MOTIVATIONAL SKILLS USED BY TEACHER IN TEACHING MATHEMATICS AT PRIMARY LEVEL

A

THESIS

BY

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By

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LETTER CERTIFICATE

This is to certify that Mr. Gokarna Sharma a student of academic year 2069/70 with exam Roll No. 281586 (2070), Campus Roll No. 2382/069 and T.U. Registration No. 9--2-239-214-2007 has completed this thesis under my supervision, during the period prescribed by the rules and regulations of Tribhuvan University, Nepal. The thesis entitled "*A Study on Motivational skills used by Mathematics Teachers at primary Level*" embodies the result of his investigation conducted during the period of August 2014 to April 2015 under the Department of Mathematics Education, University Campus, Tribhuvan University, Kirtipur, and Kathmandu. I recommend and forward that his thesis be submitted for the evaluation as the partial requirements to award the degree of Master of Education.

.....……	.....
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Date: ..... Gokarna Sharma

ABSTRACT

This is a survey research related to motivational skills used by mathematics teachers at primary level. The objectives of this study were to find out the current status of motivational skills used by mathematics teachers, and second objective to find out the ways of using motivational skills used by mathematics teacher and also last objective of this research to compare the motivational skills between female mathematical teachers and male mathematics teachers in teaching mathematics in public and private school in chitwan at primary level. Direct survey method was followed to collect the data and Gluford's five point numerical rating scale was followed to quantify the collected data. 20 mathematics teachers were selected as the sample by stratified random sampling method. Classroom observation form and research interview schedule and also open ended question were used as the tools of the study. The researcher followed quantitative as well as qualitative descriptive approach to analyze the data. Mean, variance and two tailed t-test at 0.05 level of significance were applied as the data analysis process.

Researcher used quantitative descriptive method was used from classroom observation form of this objective was satisfactory. And also researcher find the, ways of using motivational skills used by mathematics teachers were different ways by help of (revision the last lesson, well classroom management, used of modern teaching method, used of instructional materials, used of reward and punishment, used of jock, used of music etc.). Furthermore researcher find there was a significant different between the female and male mathematics teachers using motivational skills in teaching mathematics at primary level in public. And researcher conclude that female teachers are more active than male teachers at primary level.

TABLE OF CONTENTS

ABBREVIATIONS

CERID - Research Centre for Educational Innovation and Development

DEO - District Education Office

Etc. - Etcetera

HPE - Health Population Education

NESP - National Education System Plan

No. - Number

OCE - Office of the Controller of Examination

SLC - School Leaving Certificate

T. U. - Tribhuvan University

S. N. - Serial Number

Chapter I

INTRODUCTION

Background of the Study

Mathematics as we know of it today is science of numbers and their operations, interrelations and combination of space configuration and their structure measure etc. mathematics has been accepted as an important component of formal education from ancient period to the present day. Now a day every human discipline is interpreted in mathematical models. Therefore there is a definite need of mathematics to the every body's daily life and also for the base of further studies. In the field of education of school level, the whole achievement of a student's significantly depends upon his /her mathematical achievement. And motivation plays an important role in mathematical achievement of any students. Some aspects of motivation are discussed below.

Motivation

Motive is the root word of motivation. And according to oxford advance learner's dictionary motive means "that which causes somebody to act in a particular way" further the free encyclopedia explains "motivation is a word used to refer to the reason or reason for engaging in a particular behavior especially human behavior as studies in psychology" there reasons may included basic need such as food or a desired objective, goal state of being, ideal or hobbies etc.

The famous word was started from ancient Latin word "mover" which mean "to move" or to active. This mean which initiates a person to move or to active toward some need is called motivation. What is the meaning of motivation? There are many view of different psychologist about it such as " motivation is a process in which the learner's internal emerging or need are directed towards various goal

objects in his environment" (Blair et al. cited in Regmi, 2007). Whereas "motivation is the process of arousing an action sustaining the activity in process and regulating the pattern of activity" (Young, 1988)

Further "anything that initiates activity whether internal or external is motivation (Munn cited in Regmi, 2007) where as Good (1966) writes "motivation is the process of arousing sustaining and regulating activity on the basis of above definition. It is know that motivation is an energy which encourages an individual to demonstrate certain behavior.

Motivation is a psychological feature that arouses an organism to act towards a desired goal and elicits, controls, and sustains certain goal-directed behaviors. It can be considered a driving force; a psychological one that compels or reinforces an action toward a desired goal. For example, hunger is a motivation that elicits a desire to eat. Motivation is the purpose or psychological cause of an action. Motivation has been shown to have roots in physiological, behavioral, cognitive, and social areas. Motivation may be rooted in a basic impulse to optimize well-being, minimize physical pain and maximize pleasure. It can also originate from specific physical needs such as eating, sleeping or resting, and sex. Motivation is an inner drive to behave or act in a certain manner. "It's the difference between waking up before dawn to pound the pavement and lazing around the house all day." These inner conditions such as wishes, desires, goals, activate to move in a particular direction in behavior.

Types of Motivation

Motivation can be divided into two types: intrinsic (internal) motivation and extrinsic (external) motivation. Intrinsic motivation refers to motivation that is driven by an interest or enjoyment in the task itself, and exists within the individual

rather than relying on external pressures or a desire for reward. Intrinsic motivation has been studied since the early 1970s. Students who are intrinsically motivated are more likely to engage in the task willingly as well as work to improve their skills, which will increase their capabilities. Students are likely to be intrinsically motivated if they:

- Attribute their educational results to factors under their own control, also known as autonomy.
- Believe they have the skills to be effective agents in reaching their desired goals, also known as self-efficacy beliefs.
- Are interested in mastering a topic, not just in achieving good grades.

Extrinsic motivation refers to the performance of an activity in order to attain an outcome, whether or not that activity is also intrinsically motivated. Extrinsic motivation comes from outside of the individual. Common extrinsic motivations are rewards (for example money or grades) for showing the desired behavior, and the threat of punishment following misbehavior. Competition is in an extrinsic motivator because it encourages the performer to win and to beat others, not simply to enjoy the intrinsic rewards of the activity. A cheering crowd and the desire to win a trophy are also extrinsic incentives.

Social psychological research has indicated that extrinsic rewards can lead too over justification and a subsequent reduction in intrinsic motivation. In one study demonstrating this effect, children who expected to be (and were) rewarded with a ribbon and a gold star for drawing pictures spent less time playing with the drawing materials in subsequent observations than children who were assigned to an unexpected reward condition. While the provision of extrinsic rewards might reduce the desirability of an activity, the use of extrinsic constraints, such as the

threat of punishment, against performing an activity has actually been found to increase one's intrinsic interest in that activity. In one study, when children were given mild threats against playing with an attractive toy, it was found that the threat actually served to increase the child's interest in the toy, which was previously undesirable to the child in the absence of threat.

Alternative strategies for addressing the value aspect of motivation involving taking advantage of students' existing intrinsic motivation by emphasizing topics they find interesting and tasks they find enjoyable. For example, students usually enjoy responding actively rather than merely listening; situations that invite thought by posing divergent questions; and activities with game-like features, such as puzzles and brainteasers. Moreover, although use of these strategies may increase students' enjoyment of a lesson, it does not directly stimulate their motivation to learn what the lesson is designed to teach. Motivation to learn includes the students' tendency to find mathematical activities meaningful and worthwhile, to try to get intended learning benefits by attempting to make sense of the activities, to relate the new knowledge or skills they are developing to their prior knowledge or skills, and to think about how they can apply the mathematics they are learning. Teachers create motivation to learn by modeling it in their own discourse, communicating their expectations for success, assuming that their students are already motivated to learn, and molding their class into a coherent learning community. When teaching particular lessons or providing learning activities, teachers can spur students' motivation to learn by communicating enthusiasm for the content, stimulating curiosity or suspense, personalizing the content to make it more concrete or familiar, introducing it in ways that stimulate interest or an appreciation for its value, engaging the students

in authentic applications of the content, and helping them to remain goal oriented and attuned to strategies as they work on applications. (NRC, 2001, p. 339-341)

Motivation and learning Mathematics

Commonly, motivation has been used in all types of learning. In the sense of learning mathematics motivation has been frequently used in mathematics education. Motivation helps to create value and attitude towards some specific subject. The good motivation helps to create the good value about mathematics consequently it leads to higher achievement in learning mathematics But motivation for learning mathematics is very difficult.

"Instructional efforts that leads to positive learning outcomes do not always produce sustained motivation and conversely. Instructional efforts to boost motivation of subject without simultaneous their learning processer or competencies do not always produce sustained achievement" (Zimmerman and schank, 2004, p.323).

Motivation always stimulates the learner to achieve the specific goal. Both intrinsic and extrinsic motivation guides the learner about subject matter, Self interest, self identity, self belief, self attitude affected by motivation.

Sociological approach, Marxist approach and Maslow's approach guides about the role of motivation and learning mathematics. For social status, to earn money by good occupation and for good satisfaction learner select subject on their sensitive age. The writer experienced revels that, first the student told their teacher about the importance of subject and its place then creates its value and belief. If the position of motivation is good and the place of subject is good then the learner interested towards learning mathematics. Thus the teacher should be motivating the students to learn mathematics by showing different sociological and maxist

motives. Most of the researchers eg. Salovey & Mayer (1990), Printrich (2004) viewed that the positive emotion and intelligence can produce by using intrinsic and extrinsic motivation. The good emotion produce good cognition and good attitude consequently the achievement in mathematics learning is better. Thus the teacher does not neglect the role emotion & role of emotion in the classroom of mathematics learning. The teacher should try to establish the positive relation between emotion and motivation for learning mathematics. They should care about the level and emotional desire in the period of learning mathematics. So mathematics teacher always careful about what is the interest of student.

Mathematics Teachers, Classroom, and Motivation

Students who have a relatively strong motivation to study but who also have many and/or absorbing extracurricular interests may in fact spend less time learning (in class during lesson and at home in their study) than other students who are less motivated but who have fewer competing motivational interests. Motivational researchers and practitioners need to devote more attention to this important insight. The amount of time spent studying can be increased by enhancing the motivation to study and by decreasing the number and strength of competing motivational tendencies. Many students do not have enough time to learn because they have too many other interests (Hasen).

Ways of Fostering Motivation to Learn in the School Setting

Although students' motivational histories accompany them into each new classroom setting, it is essential for teachers to view themselves as active socialization agents capable of stimulating students motivation to learn (Brophy).

Classroom climate is important. If students experience the classroom as a caring, supportive place where there is a sense of belonging and everyone is valued and respected, they will tend to participate more fully in the process of learning.

Various task dimensions can also foster motivation to learn. Ideally, tasks should be challenging but achievable. Relevance also promotes motivation, as does "contextualizing" learning that is, helping students to see how skills can be applied in the real world (Lepper). Tasks that involve "a moderate amount of discrepancy or incongruity" are beneficial because they stimulate students' curiosity, an intrinsic motivator (Lepper).

Extrinsic rewards, on the other hand, should be used with caution for they have the potential for decreasing existing intrinsic motivation.

What takes place in the classroom is critical, but "the classroom is not an island" (Maehr & Midgley, 1991). Depending on their degree of congruence with classroom goals and practices, school wide goals either dilute or enhance classroom efforts. To support motivation to learn, school–level policies and practices should stress "learning, task master and effort" (Maehr & Midgley) rather than relative performance and competition. Sometimes the classroom climate and teachers misbehavior leads the students towards demonization, which the mathematics teachers must know.

Measures to Help Unmotivated Students

A first step is for educators to recognize that even when students use strategies that are ultimately self-defeating (such as withholding effort, cheating, procrastination, and so forth), their goal is actually to protect their sense of self-worth (Raffini).

A process called attribution retraining, which involves modeling, socialization and practice exercises, is sometimes used with discouraged students. The goals of attribution retraining are to help students to (1) concentrate on the task rather than becoming distracted by fear of failure; (2) respond to frustration by retracing their steps to find mistakes or figuring out alternative ways of approaching a problem instead of giving up; and (3) attribute their failures to insufficient effort, lack of information, or reliance on ineffective strategies rather than to lack of ability (Brophy).

Other potentially useful strategies include the following: portray effort as investment rather than risk, portray skill development as incremental and domain-specific, focus on mastery (Brophy).

Because the potential payoff-having students who value learning for its own sake–is priceless, it is crucial for parents, teachers, and school leaders to devote themselves fully to engendering, maintaining, and rekindling students' motivation to learn.

A motivational skill is the art of motivating the students toward learning mathematics. A skillful/handful teacher can motivate his/her students using motivational actives e.g. giving the students a mathematical game puzzle. By using proper types of motivational techniques, teacher makes can very attractive and students become very active participates. There are several types of motivational skills e.g. using very sweet voice in the classroom. If the teacher is not capable to motive learners towards learning his class becomes noise and the learner's do not pay attention towards learning and teacher may be rejected. So on the part of teacher he/she must be skillful in his/her profession.

Motivation is not sufficient factor to motivate the students which must be used motivational technique and skills. I.e. motivational technique and skills are the important then motivation. Motivational skills are the art of teaching and learning process. Skills is mainly two types one of the natural skills and other artificial. A person singing the beautiful song is the skills and a person know the rule of singing is technique. In the field of teaching a person teaching in attractive way are skills and a person know the rule of teaching is technique.

Statement of the Problem

This research was mainly concerned to study on motivational skills used teachers in mathematics at primary level. Mathematics is consider difficult subject at school level most of the students are failed in mathematics subject every years in SLC exam even at primary level. They have low achievement in mathematics and they are also unable to understand mathematics and adequacy this is due to psychological factor and lack of scientific methods. In some ways they are unable to use the motivational skills in the classroom teach. And high investing rate but the achievement rate is higher in compression to the investment. There are is many factors, which are affecting teaching and learning mathematics. Among them motivation is one of the most infecting factors in teaching and learning mathematics at elementary level. This is the era of science and technology of scientific age. Motivational skills are used must in field. No field is left untouched from the effect of motivation. So this is the burning issue in these days. The government of Nepal is promoting the field of education field. But the ratio of input and outcome is not balance due to lack of attention toward motivational skills in teaching mathematics. This research was concern to answers the following research question.

- What is the current status of motivational skills used by mathematics teacher in teaching mathematics at primary level?
- How the primary level mathematics teachers do used motivational skills?
- Is there a significant different between the status of motivational skills used by the mathematics teacher at primary level in male and female teachers?

Objective of the Study

The following were the objectives of this study.

- To find the motivational skills used by mathematics teacher in teaching mathematics at primary level.
- To find the ways of using motivational skills used by mathematics teacher at primary level.
- To compare the motivational skills used by teaching mathematics at primary level in male and female teachers.

Significance of the Study

Mathematics is key and gets way of all science school curriculum system. So it is the important subject in the world. The objectives of any mathematics curriculum include promoting favorable feeling toward mathematics. It is essential to solve the daily life problem in the society as well as the field of advance science and technology. But most of the students are not interested to learn mathematics in primary level. Primary level education is a foundation of education; education should be made available to all primary level children. To give the quality education the teaching learning activities should be improved. The result of mathematics at the school level (as reflective by SLC examinations) has shown that the high failure rate and low achievement in mathematics are the serious matter of national concern in Nepal. Primary level is the basic and fundamental

level of higher studies. So primary level must be strong to achievement in mathematical knowledge for better in higher level. So this research will be helps for policy making in education system.

Researchers never felt the true motivation in practical field though there are several theories to be studied in different level from school days up to this master level. So researcher wants to find out the real trends of using motivational skills in teach. Furthermore most of the student of primary level feel to start that mathematics is difficult, iratest, complex, perplexity, fussy and more time consuming subject and dropping out of students of school level is mostly due to the above reasons they all or partial might be the causes to lack of ,motivational skills used in primary level. If the teacher teaches the student by motivating them and according to their interest learning will be more effective and permanent for effective teaching and learning process, motivational skills is one of the important aspects. Most of the psychologists believe that motivational teaching technique help to learn the in short period of learning for learns to devote time and effort in learning. So that it's will be following implications

- This study would be helped for policy making. Because of policy mean road map of education program, so by analyzing the real situation of the motivational skills.
- It would be helped to develop positive attitude toward motivation. Because by achieving good result by using motivational skills.
- This study would be helped primary mathematics teachers. Because analyzing the result and finding of this study, the primary teachers was been benefitted being familiar about the motivational skills. The students will be attracted towards the mathematics teacher class, who used the motivational skills.

- This research helps to find the causes of low achievement in mathematics at primary level.
- This study would be a basis to other research and investigation. It is used in literature review for other research.
- This research would be found the interest of student in mathematics at primary level.

Delimitations of the Study

This study had delimitation under the following aspect

- The study Included at only the mathematics teachers of teaching mathematics either in public and private primary school.
- This study only focused on motivational skills used by mathematics teacher in teaching at primary level.
- The study was only including 20 schools only.
- This study is only limited in chitwan district.
- The study was been based on classroom observation interview schedule and open ended questioners were used to collect the data from the field of mathematics teachers teaching at primary level.

Operational Definition of Terms

Motivational skills

In this study, motivational skills are the art of motivating the learners toward learning at primary level. A skillful/handful teacher can motivate his/he student using motivational activities. The researcher considered the following skills as the motivational skills used by mathematics teachers in classroom teachings. Classroom management, classroom environment organizing the instructional materials, teaching methods, use of teaching aids, difficulty level, use

of illustrations, questioning answering, use of ICT, providing feedback, giving assignment and closing lesson.

Motivation

Motivation is a process in which the learner's internal energies or needs are directed towards various goal objects in his environment

Teachers

A person who is teaching mathematics at the primary level.

Public school

A school founded conducted and maintained by the government.

Private School

A school founded, conducted and maintained by an individual or small group of individual but legally registered.

Chapter: II

REVIEW OF RELATED LITERATURE

The review of related literature deals with theories or research studies. It help to conduct the new research in a systematic manner by providing the general outline of the research study and avoiding the unnecessary duplication. And the literature review manly concern to find the gab of the research, to developement of the conceptual framework and to contribute the existing knowledge etc. Some studies related to this study have been reviewed as follows

Empirical Literature

Thapa (1989), in this research paper, submitted to University of Alberta on the topic “motivational level of primary school teachers in Nepal” studied, major administrative problems related to primary education exist in Nepal a result of teachers dissatisfaction and low level of motivation. Inadequate training, insufficient supervisory support, poor facilities, such as the physical condition of the class and school buildings, lack of adequate and appropriate teaching/learning materials, and the inadequate classroom sizes, lack of appropriate reward and punishment are the basic problems which affect teachers motivation in teaching.

Shrestha (2005) studied on the topic “A study on the mathematics teachers teaching performance of secondary level in Rauthahat district” with the aim to study teachers classroom teaching performance of secondary level on Rautahat district. Out of 34 public secondary schools, 17 public secondary schools were selected as sampled school by lottery method. And all the secondary level mathematics teachers of those sample schools were taken as the sampled teachers for the study. A classroom observation from having 20 items was used as the tool

for the study. It was a quantitative descriptive study but no statistical tool except mean weight age was used to analyze the study. He concluded that:

- Most of the teachers clarified the content of the lesson, arranged the class properly, based the lesson on the pervious lesson and created a conducive environment for the students to make them ready to learn. However, a few teachers failed to clarify the objectives of the lesson and arouse interest in the students.
- Most of the teachers did not use the instructional materials.
- Most of the used lecture method. Some used problem solving, recitation, discussion, induction/deduction methods. None of the teachers used demonstration and discovery method.
- Teachers activities like: asking questions, answering to the students, listening the students opinion, justifying authority, seatwork, encouraging listing to students, non verbal communication and solving disciplinary problem were not up to the rank. But they clarified the students point in a good way.
- Most of the teachers neither used the positive nor the negative reinforcement. However, a few used positive reinforcement in the form of words spoken. A few teachers used negative reinforcement for the reason: Refuse to learn.
- Some of the teachers applied the transfer of learning which includes providing many practice opportunities for transfer-task and making the classroom situation as similar to the real world situation.
- Most of the teachers did not summarize the lesson but evaluated the lesson. Most of the teachers gave the homework from the textbook only.

Subedi (2006) did a research on the topic “Behavior of trained teacher in classroom practice in mathematics” with the objectives to identify the entering

behavior of the trained mathematics teacher in the classroom practice. He selected 30 trained secondary level mathematics teacher of Kaski district by purposive sampling method and classroom observation form and questionnaire for teacher were used as the tools for collecting the data of the study. The study was quantitative descriptive but only table and percentage was used to analyze the data. He concluded a limited number of trained teacher were used their skills in planning, also to manage materials, to use grouping techniques and creating environment to interact among students. Similarly, an optimum number of the trained teachers were using their skills to discuss about subject matter, to make students participate in teaching learning process, to use feedback mechanism, to evaluate students and to provide as Also he found about the motivation techniques promoted by trained mathematics teachers that they motivated their students by telling history and development of subject matter (10 percentage) by telling utility of subject matter in daily life (56 percentage) by linking the subject matter with previous one (133percentage) and rest of them by making a jock and short stories related to the lesson.

Sapkota (2008) studied a case entitled “A case study of mathematics teaching and learning practices at effective school of Parbat district”. The purposes of this case study were: (i) to describe the learning practices of mathematics teacher in the effective schools. (ii) To identify the teaching/learning environment for mathematics teaching and learning in an effective school. (iii) To analyze the teacher and student work in the classroom activities of the effective school. (iv) To identify the instructional strategies promoted for the mathematics learning in an effective school.

Out of 10 effective schools of Parbat district, one school was chosen purposively. Students, parents, mathematics teacher and the head teacher of that school were selected as respondents by convenient sampling method. Interview schedule and class observation form were used to collect the required data. The design of this case study was quantitative in descriptive nature. The study concluded the following points.

- The physical facilities of the school desk-bench, such as blackboard etc. were sufficient for classroom. Classrooms were properly arranged with clean, tidy and peaceful environment but the number of students was more, also school lacks of good library, teaching materials and computers.
- The mathematics teacher had mostly emphasized on class-work and extra work on mathematics practice.
- The mathematics classroom was attractive and welcoming there arranged furniture in the two columns so that teacher meets every students at bench.
- There were extra classes for low performer in mathematics learning with additional teacher, extra practice books were used for practice.
- Teacher did not have sufficient time to provide personal feedback, supervising the assignment, only the monitoring had provided study habits to the other students.

Pokhrel (2008) did a case study on the topic “Classroom behaviors and low achievement in mathematics” with the objective to explain the classroom behavior of the teacher that effects the achievement of the students in mathematics. One school of Kailali district was selected as the case school and six students of class five having high attendance in class but low achievement in mathematics and the related mathematics teacher were selected as the sample by purposive sampling

method. Classroom observation form, interview guidelines for the students and interview guidelines for the teachers were used as the data collection instruments. The study was qualitative descriptive in nature. It is concluded that in the classroom there was negligible condition of getting positive reinforcement by the weak students but could get punishment easily; that is why they had negative attitude toward their mathematics teacher and looked him as a punisher, which had direct impact upon learning process.

The weak students need extra guidance but they had not getting the chance of extra guidance at school due to unsatisfied teacher and at home due to illiterate poor guardians.

The use of motivations during the observation period, it was observed that the students were not listening carefully to the teacher but appeared busy to copy from the blackboard.

Dulal (2009) did a research on the topic “Causes of anxiety in mathematics learning” with the objectives to find out the causes of anxiety in mathematics learning at secondary level students and to suggest remedial measures in order to minimize anxious feeling to school students. He selected two case schools randomly as sample from Sindhupalchok and 100 students selected from those schools by simple random sampling method for the sample students. He used observation form and interview schedule for collecting the data. The research was qualitative descriptive in nature. He concluded that homework negligence, undisciplined behaviors, weak teamwork spirit, high degree of cheating behavior, ineffective teaching methods and materials, upgrading system of failed students and so on are the causes of anxiety in mathematics learning. And to prevent and

improvement of the above maintained factors may be the remedial measures in order to minimize anxious feeling to school students.

The researcher reviewed the above mentioned literature and research. Some of them were conducted inside the Nepal and some of them were conducted in different universities outside the Nepal. The review of some studies indicates that achievement in mathematics is affected by different variables such as private and public school, teaching strategies, using material, physical facilities, school environment, trained and untrained teachers etc. And the review of some studies indicates that there is a strong relationship between motivation and learning achievement.

But no research has been conducted till now related to motivational techniques promoted by mathematics teachers in teaching mathematics at secondary level in the context of Nepal. Therefore, this study intends to answer the above gap.

This theory was developed by B.F. skinner. This is experiment in the year 1930 at the first time. In its simplest from reinforcement theory suggest the behavior is function of its consequences. The main emphasis of the skinner theory is on the role of reinforcement which helps to attain the desired and expected behaviors in learners reinforcement in operant conditioning is the basis to strengthening and developing the behavior of learners. It theory further suggest that in any given situation people will explore a variety of possible behavior. Further behavioral choice is affected by the consequence of earlier behavior in the past.

Reinforcement is mainly dividing in two parts positive and negative reinforcement. Positive reinforcement is the most familiar past of reinforcement

theory to people outside the field of psychology and organizational behavior. A positive reinforce is a stimulus that, when presented following a response occurring in that situation. (schunk 1996, p.68), positive reinforcement either primary or secondary is that when added to the situation by a certain response, increases the probability of that responses recurrence. Similarly a negative reinforce, either primary or secondary is something that when removed from the situation by a certain response increases the probability of that response's recurrence. It occurs when removal of an aversive stimulus following an operant response. As an example a louse noise, a very bright light an extreme heat, an electric shock etc. negative reinforces are those unpleasant stimuli which the learner will readily terminate if given the opportunity to do. So for example social disapproval or condemnation.

Ahmed (2004) say's that learning is function of the nature of the state of the learning organism. In addition there are two other motivation and reinforcement. Learning is more likely to a achievement a certain goal that is when this organism is motivated and when this responses, the person make result is the achievement of the goal. Time is an important element the more immediately a reward follows the response and the greater will be the likewise that presentation of the stimulus again on the further occasion will provoke the response. This is the immediacy of reinforcement principle motivation is the key here because it is a necessary condition for learning and the provision of immediate reinforcement promote motivation.

Ten motivational skills to increase motivation

- Develop a reasonable goal and reasonable plan.
- Create list of reasons why it important to yours goal and read this list (even when you don't feel like it) every morning and whenever you are temple to deviate from your plan.
- Give yourself credit whenever you engage in behaviors designed to help you reach your goal or avoid behaviors that will steer you away from your goal.
- Set up a plan to be accountable (to yourself or to another person or group).
- Respond to sabotaging thinking.
- Indentify obstacles and problem solve in advance.
- Prepare for feeling of discouragement, disappointment and deprivation.
- Decide on how you will reward yourself when you reach sub goals.
- Focus on the experiences you deem "worth it".
- Get back on basis when you get off track

Theoretical Literature

In this sub -section, the researcher introduced the theoretical discussions which are relevant for the interpretation of the findings of the study. There are various motivational strategies related to motivational skills recommended by different educationists and psychologists.

Motivation and Instructional Process

Commonly, motivation has been used in all types of learning. In the sense of learning mathematics motivation has been frequently used in mathematics education. Motivation helps to create value and attitude towards some specific subject. The good motivation helps to create the good value

about mathematics consequently it leads to higher achievement in learning mathematics But motivation for learning mathematics is very difficult.

"Instructional efforts that leads to positive learning outcomes do not always produce sustained motivation and conversely. Instructional efforts to boost motivation of subject without simultaneous their learning processer or competencies do not always produce sustained achievement" (Zimmerman and schank, 2004, p.323).

Motivation and Learning

Motivation is an important determinant of learning and its outcomes, as expressed in academic performances. Individual differences in the efficiency of learning processes and in their outcomes are explained by differences in abilities or capacities and in motivation. They result from an interaction between cognitive and motivational variables. Whether students learn or not, what they learn, how much time they devote to it, how efficient they are at it, and the level of proficiency they reach are all partly determined by how strongly they are motivated for their school work (Hasen, 1994).

A teacher may, for example, observe that some students often arrive late for classes, do not do their homework, and do not pay much attention to what the teacher says, that they try to disrupt the class and underperform in tests. The teacher may wonder why this should be the case and arrive at the conclusion that they are not motivated for their studies (Hasen). So, a teacher should accept the effect of motivation in instructional process and should keep knowledge of motivational theories and learning process.

Motivational Theories

Motivational theories intend to offer theoretical explanations for particular behavioral characteristics such as the intentionality, initiation, persistence, degree of activity, and for achievement tasks, the level of performance or efficiency.

Theories of human motivation can be roughly classified in two broad categories: content theories and process theories. Content theories view motivation as a more or less stable, inborn or acquired, personality characteristic (e.g., instincts, drives, needs, motives). They follow a more Aristotelian type of causal explanation: the movement (behavior is a kind of psychological movement) is attributed solely to characteristics of the moving object, in this case the acting individual, and not to the environment in which the movement takes place (Hasen).

Process theories of motivation follow a Galilean type of explanation. The movement of objects is attributed to characteristics of the objects and of their environment. These theories consider motivation as a psychological process in which personality traits (e.g., needs, motives, abilities) interact with characteristics of the environment, as perceived by the individual (e.g., content and difficulty of the learning task, teachers and parents, the classroom environment). Process theories suggest that both traits within the individual and situational circumstances should be taken into consideration in trying to understand, explain, and cure motivational problems and learning difficulties (Snow 1989, Snow and Swanson 1992).

Use of reward in the learning mathematics

A reward is a most important factor of motivation in classroom. It makes students motivated to their learning. It is necessary to use in the classroom in suitable context, simply literacy reward such as good, excellent, well done, keep it

up etc had been used for every right response of student and mathematical game puzzle and mathematical instrument had been used for intrinsic motivation. And non literacy reward such as chocolate, pencil, copy, erasure etc had been given after the completion of the unit least. The researcher used continuous used of reward was used according to participation in interaction, class work, homework and their learning. The non literacy rewards was used after completing the unit test and different situation such as completing the class work, play mathematical game easily and bring height motivation to learning mathematics and get achieving the goal. For the purpose of this study was to define as task persigentence were considered intrinsically motivation if they can easily solve the problem. If individuals are intrinsically motivated by any activities and not controlled by out factors, they are more likely to solve problem or continue the activity if given the opportunity.

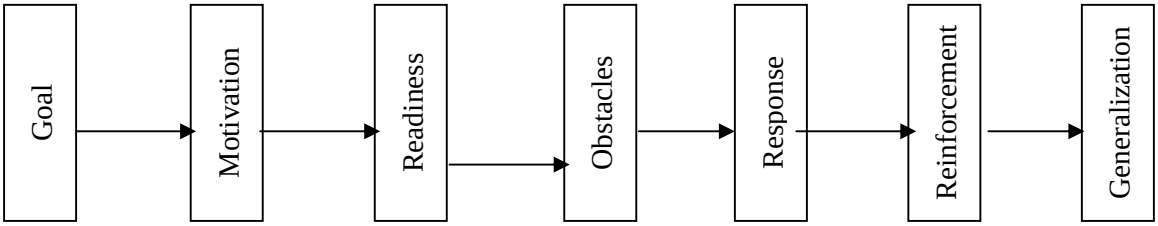
Factors Affecting Learning Process

According to a famous psychologist Wlodknwski (1985), “motivation is not only important because it is a necessary causal factor of learning, but because it mediates learning and is a consequence of learning as well”. And psychologist Kelly (Cited in Regmi, 2007) views, “motivation are the central factor in the effective management of the process of learning. Some types of motivation must be present in all learning”. These views argue that motivation is a necessary and central factor of any short of learning process.

In this context, Regmi views, there are several factors affecting learning process. The main factors are: Personal factors, mental factors, Emotional factors, Teachers personality, Environment, Hereditary, Motivation, Reinforcement, Practice and Teaching methods. In which motivation is the backbone of learning

process. Further, author writes, the steps which involves in learning process are called steps of learning process. According to the educationists and psychologists these are the main steps of learning process.

Figure 1: Steps of Learning Process



(Source: Regmi (2007). Educational Psychology)

The above Figure 1 shows that motivation is the second step of learning process. The learning process cannot be fulfilled by overcoming any step among them. So motivation is also an important step of learning process. According to different psychologists, there are several motivational techniques to support this step. Hence, motivational skills are essential in learning process, so the mathematics teachers should promote them effectively in mathematics classroom teaching.

Conceptual Framework for the Study

Hansen et. al (1994) writes on the international Enclopacdia of education. In psychology there is no global theory of motivation that can explain all aspects of student motivation. Basic and more applied research has result in a series of more limited min theories. Each of these theoretical approaches explains some aspects or component's of the total motivation to learn and excel at school. Similarly Weller (2005) further write "it is recognized that no grand theory of motivation exist many behaviors result from a combination of motives. On the basis of Enclopaedia citation the crisis of motivational theory can be understand easily. Through the researcher has being to identify the enhance students self motivation and their learning achievement as well. Further it should be said that an enormous gap exist between knowing that learning must be motivated and identifying the specific motivational skill's of any particular act.

This section deals about the conceptual understanding for the researchers. The conceptual understanding was established on the basis of research topics, possible area to fulfill the objective of the study. This study is mainly based on the above explained Weller's model of instruction and general principles of motivational techniques which should be promote by instructors in their instruction.

So on the basis of Weller's model of instruction and general principles of motivational skill's the researcher himself his constructed the following model to observe motivational skills in mathematics classroom teaching

Figure 2: Motivational Skills in Mathematics Classroom Teaching

Source: Weller's General principle of Motivation and Model of Instructions (2005).

This figure 2 shows that the motivational skills are related in different factor in teaching mathematics. This figure constructed with the help of weller's General principle of motivation and Model of Instructional (2005). This conceptual formwork related in classroom observation form, interview schedule and questioner. The tools and data analysis process are related to the conceptual framework related to above figure. Then researcher finds out the conclusions and finding. Furthermore conceptual framework helps to make the tools and find the conclusion the research.

Chapter III

RESEARCH METHODS AND PROCEDURES

This chapter deals with the plans & procedure related to this study under the different headings, which would be used to achieve the objectives of this study. The major plans and procedures followed in this study are as follows:

Research Design of the Study

The design of the study was survey. All structure and planning of the study comes under the design of the study. This study was based on used of motivational skills in teaching mathematics at primary level. So the study was done in survey types. In this research quantitative and qualitative method was used. So it is also quanqual or mix method and the quantitative approach applied to find out the current status of motivational skills used by mathematics teachers at primary level and compare the status of motivational skills used by teaching mathematics at primary level in female mathematics teachers and male mathematics teachers in teaching mathematics. And other hands qualitative descriptive method was applied to find the ways of using motivational skills used by mathematics teachers at primary level. So it was a quantitative as well as qualitative descriptive research study of survey types.

Population of the Study

All the primary level mathematics teachers who were teaching mathematics either in public primary and private primary school in the academic year 2071 B.S. on chitwan district were taken as the population of the study.

Sample of the Study

The purpose of selecting a sample is to gain information about a population. In this study 20 primary level mathematics teacher in private and public school at

chitwan district, each from different sampled school were selected as the sample by stratified random sampling method.

Tools

The researcher used the tool of questionnaire, observation and interview schedule of the study. These tools was been prepared by the researcher with the help of conceptual framework as develop by the research preparing schedule. The tools was been valid or approval from the subject export and thesis supervisor.

Classroom Observation Form

There are several types of observation according to its nature. In this study, the researcher had followed structured; participant; classroom observation. Observation conducted in natural setting, gave more reliable data for the study. The classroom observation form used in the study having 12 statement measuring motivational techniques promoted by mathematics teachers in teaching mathematics was constructed according the guidelines of the psychologist Barr (1947), under the guidance of research supervisor. The content (motivational techniques) included in the form were collected form theoretical knowledge of the form were collected from theoretical literature. Those motivational techniques were observed on the basis of corresponding bases and were rated according to Gluford's five points numerical rating scale. The research tool of classroom observation form has been given in the appendix A.

Interview Schedule

There are different types of interview according to its nature. In this study, the researcher had followed structured, direct structured interviews were taken by the research with the teacher about the motivational skills participates by them in the classroom of mathematics with the major focus of interview were used. The

interview conducted according to the suggestions of psychologists Turney & Robb (1971), and the collected data immediately recorded in the schedule.

The research interview schedule used in this study having 11 questions asking about the disturbing factors due to which teachers are unable to promote motivational techniques in teaching mathematics was prepared according to the suggestions of the psychologist Kerlinger (1983), under the support of research supervisor. The content (disturbing factors) included in the schedule were collected from empirical literature. The research interview schedule used in the study has been given in the Appendix-B

Validity of the Instruments

The already used tools such as classroom observation form (Barr, 1947) and (Kerlinger, 1983) were using this tools. These tools were revalidated according to our context with the help of supervisor and subject exports. To check the gross defects in language, suitability of the items, appropriateness of the statements, complexity, coverage of content etc. of the tools, the researcher consulted the related experts and lastly with the suggestion of supervisor, some modification were made and finalized.

Data Collection Procedure

This is the quantitative as well as qualitative research. In this method is also call quanqual or mix method. So researcher was collected data through primary and secondary also. For the collection of the data the researcher was visited each sampled school her/him self one by one and meet responsible mathematics teacher at primary level. The researcher was asked permission for the administration of questionnaire, observation and interview on the sample mathematics teacher. And also researcher requested the sample teachers to fill the questionnaire freely. After

than questionnaire form would been fill then also check the form with the help of class observation and finally researcher will be find the research goal then say thanks for helping hands.

Data Analysis Process

The data analysis process mean studying the organized mathematical in order to discover enhance fact. These data conclude by using t- test, mean and variance and also co-efficient of correlation to explore the new facts. In this order to analyze and interpretation researcher used closed interview schedule. Classroom observation form were tabulate first and then analyzed in descriptive ways to find out the current status of motivational skills used by teachers in teaching mathematics at primary level in private and public school. And also furthermore the data obtained by research interview schedule were analyzed in qualitative descriptive form to find the way of using motivational skills used by mathematics teachers in teaching mathematics at primary level. Similarly, last but not least objective mean, variance and two tail t-test at 0.05 level of significance different between the status of motivational skills used by male mathematics teachers and female mathematics teachers in public and private school at primary level. The statistical tools used for the study has been given in the (Appendix- E)

Chapter IV

ANALYSIS AND INTERPRETATION OF DATA

Teaching is basically an art, a teacher as an artist can be very successful in his profession if he is equipped certain skills of classroom teaching. Moreover, motivating the students to learn is very challenging and praising work for a mathematics teacher. Some of the most important motivational skills are: Maintaining classroom environment, classroom decoration, cleanness and neatness of classroom, smiling face. Relation between teachers and student arousing curiosity and eye contact are the classroom environment factors. Also teaching materials factors are given below audio visual, size and clarity, use of board, local materials and appropriate materials etc. and also teaching method factors are also given below lecture method, demonstration, discussion, problem solving group teaching inductive, deductive etc. Again evolution factor are in below assignment, feedback, questioning answering, observation class work etc. at last closing the lesson factor is summarization the lesson, positive ending, achieving objective, evolution of the lesson, and last thanking the students while leaving in the class.

The researcher planned the analysis and interpretation of the research in the following manner.

Current Status of Motivational skills used by Mathematics Teachers in Teaching Mathematics at primary Level

The first objective of this study was to find out the current status of motivational skills used by mathematics teachers in teaching mathematics at primary level. For this, twelve motivational skills used by twenty mathematics teachers in teaching mathematics were observed at primary level with the help of classroom

observation form (See Appendix - A) and the bases of rating motivational techniques (See Appendix - B).

Table 1: Number of the Teachers and Their Percentages Observation for the Respective Rating in each skill

S. N.	Motivational skills	V.G.	G.	S.	P.	V.P.	Q.T.
1.	Classroom Environment	2 (10)	6 (30)	8 (40)	3 (15)	1 (5)	20 (100)
2.	Classroom Management	3 (15)	5 (25)	9 (45)	3 (15)	0	20 (100)
3.	Teaching method	1 (5)	5 (25)	6 (30)	4 (20)	4 (20)	20 (100)
4.	Instructional materials	7 (35)	8 (40)	5 (25)	0	0	20 (100)
5.	Use of ICT in teaching	0	2 (10)	8 (40)	7 (35)	3 (15)	20 (100)
6.	teaching aids	0	3 (15)	12 (60)	3 (15)	2 (10)	20 (100)
7.	Difficulty level	5 (25)	5 (25)	7 (35)	2 (10)	1 (5)	20 (100)
8.	Use of illustration	0	9 (45)	5 (25)	4 (20)	2 (10)	20 (100)
9.	Questioning answering	5 (25)	10 (50)	5 (25)	0	0	20 (100)
10	Feedback	4 (20)	5 (25)	7 (35)	3 (15)	2 (5)	20 (100)
11.	Assignment	3 (15)	4 (20)	6 (30)	5 (25)	2 (10)	20 (100)
12.	Closing lesson	7 (35)	8 (40)	5 (25)	0	0	20 (100)
	Average	3.087 15.41	5.83 29.17	6.91 34.58	2.83 14.61	1.41 6.67	

'Quantitative Translation' (Prepared: According to the guidelines of Barr (1947) and content collected from theoretical literature reviewed in this study)

The researchers had made the following discussion on basis of above table for the motivational skills and their result separately.

Classroom Environment

According to educationist and psychologists (weller, sass and lowman), maintaining the classroom environment is a very important skills for motivating the students. These skills contain classroom management, discipline, and open, positive and decorate atmosphere, classroom decoration (photo, chart, table etc), instructors' enthusiasm, teacher's role, cleanliness etc.

It was observed that to following this skills 10 percentage teachers secured the position very good, 30 percentage teachers secured the position good, 40 percentage teachers secured the position satisfactory, 15 percentage teachers secured the position poor, and also 5 percentage teachers secured the position very poor. Then researcher concludes the teachers who are well managed of classroom environment then students are motivated to learn mathematics.

Classroom Management

According to the educationist and psychologist (Weller.M,sass and Loman), management of the classroom is important factor because of classroom is the one important factor of learning mathematics. So well classroom management to learn mathematics.

It was observed that to following these skills 15 percentage teachers secured the position very good, 25 percentage teachers were in good position, 45 percentage teachers were in satisfactory, 15 percentage teachers were in poor position in the maintaining of classroom management and last no teachers were in very poor condition. Then research concludes that the teachers must careful to manage the classroom.

Teaching Methods

There are so many teaching methods for teaching mathematics lessons. The selection of suitable teaching method for appropriate lesson is difficult job but it motivates the students towards the lesson. According to McMillan, Forsyth, ausubel, diene's and gagne's learner can be motivated by the following activities: Vary teaching method, Indication of important points, Logical and psychological presentation, Variety and flexibility in teaching, Demonstration, discussion, discovery, problem solving, group teaching methods, chaining learning, integrative reconciliation learning and stimulus response learning etc.

Further, 5 percentages teachers Very Good' ,25 percentages teachers Good and 25 also 30 percentage 'Satisfactory' and also 20, percentage 'Poor' respectively and remaining 20percentage teachers seems Very Poor. The teachers would use modern teaching methods.

Instructional Materials

Organizing the instructional materials is really a difficult work but it is an import technique to motivate learners. According to Weller, Sass, Becker and Schneider, the following types of instructional materials motivate the students: Related to already known, helping to further materials, Interested to the students, Relevant to the curriculum, textbook and students level, Having clear lesson objectives, Integrated transition between parts of the lesson etc.

On the process of research work, it is seemed that 35 percentages teachers, 40 percentages teachers and 20 percentages teachers lay into the positions 'Very Good' , 'Good' and 'Satisfactory' respectively and no teacher found for the positions 'Poor' and 'Very Poor'. Research must be used instructional materials for students to motivate in learning mathematics

Use of ICT in teaching Mathematics

ICT is the very important in now days. This era of science and technological age so it is the important for teaching and learning. Then mathematics is the difficulty subject, consider the students view. So it can be solve these types of problem, so ICT is used in mathematics curriculum.

It is found that 0 percentage teachers were in the Very Good position, 10 percentages, 40 percentage teachers seems to Good and Satisfactory respectively. And 35 percentages, 15 percentage teachers were in Poor and Very Poor condition. The research conclude that the used of ICT in teaching mathematics for good result of mathematics

Teaching Aids

According to Weller, Becker & Schneider, the use of teaching aids is most important motivational technique. The researcher observed this technique on the basis of following components: Types of teaching aids (Audio-visual, manipulative, literatures), Size and clarity, Appropriateness to the lesson, Proper use, Use of chalk board, local materials etc.

And it was observed that no teacher found for the positions 'Very Good', 15 percentage Good’ and 60 percentage satisfactory 15 percentages teachers stood in the position 'poor', and no teachers found in Very Poor

Difficulty Level

Maintaining the difficulty level is itself a difficult job but it motivates the students, which is preferred by Cashin and Sass. This motivational technique is observed under the basis of following factors: Appropriate difficulty level, increasing difficulty level, organized lesson in sequential form etc.

And it was observed that 25 percentages teachers, 25 percentages teachers and 35 percentages teachers secured the ratings 'very Good', 'Good' and 'satisfactory' respectively. Whereas, the 10 percentages teachers were found for the positions Poor and 5 percentage teachers show in very poor .teachers are careful to teaching aids for the students motivate in learning mathematics.

Use of Illustrations

The use of illustrations makes the subject matter clear and refreshes the students and hence motivates the students which are recommended by Weller and Sass. This motivational technique was observed on the basis of following bases: Use of appropriate, concrete and understandable examples, relevant examples, Number of example, Explanation of examples, Time taken for the examples etc.

The researcher observed that 45 percentages teachers, 25 percentages teachers, 20 percentages teachers and 10 percentages teachers were suitable for the positions 'Good', 'Satisfactory', 'Poor' and 'Very Poor' respectively; whereas, no teacher was suitable for the position 'Very Good'. Teachers are careful to use of illustrations for the students motivate in learning mathematics.

Questioning Answering

Wagaman describes that questioning answering arouse the curiosity and motivate the learners. The following are the supporting elements for this technique: Arts of questioning and answering, Use and approval of answer, correcting wrong answer, Standard of questions, Number and types of questions, Appropriateness and relevancy of the questions etc. 25 percentage teachers, 60 percentage teachers and 25 percentage teachers were Very Good, Good and Satisfactory respectively. And no teachers were in Poor and Very Poor.

Feedback

Providing feedback is very important motivational technique which is supported by Lowman and Cashin. It gives an opportunity to the learners to improve their faults and to enhance their good work. This technique was observed under the following bases: Frequent, early and positive feedback, avoiding demeaning comments, is specific in negative feedback, Good judgment, Time taken for the feedback etc.

It is found that 20 percentages teachers, 25 percentages teachers and 35 percentages teachers were in the positions 'very Good', 'Good' and 'satisfactory' respectively. Further, 15 percentages teachers were found in the positions 'Very Good' and remaining 5 percentage teachers in 'Poor' situation. The research concludes that the teachers who use of continuous feedback is more effective than others.

Assignment

Posamntier and Stepelman express that assignment also motivates the learners. The following factors come under this technique: Source of assignment (textbook, reference book, any other), Appropriateness and amount of assignment, Checking and use of assignment, Suggestion over assignment, Written/oral assignment, Standard of assignment etc.

For this technique it was seemed that 15 percentages teachers were in 'Very Good' position, 20 percentages teachers were in the positions 'Good' and 30 percentage teachers in 'Satisfactory' and 25 percentages teachers were in the 'Poor' position; whereas, 10 percentage teacher seemed in the position 'Very Poor. Researcher were conclude that continuous assessment system is effective than other.

Closing of the Lesson

According to Weller, closing of the lesson is also an important motivational technique. It refreshes the lesson and the learners' concept as well. It contains the following actions: Summarizing the lesson, Positive ending, Achieving objectives, Evaluation of the lesson, Generalization of the lesson, thanking the students while leaving the class etc.

For this technique, it was observed that 35 percentage teacher secured the position 'Very Good'. 40 percentages teachers secured the positions 'Good' and 25 percentage teacher in 'Poor'. No percentages teachers were found in the position in both Satisfactory and Very poor situation.

On the basis of above analysis, it was seemed that the current status of the techniques Avoiding competition & de-emphasizing grades and Assignment were positively remarkable because of more than 50 percentages teachers fell in the rating ‘Very Good’ for the techniques. And the current status of the technique closing of the lesson was seemed negatively remarkable because of more than 50 percentages teachers fell in the rating ‘Very Poor’ for the technique.

At last, the researcher found the average for each position and it was found that the sum of average of the positions 'Very Good' and 'Good' was 44.58 percentages which was greater than the sum of average of the positions 'Poor' and 'Very Poor' i.e., 20.83 percentages. This shows that most of the teachers were found in the positions 'Very Good' and 'Good' than the positions 'Poor' and 'Very Poor'. And the position 'Satisfactory' had contained 34.58 percentages teachers in single. Hence, it can be concluded that the current status of motivational techniques promoted by mathematics teachers in teaching mathematics at secondary level was satisfactory.

It was observed that 15 percentages teachers, 55 percentages teachers, 20 percentages teachers and 10 percentages teachers were slain in the rating 'Very Good', 'Good', 'Satisfactory' and 'Poor' respectively and no teacher lay in the rating 'Very Poor'

The ways of using motivational skills used by mathematics teachers in teaching mathematics at primary level

The second but important objective of this study was to find the ways of motivational skills used by mathematics teachers in teaching mathematics at primary level properly. In this order to achieve this objective the researcher had administered a research open ended question (see in appendix c) to each sampled principle and teachers. The questioner had contained 6 open ended question related in this topic to the ways of using motivational skills to motivate in learning mathematics. The collected data were gathered and analyze separately in the following manner.

Revision the Last Lesson

In this condition 55 percentage teachers were agree to used the revision the last lesson to motivate the students in learning mathematics and 25 percentage teachers were unknown about the used revision previous lesson to motivate the students. And last 20 percentage teachers disagreed about it.

Classroom Management

In this situation some of the teachers were cared the classroom management and some of unknown and also disagree. Furthermore 45 percentage teachers agreed to cared classroom management to motivate the students and 35 percentage teachers did not spooked about classroom management and also 20 percentage teachers disagreed about it.

Teaching Method

In this condition 50 percentage teachers was used discussion method, problem solving method, questioning answering method are used to agreed to used to motivate to learning mathematics. And 25 percentage teachers were unknown about it and also 25 percentage teachers disagreed about above topics.

Instructional Materials

In this case 40 percentage teachers were used instructional materials to the students to motivate to the learning mathematics. And 40 percentage teachers were unknown in this process and also 20 percentage teachers disagreed with this points because of unavailability of teaching materials in own school.

Used of Punishment

In this condition 40 percentage teachers agreed to use punishment to active the students in learning mathematics and 30 percentage teachers these points and also 30 percentage teachers were disagreed about in this point.

Used of Jock

In this condition 50 percentage teacher were agreed to use of jock to motivate the students in learning mathematics. 25 percentage teachers were unknown about it. And last 25 percentage teacher were disagreed about it.

Use of Music

In these condition 70 percentages teachers agreed in this point and 20 percentage teachers unknown this point, Whereas 10 percentages teachers disagreed about the above point.

Comparison of the status of motivational skills used by female and male mathematics teachers in primary school

The last but not least objective of the study was to compare the status of motivational skills used by mathematical teachers in teaching mathematics at primary level from female teachers and male teachers in public and private school. In order to achieve this objective the hypothesis were formulated. The null hypothesis was “there is no significant difference between the status of motivational skills used by female and male teachers in teaching mathematics at primary level in public and private school”. And also alternative hypothesis was “there is a significant difference between the status of motivational skills used by female and male teachers in teaching mathematics at primary level in public and private school”.

To verify the hypothesis the collected data from female and male teachers in public and private school teachers quantified and scored according to Gluford’s five points numerical rating scale respectively. The scores 5, 4, 3, 2 and 1 were given corresponding to the rating Very Good, Good, Satisfactory, Poor, Very Poor respectively. The mean and variance for both groups were calculated and then values were tested by using to tailed t- test, at 0.05 level of significance. The following table 2 represents the observed scored of female mathematics teachers in public and private school and male mathematics teachers used motivational skills in teaching mathematics at primary level in female and male teachers in primary school in table 2 Show their statically results.

Table 2 Motivational skills used by female mathematics teachers

S. N.	Motivational skills	V.G.	G.	S.	P.	V.P.	Total
1.	Classroom Environment	25	12	6	2	0	45
2.	Classroom Management	0	12	9	6	1	28
3.	Teaching method	5	8	16	6	2	27
4.	Instructional materials	0	20	9	4	0	33
5.	Use of ICT in teaching	0	0	15	4	3	22
6.	teaching aids	5	8	15	0	2	30
7.	Difficulty level	10	20	6	2	0	38
8.	Use of illustration	0	16	9	2	2	29
9.	Questioning answering	10	20	9	0	0	39
	Feedback	5	8	12	6	0	31
	Assignment	35	4	6	0	0	45
	Closing lesson	20	12	9	0	0	41
	Total	115	140	111	32	10	408

The table two related to the third objective of this research. In this table the data was quantified and scored according Gulford's five numerical ration scale respectively. In this table female mathematics teachers used by motivational skills in teaching mathematics in public and private school at primary level. in this table V.G. mean very good mean good, S mean satisfactory, P. mean poor and V.P. mean very poor notion are used . in this table according Gulford's five point rating scale 5,4,3,2 and 1 numerical are use in very good, good, satisfactory, poor and very poor respectively

Table 3 Motivational Skills used by male mathematics teachers

S.N.	Motivational skills	V.G.	G.	S.	P.	V.P.	Total
1.	Classroom Environment	0	4	15	6	1	26
2.	Classroom Management	5	16	9	0	2	32
3.	Teaching method	0	8	9	8	1	26
4.	Instructional materials	0	8	9	4	3	24
5.	Use of ICT in teaching	5	12	6	8	0	31
6.	teaching aids	0	4	15	4	2	25
7.	Difficulty level	5	12	12	2	1	32
8.	Use of illustration	0	20	9	4	0	33
9.	Questioning answering	0	20	9	4	0	33
	Feedback	5	16	12	2	0	35
11.	Assignment	5	24	0	4	1	34
12.	Closing lesson	10	12	15	0	0	37
	Total	35	156	120	46	11	368

The table third related to the third objective of this research. In this table the data was quantified and scored according Gulford's five numerical ration scale respectively. In this table male mathematics teachers used by motivational skills in teaching mathematics in public and private school at primary level. in this table V.G. mean very good mean good, S mean satisfactory, P. mean poor and V.P. mean very poor notion are used . in this table according Gulford's five point rating scale 5,4,3,2 and 1 numerical are use in very good, good, satisfactory, poor and very poor respectively

Table 4: Comparison the statistical result between female and male teachers.

S.N.	Group Compared	N	Mean	Variance	d. f.	t-value
1.	female Teachers	10	40.8	125.86	18	1.96
2.	male Teachers	10	36.8	83.52		

N = Sample size (i.e. number of teachers)

d. f. = Degree of Freedom (i.e. $N_1 + N_2 - 2 = 18$)

Comparison and statistical results of Mathematics Teachers motivating their Students in Teaching Mathematics at primary level from female mathematical teachers and male mathematics teachers in public and private primary school

The above Table 4 shows that the absolute mean difference of female mathematics teachers and male mathematics teachers used by motivational skills in teaching mathematics was 10. This meant that the private school mathematics teachers had the higher score than the public school mathematics teachers in average for the case.

Further, the null hypothesis would be accepted if

$-1.25 < t < 1.25$

At table value $t_{,ü} = 1.25$ (two tailed test), where $\alpha = 0.05$ and = 18. But the calculated t–value was 1.96. This indicated whatever the average scores of female mathematics teachers and male mathematics teachers. The calculated t-value was greater than the tabulated t-value. Thus the null hypothesis H_0 was rejected and alternative hypothesis H_1 was accepted. Hence, it can be concluded that there is significant difference between the statuses of motivational skills using female mathematics teachers and male mathematics teachers in private and Public School at primary level.

Chapter - V

SUMMARY, FINDING, CONCLUSIONS AND RECOMENDING

This chapter presents the summary of the study followed by a short discussion and some conclusions on the findings of the study. Some suggestions for improving instruction of mathematics by motivating students at primary level are also made. At last, in some topics it is recommended for further study.

Summary and finding

A study on motivational skills used by mathematics teachers in teaching mathematics at primary level had been conducted to find out the current status of motivational skills used by mathematics teachers, to find out the ways of motivational skills used by mathematics teachers in primary level in public and private school. And compare the status of motivational skills in teaching mathematics in female and male teachers at public and private school.

The study was of survey type and qualitative as well as quantitative descriptive approach had been followed to analyze the data. The population for the study consisted of all the mathematics teachers teaching at primary level at Chitwan District of academic year 2070 B. S. Altogether 20 mathematics teachers each from different sampled schools were selected as the sample by stratified random sampling method. The researcher had developed a classroom observation form having 12 items and a research interview schedule asking 6 open ended questions as the tools of the study for collecting required data.

The data collected from the informants were analyzed to achieve the objectives of the study. The data obtained by classroom observation form were tabulated first and then descriptive analysis approach had been followed to describe the current status of motivational skills used by mathematics teachers in teaching

mathematics. Similarly, the data obtained by research interview schedule were gathered first and then descriptive approach had been followed to describe the disturbing factors due to which the ways of motivational skills used in mathematics teachers.

Further, the data obtained by classroom observation form were translated quantitatively but separately according as the public school teachers and private school teachers and then mean, variance, two tailed t-test at 0.05 level of significance were applied to find the significant difference between the status of motivational skills used by female mathematics teachers and male mathematics teacher at primary level.

Findings

The purpose of this study was to find the current status of motivational skills used by mathematics teachers and to find the ways of using motivational skills used by mathematics teachers in teaching mathematics at primary level and last but not least compare to the status of motivational skills used by female and male mathematics teachers in public and private school at primary level. After analyzing the data it is evinced that implementing motivational activities in mathematics in classroom, providing literacy reward for students to motivation to learn, use of manipulative materials, mathematical game/puzzles, used of music, used of jock and the cooperative learning activities. The current status of motivational skills by used mathematics teachers also satisfactory. And last there is a significance difference between female and male mathematical teachers at primary level. Furthermore female mathematics teachers were more active to used motivational skills then male mathematics teachers at primary level from the above data. This research could not generalize in other level.

The first objective summery are given below

- The maintenance of classroom environment of nearly, 50 percentages mathematics teachers was seemed nice.
- 40 percentage mathematics teachers were seemed nice in classroom environment.
- More than 30 percentages teachers had used modern teaching method students nicely.
- 75 percentages teachers had organized the instructional material nicely.
- Nearly, 10 percentages teachers were used of ICT teaching mathematics in primary level.
- 75 percentages teachers had only used chalk, duster, blackboard and textbook as teaching aids.
- More than 50 percentage teachers seemed nice in difficult level.
- More than 45 percentages teacher were very nice in use of illustration.
- More than 75 percentages teacher was well questioning and answering in teaching mathematics at class room
- .Nearly 20 percentage teachers were poor in giving feedback in teaching mathematics at primary level.
- More than30 percentage teachers were not good and not poor also.
- Nearly 75 percentage teacher in well in closing the lesson in teaching mathematics

The second objective summaries are given below in points**.**

- 100 percentages teachers were agreed that revision the last lesson and used of question for motivate in learning mathematics.

- 60 percentages teachers were agreed about the well classroom management to motivate in learning mathematics.
- 50 percentages teachers were agreed that teaching method is important factor to motivate in learning mathematics.
- 40 percentages teachers were agreed about the instructional materials is back bone of teaching and learning mathematics at primary level because of motivate to mathematics.
- 65 percentages teachers were agreed that low implementation of governmental school level policy and salary dissatisfaction were the disturbing factors due to which the mathematics teachers were unable to promote motivational techniques.
- Nearly, 40 percentages teachers were believed in use of punishment for motivate to mathematics with the help of force to learn.
- Only 50 percentages teachers were use of jock to motivate the students in learning mathematics at primary level
- at last bullet of this objective, more than 70 teachers were used of music to motivate the student to learning mathematics especially female teachers were used music

The last but not least objectives of this research summary are given below.

- The mean of observed scores of female mathematics teachers (i.e. 40.8) was higher than the mean of observed scores of male mathematics teachers (i.e. 36.8)
- The calculated t-value (i.e. 1.96) was higher than the tabulated t-value (i.e. 1.25) at 0.05 level of significance and 18 degree of freedom.

Conclusions

Based on the above findings the researcher had made on the following conclusions: The current status of motivational skills used by mathematics teacher in teaching mathematics at primary level was satisfactory. The ways of using motivational skills used by mathematics teachers in teaching mathematics are revision the last lesson, classroom management, teaching method, instructional materials, used of punishment, used of jock and use of music etc. The status of motivational skills used female mathematics teachers was better than the status of motivational skills used by male mathematics teachers in private and public school mathematics teachers and there was a significant difference between the status of motivational skills used by female mathematics teachers and male mathematics teachers in private and public school at primary level in Chitwan District.

Recommendations

In the course of this study, the researcher felt that the following measures would be valuable for promoting the motivational skills used in teaching mathematics at primary level.

For the Teachers

- The mathematics teachers should manage their classroom environment effectively such that it can help to motivate their students.
- Mathematics teachers should well classroom management their students before starting the lesson such that the students become ready to learn.
- Mathematics teachers should used modern method with their students and involve them actively in learning activities.
- Mathematics teachers should choose better teaching methods in teaching mathematics such that it can motivate their students.

- Mathematics teacher should use more illustrations according to the lesson to clear their student's concept in mathematics.
- Mathematics teachers should provide positive and frequent feedback to their students in necessary cases.
- The mathematics teachers should summarize and evaluate the lesson while closing the lesson.
- Mathematics teachers should try used of ICT in teaching mathematics in now the 21st century.

For the Parents

- Parent should care and take an interest to their children (homework, stationery etc.).
- Parent should visit their children's school time to time and should consult to mathematics teachers to ask about their children' improvement and troubles.

For the School Administrations

- School management committee should provide adequate physical facilities and teaching aids as per the need and capacity of the school.
- School management committee and head of the school should visit and observe mathematics classroom teaching time to time.

For government

- ministry of education office should provide new syllabus to time to time
- Board of education should be managed the training for mathematics teachers in time to time.
- Board of education should provided digital curriculum in 21st century.

Suggestions for Further Research

The following suggestions are made for further study:

- Since this study was based on mathematics teachers from 20 primary schools of Chitwan District, its findings may not be generalized to the wider population of teachers. So, this study should be replicated on a larger sample from schools across the country.
- Since this study was based on mathematics teachers and primary level only, its results may not be generalized to other subjects' teachers and other levels. So, similar kinds of study should be conducted for other subjects' teachers and at the other levels of formal education.
- Since this research was only concerned to classroom observation and interview of teachers it could not find the effect of motivational techniques in learning achievement. So, some research for finding the effect of motivational skills in learning achievement should be conducted.

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Appendix- A

Classroom Observation Form

School: Type of School:

Teachers Name: Period:

Subject: Lesson:

Class: Topic:

S. N.	Motivational Techniques	V.G.	G.	S.	P.	V.P.	Total	Remarks
1	Classroom Environment							
2.	Classroom Management							
3.	Teaching method							
4.	Instructional materials							
5.	Use of ICT in teaching							
6.	Teaching aids							
7.	Difficulty level							
8.	Use of illustration							
9.	Questioning answering							
10.	Feedback							
11.	Assignment							
12.	Closing lesson							
Total								

Appendix- B

BASES OF RATING MOTIVATIONAL SKILLS

S.N.	Motivational Skills	Bases (Definitions)	Recommenders
01	Classroom environment	Classroom decoration (Photos, Charts, Tables); Instructors materials decoration of desk and bench size of classroom, situation of sound, density of students etc.	Weller, M.; Lowman
02.	Classroom management	Classroom management; Discipline; Open, positive and democratic atmosphere; Classroom decoration (Photos, Charts, Tables); Instructors enthusiasm; Teacher's role ; Cleanliness, furniture management, students seating management etc.	Weller, M. ; Sass; Lowman
03.	Teaching method	Indication of important points, logical and physiological presentation, variety and flexibility in teaching activities; teaching method (lecture method, demonstration, discussion, discovery, problem solving, group teaching, using game, meaningful teaching, stimulus response learning, chaining learning, integrative reconciliation learning)	Weller, M.; Lowman Ausubel; Diane's; Gagne's McMillan Forsyth

04.	Instructional Materials	Related to already known materials; Helping to further materials; Interested to the students; Clear lesson objectives; Relevant to the curriculum, textbook and students level; Organized lesson; Integrated transition between parts of the lesson etc.	Weller, M.; Sass; Becker & Schneider
05.	Teaching aids	Related to already know material, helping to further materials, local materials using of chalk board and white board, audio visual materials, using ICT, size of materials	Weller, M.;sass;Becker and Schneider
06.	Use of ICT in teaching	Computer game, email lablabs, internet, calculator, radio, cassata player, projectors etc.	John Ainley; Weller, M.;
07.	Difficulty level of students	Appropriate difficulty level; Increasing difficult level; Organized lesson in sequential form; Difficulty level according to the standard of the students etc.	Cashin ; Sass
08.	Use of illustrations	Use of appropriate, concrete and understandable examples; Relevant examples; Lack of examples; Number of examples; Explanation of example; Time taken for examples etc.	Weller, M.; Lowman
09.	Questioning answering	Art of questioning and answering; Use and approval of answer; Correcting wrong answer; Standard of questions;	Wagaman, J.

		Number and types of questions; Appropriateness and relevancy of the questions ; Requesting for questions etc.	
10.	Audio visual Aids and local materials	Audio-visual; Manipulative; Literatures; Size and clarity; Appropriate to the lesson; Proper use; Use of chalk- board:, Local materials etc.	Weller, M.; Becker & Schneider
11.	Feedback	Frequent, early and positive feedback; Avoiding demeaning comments; Be specific in negative feedback; Good judgment; Time taken for feedback etc.	Lowman; Cashin
12.	Assignment	Source of assignment (textbook, reference book, any other); Appropriateness and amount of assignment; Checking and use of assignment; Suggestion over assignment; Written/oral assignment; Standard of assignment etc.	Posamntier; Stepelman; Fiore
13.	Closing of the Lesson	Summarizing the lesson; Positive ending; Achieving objectives; Evaluation of the lesson; Generalization of the lesson; Thanking the students while leaving the class etc.	Weller, M.

(Source: Theoretical literature reviewed in study)

……. ……..
Signature of Teacher Signature of Observer
Date……. Date…….

Appendix-C

Open Ended Questionnaire

Teachers Name: ……. Types of School: ……

Subject: …….. Class: …..... Period: …….. Lesson: ……

- How do you motivate students toward teaching mathematics?
- Have you ever had a motivational skills used in teaching mathematics in your classroom?.....

  .....
- What kind of changes have you seen in yours students after used the motivational skills in learning mathematics?

  .....
- What is the current status of motivational skills used in your school?

  ……
- Is the significant difference between male and female teachers used of motivational skills in teaching mathematics?

  ……..
- Finally in your view what other disturbing factors are there due to which the mathematics teachers are not able to used motivational skills in learning and teaching mathematics at primary level properly?

  ……..

Signature of Teacher Signature of Observer

Date…….. Date……..

Appendix-D

Interview Schedule for Teachers

Teachers Name: ……. Types of School: ……

Subject: …….. Class: …..... Period: …….. Lesson: ……

Classroom Environment

- Mathematics teachers show negligence to classroom decoration in teaching mathematics due to the lack of time management.

  i) Agree ii) unknown iii) disagree

- Mathematics teachers show negligence to discipline of students at public school.

  i) Agree ii) unknown iii) disagree

- Public schools classroom are not cleanness and neatness due to the lack of supervision.

  i) Agree ii) unknown iii) disagree

Teaching learning activities

- Mathematics teachers show negligence to use motivational skills in teaching mathematics due to the lack of time to time supervision.

  i) Agree ii) unknown iii) disagree

- Untrained mathematics teachers are unable to use motivational skills in teaching mathematics.

  i) Agree ii) unknown iii) disagree

- Due to the lack of knowledge of motivational skills mathematics teachers aren't able to encourage to the student to learning mathematics.

  i) Agree ii) unknown iii) disagree

- Carelessness of school administration affects the mathematics used motivational skills in teaching mathematics.

i) Agree ii) unknown iii) disagree

Parent negligence is also responsible in the use of motivational skills used by mathematics teachers in teaching mathematics.

i) Agree ii) unknown iii) disagree

Instructional material

- Unavailability of teaching aids affect in the use of motivational skills used by mathematics teachers in teaching mathematics.

  i) Agree ii) unknown iii) disagree

- Inadequacy of physical facilities plays a painful role of used motivational skills by mathematics teachers in teaching mathematics.

  i) Agree ii) unknown iii) disagree

- The mathematics teachers are not used motivational skills in teaching mathematics due to their laziness.

  i) Agree ii) unknown iii) disagree

Signature of Teacher Signature of Observer

Date…….. Date……..

Appendix – E

STATISTICAL TOOLS USED IN THE STUDY

1. Mean

$\bar{X} = \frac{\sum X}{N}$ Where, X XX Z $\bar{X}$ Sum of items N = No. of items

2. Variance S= $\frac{\sum (X - \bar{X})^2}{N}$

Where, $\sum (X - \bar{X})^2 =$ Sum of squares of deviations of mean from each items

N = No. of items

3. t- test (N< 30)

t X $\bar{X}$1 Z $\bar{X}$ 2 / $sp\sqrt{1/n1 \Gamma 1/n2}$

where

$sp2$ X$(n1$ Z1$)s^2_1$ Γ $(n2$ Z1$)s^2_2$ / n_1 Γ n_2 Z2

Where, $\bar{X}_1$ XMean of the first sample

$\bar{X}_2$ XMean of the second sample

N_1 = No. of items in first sample

N_2 = No. of items in second sample

S_1 = Variance of first sample

S_2 = Variance of second sample

4. Co-efficient of correlation (Pearson's method)

r X$\frac{xy}{\sqrt{x^2 \quad y^2}}$

Where, Deviations of mean from each item of first data

$y = Y - \bar{Y} =$ Deviations of mean from each item of second data