS 21.0. Moreover, the researcher used google analytical method to analyze the questionnaire data, collected from teacher. The data obtained from the semi-structured data were analysed using thematic

approach in which the researcher transcribed the data then generated the codes. After generating the nodes, the researcher generated the codes. Based on generated codes, the researcher made secondary themes and then based on secondary themes, the researcher developed the primary themes.

As far as the interpretation of the questionnaire data that is mean, SD, Percentage and frequency. The frequency of the data wasinterpreted based on the majority and mean was interpreted based on the interpretation criteria provided by Onwubuya E.A Nennam .M.G and Ugbaja M.O(2015).More specifically, The three-point Likert scale mean score of 0-1.5 is low indicates negative perception, 1.6-2.0 is high indicates a positive perception, 2.1-3.0 very higher indicates a positive perception

Ethical Consideration

In the research work, a number of ethical issues were considered to make data collection more standardization and conformity in writing the report of the study. In this survey design, the researcher considered the following ethical issues:

• The researcher had granted permission from the school principals and

institutions where the survey was going to be conducted.

- The researcher informed the participant if therewas necessary for recording filming or photographs.
- The researcher did not use the name of the institution without its permission.
- The researcher usedcomfortable language in the data collection process that is easily understandable to the participants and report writing.
- The researcher did neither fabricate the data nor falsify in the reporting.

Chapter IV

ANALYSIS AND INTERPRETATION OF DATA

This chapter encompasses the analysis and interpretation of the data collected.

The chapter is organized in terms of objectives and research questions stated in the

chapter I. For the purpose of analyzing the data obtained from the questionnaire, SPSS21.0 statistical analysis software was used setting 0.05 confidence level. More importantly, the mean and standard deviation of each item was interpreted with reference to the interpretation criteria provided by Onwubuya E.A Nennam .M.G and Ugbaja M.O(2015).

To analyze the interview data, the researcher used thematic approach. The interview data has added to each section of the questionnaire to enrich the information that

supplemented to draw the result of the study. For the purpose of analysis of obtained data, the researcher reduced the five-point Likert scale into three points. That is, Agree (Strongly Agree, Agree), Neutral and Disagree (Strongly Disagree, Disagree). Thus, the obtained data is analyzed in the following subheadings:

The objective of Homework in Mathematics

The objective of homework in mathematics intends to improve students' achievement in mathematics. There were 9 statements related to the objectives of mathematics learning and the place of homework in mathematics. Mean, SD and per cent (frequency) of each item are presented in Table II. The result of each item was derived based on the majority of the Onwubuya E.A,Nennam .M.G and Ugbaja M.O(2015). frequency and mean interpretation criteria provided byThus, the summary of the students' perceptions towards the objective of homework in mathematics is presented in the following Table II:

SN	Statements	Agree	Neutral	Disagree	Mean	SD	Results
		%	%	%			
1	The assigned	96.7	3.3	-	2.96	0.18	Positive
	homework is	(116)	(4)				
	usually helpful for						
	me to understand						
	the related topic.						
2	I usually find the	64.2	21.7	14.2	2.50	0.73	Positive
	assigned	(77)	(26)	(17)			
	homework						
	necessary for my						
	short term goals						
3	I usually find the	41.6	55.9	2.5	2.39	0.59	Positive
	assigned	(50)	(67)	(3)			
	homework useful						
	for my long term						
	goals.						
4	Our teacher/s	18.3	47.5	34.2	1.84	1.08	Positive
	usually assign/s	(22)	(57)	(41)			

Table II: Student Perceptions towards the objective of homework.

Statements	Agree	Neutral	Disagree	Mean	SD	Results
	%	%	%			
very difficult						
homework.						
My teacher	73.4	15.8	10.8	2.62	0.67	Positive
checks regularly	(88)	(19)	(13)			
if I have done the						
assigned						
homework						
I think it helps to	91.5	5	2.2	2.98	0.38	Positive
prepare for tests	(111)	(6)	(3)			
and improving						
performance						
I think it helps to	91.6	7.5	0.8	2.90	0.32	Positive
develop good	(110)	(9)	(1)			
learning						
techniques and						
working habits						
I think it helps to	72.5	19.2	8.4	2.64	0.63	Positive
provide	(87)	(23)	(10)			
opportunities and						
time to reflect on						
own learning						
Homework	60.8	25	14.2	2.47	0.72	Positive
challenges me to	(73)	(30)	(17)			
think.						
	very difficulthomework.My teacherchecks regularlyif I have done theassignedhomeworklomeworkI think it helps toprepare for testsand improvingperformancelearningtechniques andworking habitsI think it helps togerorideopportunities andworking habitsI think it helps tohomeworkho	very difficulthomework.My teacher73.4checks regularlyif I have done theassignedhomeworkI think it helps toprepare for tests(111)and improvingperformanceI think it helps to91.6develop good(110)learningtechniques andworking habitsI think it helps to92.5provide(87)opportunities andtime to reflect onown learningHomework60.8challenges me to(73)	NoteNotevery difficult1homework.1My teacher73.415.8checks regularly(88)(19)if I have done the88)19)assigned11homework11I think it helps to91.55prepare for tests(111)(6)and improving1(6)performance110)I think it helps to91.67.5develop good(110)(9)learning1(9)techniques and119.2provide(87)(23)opportunities and11time to reflect on11own learning60.825thomework60.825challenges me to(73)(30)	20 $3%$ $3%$ very difficult $$	% $%$ $%$ very difficult homework. 1 1 1 homework. 73.4 15.8 10.8 2.62 My teacher checks regularly if I have done the assigned homework (88) (19) (13) I think it helps to prepare for tests and improving performance 91.5 5 2.2 2.98 I think it helps to genformance 91.6 7.5 0.8 2.90 I think it helps to develop good techniques and working habits 91.6 7.5 0.8 2.90 I think it helps to performance 91.6 7.5 0.8 2.90 I think it helps to portunities and time to reflect on own learning 72.5 19.2 8.4 2.64 Homework 60.8 25 14.2 2.47	0 0 0 0 very difficult homework. 1 1 1 1 My teacher 73.4 15.8 10.8 2.62 0.67 checks regularly if I have done the assigned homework (88) (19) (13) 1 1 I think it helps to prepare for tests and improving performance 91.5 5 2.2 2.98 0.38 I think it helps to evelop good working habits 91.6 7.5 0.8 2.90 0.32 I think it helps to performance 91.6 7.5 0.8 2.90 0.32 I think it helps to portinities and working habits 72.5 19.2 8.4 2.64 0.63 I think it helps to portunities and time to reflect on own learning 72.5 19.2 8.4 2.64 0.63 I think it helps to rowide 72.5 19.2 8.4 2.64 0.63 I think it helps to rowide 72.5 19.2 8.4 2.64 0.63 I think it helps to rowide 72.5 19.2 8.4 2.64 0.63 I think it helps to rowide 72.5 19.2 8.4 2.64 0.63 I think it helps to rowide 72.5 19.2 8.4 2.64 0.63 I think it helps to rowide 72.5 19.2 8.4 2.64 0.63 I think it helps to rowide 72.5 14.2 2.47 0.72 I think it helps to row

Table II shows that students of mathematics, about 68 % ofthem, have positive perceptions towards Homework in mathematics. Moreover, nearly all the students mentioned that homework is useful to learn detail about the topics and problems. Majority of the students, about 91.6 % of them, mentioned that homework helps develop new techniques and habituate on doing mathematics. This figure is the same for their thinking that it supports for preparation of tests by improving performance.

Under half of the students, about 41% of them, mentioned that their teacher of mathematics did not assign complicated homework. However, more than half of the students did not say anything about it. Nearly three in four students believed that homework provides opportunities to learn more about mathematics and provides time to reflect on learning. More than half of the students thought that homework challenged them to think.

From the table II, it can be seen that the combined mean of the objective of homework in mathematicsis 2.02 which is higher than the averageobjective(Onwubuya E.A., NennamM.G. and Ugbaja M.O.(2015). The students seemed positive about the objective of homework in mathematics because they feel that the use of homework improves their overall performances and future success in the field of mathematics. In this regards, the researcher asked: *How does homework improve your final grade in mathematics*?

The respondents replied: homework provides the chances of correction at home and school and the same content were learned twice. Consequently, it had become easy to solve the problems in the examination. Practice on mathematics related problems also made students to be habituated to solve problems daily. They followed that practice makes the man competent.

The semi-structured interview discovered that Homework in mathematics improve the final grade in mathematics. It means that the use of ample homework succinctly increased students' performance in mathematics.

Time Spent on Mathematics Homework

Time spent on mathematics homework refers to the amount of time spending on doing mathematics at home. However, it is a relative term in this study, it refers to how much teacher assigns homework to be completed within the certain time frame and what does it teach students about learning mathematics in their own pace such as independent learning initiation. Several studies have researched the relationship between the amount of homework given to students and their academic achievement, but there is no consensus on the results.

There were 6 statements related to this section of the questionnaire. Mean, SD and per cent (frequency) of each item are presented in Table III. The result of each item was derived based on the majority of the frequency and mean interpretation criteria provided by the Onwubuya E.A., Nennam M.G. and Ugbaja M.O(2015).summary of the students' perceptions towards the time spent on Mathematics Homework is presented in the following Table III:

SN	Statements	Agree	Neutral	Disagree	Mean	SD	Results
		%	%	%			
1	Our teacher/s	31.6	37.5	30.8	2.00	0.79	Positive

Table III: Student Perceptions towards time spent on Homework.

	11 • /	(20)	(45)	(27)			
	usually assign/s	(38)	(45)	(37)			
	too much						
	homework.						
2	It is good to	54.1	23.3	22.6	2.37	0.81	Positive
	spend more	(65)	(28)	(27)			
	time in doing						
	mathematics						
	homework than						
	other subjects						
3	Time should be	60	23.3	16.7	2.43	0.80	Positive
	created for	(72)	(28)	(20)			
	students to						
	make up school						
	work during the						
	school day.						
4	Homework	75.8	15.8	8.3	2.59	0.63	Positive
	teaches	(91)	(19)	(10)			
	students						
	responsibility						
5	The amount of	44.1	41.7	14.2	2.30	0.753	Positive
	homework	(53)	(50)	(17)			
	inundates in						
	mathematics						
	each day.						
6.	On average, how	much tim	ne do you sj	pend a night of	on homev	vork?	I
	• I don't do	o homewo	rk				
	• Less than	1 hour a	night				
	• 1-2 hours	a night					
	• 2-3 hours						
	• I do 3 hou		e a night				
			U				

Table III shows that students of mathematics, about 53.12 %of them, have positive perceptions towards Homework in mathematics. Moreover, the majority of the students,

about 75.8 % of them, mentioned that homework teaches them responsibility in learning.Nearly, 82 % of students spent more than two hours a night doing mathematics homework, however, only 31.6 % mentioned that their teachers gave too much Homework. Furthermore, they believed that the amount of homework in mathematics has been increased day by day.

More than half of the students thought that it was good to spend more time in doing mathematics homework rather than other subjects and 60 % of students expected to be a time-space to complete homework at school periphery. In these circumstances the researcher asked students: *Do you think much time spend on homework really improves your grades?*

The students replied: students thought that homework demands productive time and students need to spend time accordingly because of mathematics Homework. By nature, a teacher of mathematics generated an arduous task for students which took too much time. So productive time spending on mathematics associated with final grade in mathematics.

It seems clear that doing mathematics as the form of homework may positively related to students' final grades. Keith, Diamond-Hallam and Fine(2004) found that students who spent more time doing homework achieved at a higher level than those who spent less time. However, Kitsantas, Cheema and Ware (2011) stated that more frequent, shorter assignments are more effective than less frequent, longer assignments, which is related to the concept that students' motivation decreases the longer they spend on an assignment.

Approaches to Complete Mathematics Homework

Approaches to complete mathematics homework is the preference of doing homework at home, either by the help of their parents, tutors or on their own. Homework, based on the definition, is completed outside of school. Therefore, teachers cannot help students with various issues arising during homework and students approach several methods to complete it in time. Instead, often the only adults available to help students are their parents. There has been a wide range of research related to parental involvement and homework.

There were 11 items related to this section of the questionnaire. Mean, SD and per cent (frequency) of each item are presented in TableIV. The result of each item was derived based on the majority of the frequency and mean interpretation criteria provided by Onwubuya E.A., Nennam .M.G and Ugbaja M.O(2015).Thus, the summary of the students' perceptions towards approaches to complete mathematics homework is presented in the following Table IV:

SN	Statements	Agree	Neutral	Disagree	Mean	SD	Results
		%	%	%			
1	I usually find	57.4	30	12.5	2.45	0.49	Positive
	homework assignments	(69)	(36)	(15)			
	interesting.						
2	I usually get help from	51.7	26.7	21.7	2.30	0.80	Positive
	my family members to	(62)	(32)	(26)			
	do the						
	mathematicshomework.						
3	I have enough	54.2	27.5	18.4	2.36	0.77	Positive
	resources/books to use	(65)	(33)	(22)			
	for my homework						
4	My teacher usually	87.5	6.7	5.8	2.82	0.52	Positive
	helps us correct my	(105)	(8)	(7)			
	mistakes						
5	I do Homework for	71.6	24.2	4.2	2.67	0.45	Positive
	practicing skills	(86)	(29)	(5)			
	through repetition						
6	An incomplete	26.6	37.5	35.9	1.90	1.12	Positive
	assignment should be a	(32)	(45)	(43)			
	zero.						
7	Homework is difficult	26.7	35	38.3	1.83	0.87	Positive
	for me to complete	(32)	(42)	(46)			
8	Homework is a way for	22.5	17.5	60	1.62	0.82	Positive
	me to raise my grade if	(27)	(21)	(72)			
	I have low test scores						
9	My teachers accept late	48.3	32.5	19.2	2.29	0.77	Positive
	homework without	(58)	(39)	(23)			
	giving a penalty						
10	My parents encourage	78.3	18.3	3.3	2.90	0.92	Positive
	me to do my homework	(94)	(22)	(4)			
11	I have problems getting	35.6	40	24.2	2.12	0.76	Positive

Table IV: Student's Perceptions towards Approaches to complete mathematics Homework.

SN	Statements	Agree	Neutral	Disagree	Mean	SD	Results
		%	%	%			
	started with my	(43)	(48)	(29)			
	homework						

Table IV shows that students of mathematics, more than half of the students, 53.01 % about of them, have positive perceptions towards different approaches of doing homework at the outside of school. Moreover, the majority of the students, about 87.5 % of them, mentioned that their teachers usually help them correct their mistakes. Nearly, 71.6 % of students did Homework for practising skills through repetition.

However, only 35.6 % mentioned that they feel difficulty in starting to do mathematics homework on their own, nearly one in four students did not complete by themselves. More importantly, more than half of the students were interesting in doing mathematics homework. The same figure for the students those ask ancillary support in their homework. In such regards, the researcher asked: *How do your family members support you in the completion of homework?*The students reacted

The parents are concerned with their children's Homework. Some parents hired private tutors for their children, especially supporting mathematics Homework. Some parents directly involved their children's homework and other mathematics learning.

It seems clear that some parents offer little to no assistance for students at home. Other parents provide far too much parental assistance going as far as completing their students' homework for them. This was also supported by Corno and Xu (2004).Parental involvement varies from student to student and, it is clear that such support has different results. Moreover, Corno and Xu (2004)avowed that both of these scenarios can negatively influence a student's academic performance.

Time Management to Mathematics Homework

Time management refers to how students give more time to work on priority subjects at their home. There were 4 statements related to this section of the questionnaire. Mean, SD and per cent (frequency) of each item are presented in TableV. The result of each item was derived based on the majority of the frequency and mean interpretation criteria provided by Onwubuya E.A, Nennam M.G and Ugbaja M.O(2015). Thus, the summary of the students' perceptions of time management is presented in the following Table V

SN	Statements	Agree	Neutral	Disagree	Mean	SD	Results
		%	%	%			
1	I usually	30.8	23.3	45.8	1.85	0.88	Positive
	cannot have	(37)	(28)	(55)			
	time to play						
	games due to						
	mathematics						
	homework.						
2	The due time to	55	34.2	10.8	2.44	0.50	Positive
	submit the	(66)	(41)	(13)			
	assigned						
	homework is						
	usually enough						
	to do it						
	properly						
3	I think it helps	74.1	19.2	6.6	2.57	0.59	Positive
	to improve	(89)	(23)	(8)			
	students'						
	abilities in time						
	management						
	and performing						
	tasks more						
	efficiently						
4	I feel difficulty	50.9	21.7	26.5	2.23	0.85	Positive
	regarding doing	(61)	(26)	(33)			
	mathematics						
	homework and						
	time						

Table V: Student Perceptions towards Time Management

management.						
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Table V shows that students of mathematics, about 53 % of them, have positive perceptions towards time management to the homework. Moreover, the majority of the students, about 74.1 % of them, mentioned that homework helps them to improve their abilities in time management and performing tasks more efficiently. A perfect half of the students felt difficulty regarding dong mathematics homework and time management. However, nearly 46 % of students disagree that they did not have time to play games or other recreational activities during off-school time.

In this regards, the researcher asked: *Is it difficult to manage time for mathematics Homework? How?*The students replied: *Homeworkhave due time to submit and however, it would become difficult when other subject teachers also assigned too much homework. At that time, students felt awkward to segregate time to mathematics homework.*

It seems clear that students manage time for mathematics awkwardly due to the flow of homework in other subjects.

Factors Affecting students' perception towardsHomework

Student perceptions towards Homeworkcan be influenced by different factors such as types of homework and home environment where students complete their homework. The researcher had identified six factors that influence student's perceptions towards Homework in mathematics. These are discussed below:

Adjusted homework factors. Adjusted homework refers to teachers assign homework to their students in terms of students' level of intelligence and difficulty level of contents. It means that each student has their own amount of Homework in mathematics.

Scheduled feedback factors. Scheduled feedback refers to providing feedback to the students on regular basis. When looking at the factor of feedback, students, in general, say that teachers are discussing, collecting, checking, or grading their homework

Environmental factors. The factor of the environment indicates a mathematics learning environment outside of school climate. It refers to the place where they complete their homework.

Motivation Factors. Motivational factors are intrinsic nature of the work, but not necessarily to the surrounding circumstances or the environment. Motivating factors include achievement, advancement, autonomy, personal growth, recognition, responsibility, and work itself.

Style of Assignments. There are many different types of assignments set at schooling mathematics. They may be short or long. However, their proper use in mathematics is supposed as advantageous.

Individual Skills. Individual skills refer to students' skills such as language, reasoning and mathematics. In order to complete the mathematicshomework, students need mastering over these skills.

The researcher used google questionnaire to collect data from the teacher of mathematics to identify factors affecting student perceptions towards homework in mathematics. Per cent of each item is presented in TableVI assigned by teachers of mathematics. The result of each item was derived based on percentage. Thus, the summary of the teachers' opinion about these factors is presented in the following Table VI:

SN	Factors	Not Serious	Serious	Most Serious
		%	%	%
1	Adjusted Homework	20 (6)	20 (6)	60 (18)
2	Scheduled Feedback	26.66 (8)	20 (6)	53.34 (16)
3	The environment of homework completion	6.66 (2)	53.34 (16)	40 (12)
4	Motivation		13.34 (4)	86.66 (26)
5	Style of Assignments	33.34 (10)	60 (18)	6.66 (2)
6	Individual skills: language, reasoning and mathematics.	36.66 (11)	33.34 (10)	30 (9)

Table VI: Factors affecting student perceptions towards homework.

Table VI shows the adjusted Homework factors significantly influence the student perceptions towards mathematics homework. Moreover, motivational factors highly affecteddoing homework in mathematics learning. Scheduled feedback and individual skills such as language, reasoning and mathematics have equally influence on students' perceptions towards the Homework.

Thus, from this analysis, it seems clear that there were six factors that significantly affect student perceptions towards Homework in mathematics. These factors were individual skills of language, math, and reasoning along with motivation, quality of the assignment, teacher feedback, and the environment in which homework is completed.

Chapter V

SUMMARY, FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

This chapter conveys the summary and findings of the study, conclusion and

implication of the study based on the analysis and interpretation of data in previous

Chapter IV. Then finally the recommendation for future research areas are presented.

Summary and Findings

This is a cross-sectional survey design intended to identify how students perceive homework in their mathematics learning. This study was completed within Kathmandu Valley taking 120 students of grade 10. The sample of the study was selected based on random sampling techniques. The researcher developed the questionnaire and semistructured interview schedule to collect relevant data from the sample of the study. The researcher piloted the questionnaire and semi-structured interview at the beginning of the survey and, then the researcher calculated the reliability and validity of the data collection tools.

The researcher administered the questionnaire among the 120 students into three phases. In the firstphase, the researcher collected data from 35 students and in the second phase the researcher took 55 students and in the third phase, the researcher collected data from 30 students. After collecting data from two types of questionnaire, the researcher stored the data. Then the researcher used computer software in order to keep the data secret and safe. The questionnaire data were coded and then decoded using computer software, and the researcher performed the SPSS 21.0 statistical package. More specifically, the researcher used SPSS 21.0 to calculate the mean, standard deviation, and frequency of each item assigned by students of grade 10.

After the analysis of the questionnaire, the researcher conducted the semistructured interview among 10 students who took the part of surveys. The interview questions were related to each dimension of the questionnaire. More importantly, the researcher recorded the interview using the mobile recording. After conducting the interview, the researcher transcribed data. Then the researcher used Thematic approach to analyze the data in which the researcher generated the secondary theme based on transcription of interview data. The primary theme was generated based on secondary theme.

The researcher then used google questionnaire to identify the factors that influence student perceptions towards Homework in mathematics. Thirty teachers of mathematics where survey was completed were participated through email. The analysis of the data obtained from google mail was developed based on google analytical methods. Specially, the researcher used per cent of each items assigned by teachers of mathematics. The researcher analyzed the interview data together with the questionnaire data.

Based on the data analysis performed in chapter IV, the researcher found out the following findings:

• Student perceived Homework in mathematics positively. More specifically,

students had positive perceptions towards the objective of homework in

mathematics, time spent on mathematics homework, approaches to complete mathematics homework and time management to mathematics homework.

- Students understood that assignments in mathematics were useful to them to understand the related topic.
- Homework in mathematics had helped to develop good learning techniques and working habits.
- Students could find opportunities to learn more mathematics and time to reflect on own learning through Homework in mathematics.
- Nearly, 82 % of students spent more than two hours a night doing mathematics homework, however, only 31.6 % mentioned that their teachers gave too much Homework.
- It was found the teachers of mathematics helped students correct their mistakes in homework and did not give too much complicated homework, however, the amount of assignments in mathematics is increasing.
- Students used repetition of solving approach to complete homework.
- Some of the students were encouraged to do more mathematics at home because it improves their ability in time management.
- There were six factors: individual skills of language, math, and reasoning along with motivation, quality of the assignment, teacher feedback, and the environment in which homework is completed, affecting student perceptions towards Homework in mathematics.
- Motivational factors and adjusted homework factors influenced student perceptions towards Homework in mathematics.

Conclusion

It is a common notion that assigning homework to the students improves their performance in mathematics learning because it provides an ample opportunity to the

students to practice mathematical problems, which demand a lot of practice to master over it. However, there is no cogent way to assign homework to the students to boost their performance and hence perceptions towards mathematics learning at the schooling.

Students did recognize the purpose and benefits of homework in mathematics learning and acknowledged as motivational factors to complete homework. More importantly, students would like to solve mathematics related problem at their home as well. The students expect to rectify their Homework from their teachers or tutors and provide feedback on their performance.

In homework, students have followed repetition of practice in order to master these contents. Furthermore, homework makes them competent in any exams. Consequently, homework contributed to final grade of students in mathematics achievement. This is also supported by Huisman (2016). Furthermore, Huisman (2016) stated that poor homework completion currently results in lower grades for many students. Thus use of homework in mathematics learning increases students' achievement in mathematics.

There are six primary factors individual skills of language, math, and reasoning along with motivation, quality of the assignment, teacher feedback, and the environment in which homework is completed, affecting student perceptions towards Homework in mathematicsthat influence the student perceptions towards Homework in mathematics. More importantly, motivation and adjusted Homework in mathematics has leading role to change student perceptions towards doing homework in time and productive way.

It is affirmed that use of Homework in mathematics has largely contributed to overall achievement of students in mathematics. So it is necessary to use aptly in mathematics on the regular basis using differentiated instructions. Furthermore, homework in mathematics provides bottomless opportunities to learn mathematics in the trial and error approach. Parental involvement in mathematics Homework also advantageous, it provides them to learn their children' progress in mathematics. Thus, it can be drawn that use of homework in mathematics can be advantages to student to learn more mathematics and up rise their confidence, creativity and novel problem solving and reasoning skills.

Implications of the Research

The results of this study may lead valuable insight into the improving the national achievement of the students in mathematics and giving the worth in applying the active learning for mathematics in the classroom. The result of this study has a wide range of application from curriculum designer to the actual practiser of mathematics. Based on the findings and conclusion of the study, the following are the significant implication:

• The national curriculum of mathematics should be amended based on the

assumption of use of homework in mathematics learning. Moreover, there should be focused on differentiated instructions regarding Homework in mathematics.

- The teachers should be encouraged to perfect amount of Homework in different topics on mathematics and with reference to students present and past progress and state of knowledge through on job training package and other disseminated seminars.
- The technology should be used in mathematics widely. The technology makes easy to assign homework in mathematics, and teachers of mathematics must use technology based homework assignments submission and check with instant feedback.
- Students should be encouraged to participate in a range of group and individual learning activities that are practiced in class and out of the classroom. So that they could engage mathematics learning at home.

Recommendation for Future Research

Results of this study indicate that students have positive perceptions towards Homework in mathematics. The following recommendations are identified for future research regarding homework in mathematics:

- It has been recommended to conduct research into the impact of eliminating homework grades. Vatterott(2011) suggested that homework should not be included in grading practices.
- It recommended that conduct large scale, longitudinal research on homework effectiveness. Thissuggestion was also made by Cooper et al. (2006).
- The another study can be conducted using qualitative research to examine teacher, parent, and student perspectives of Homeworkeffectiveness and purpose.
- The researcher could conduct an experimental study with teachers giving the experimental group specific training in homework design and its supply among students of diverse backgrounds, and compare student outcomes at the end of the study.
- It recommended to conduct a quantitative study among schools that do not assign homework regarding mathematics instructions and schools that do assign homework in mathematics. Standardized test scores could be analyzed to determine the impact of homework effectiveness.
- The research further research could be conducted an experimental study in which teachers provide students with homework options in mathematics.
- The research further researcher could be carried out a qualitative or quantitative study to examine the perceptions of parents of students in

different grade levels on the impact of homework in overall performance in mathematics.

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Appendix A

Survey Questionnaire

Name.....

Dear students,

This is not a test of mathematics, but a questionnaire for which you have all the answers.

Instructions

- Please read the statements carefully.
- Tick ($\sqrt{}$) which you prefer the most.

SN	Statements	Strongly	Agree	Neutral	Disagree	Strongly
		Agree				Disagree
1	The assigned homework is					
	usually helpful for me to					
	understand the related topic.					
2	I usually find the assigned					
	homework necessary for my					
	short term goals					
3	I usually find the assigned					
	homework useful for my					
	long term goals.					
4	I usually find the homework					
	assignments interesting.					
5	Our teacher/s usually assign/s					
	too much homework.					
6	Our teacher/s usually assign/s					
	very difficult homework.					

SN	Statements	Strongly	Agree	Neutral	Disagree	Strongly
		Agree				Disagree
7	I usually cannot have time to					
	play games due to					
	mathematics homework.					
8	The due time to submit the					
	assigned homework is					
	usually enough to do it					
	properly					
9	I usually get help from my					
	family members to do					
	mathematics homework.					
10	I have enough					
	resources/books to use for					
	my homework					
11	My teacher checks regularly					
	if I have done the assigned					
	homework.					
12	My teacher usually helps us					
	correct my mistakes.					
13	It is good to spend more time					
	in doing mathematics					
	homework than other					
	subjects.					
14	I do Homework for					
				l	l	

SN	Statements	Strongly	Agree	Neutral	Disagree	Strongly
		Agree				Disagree
	practicing skills through					
	repetition					
15	I think it helps to prepare for					
	tests and improving					
	performance					
16	I think it helps to develop					
	good learning techniques and					
	working habits					
17	I think it helps to provide					
	opportunities and time to					
	reflect on own learning					
18	I think it helps to improve					
	students' abilities in time					
	management and performing					
	tasks more efficiently					
19	An incomplete assignment					
	should be a zero.					
20	Time should be created for					
	students to make up school					
	work during the school					
	day.					
21	Homework is difficult for me					
	to complete					

SN	Statements	Strongly	Agree	Neutral	Disagree	Strongly
		Agree				Disagree
22	Homework is a way for me					
	to raise my grade if I have					
	low test scores.					
23	My teachers accept late					
	homework without giving a					
	penalty					
24	Homework challenges me to					
	think.					
25	Homework teaches students					
	responsibility					
26	My parents encourage me to					
	do my homework.					
27	I have problems getting					
	started with my homework.					
28	The amount of homework					
	inundates in mathematics					
	each day.					
29	I feel difficulty regarding					
	doing mathematics					
	homework and time					
	management.					

30. On average, how much time do you spend a night on homework?

- I don't do homework
- Less than 1 hour a night

- 1-2 hours a night
- 2-3 hours a night
- I do 3 hours or more a night

Appendix B

Survey Questionnaire: Teacher's Edition

SN	Factors	Not Serious	Serious	Most Serious
1	Adjusted Homework			
2	Scheduled Feedback			
3	The environment of			
	homework completion			
4	Motivation			
5	Style of Assignments			
6	Individual skills:			
	language, reasoning and			
	mathematics.			

Appendix C

Semi Structured Interview

- How does homework improve your final grade in mathematics?
- Do you think much time spend on homework really improves your grades?
- How do your family members support you in the completion of homework?
- Is it difficult to manage time for mathematics Homework? How?