

**PROFESSIONALISM AMONG MATHEMATICS TEACHER IN NEPAL**

**A**

**THESIS**

**BY**

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**Recommendation for Acceptance**

This is to certify that Mr. Bidur Kumar Sigdel has completed his M. Ed. thesis entitled "**Professionalism among Mathematics Teacher in Nepal**" under my supervision during the period prescribed the rules and regulations of Tribhuvan University, Kirtipur, Kathmandu, Nepal. I recommend and forward his thesis be submitted to the Department of Mathematics Education to organize final viva-voice.

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Mr. Abatar Subedi

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**Dedication**

Honestly dedicated

To

My parents

**Dhruba Raj Sigdel and Saraswati Sigdel**

**And**

**My Late Brother Manoj Kumar Sigdel**

**Declaration**

This thesis contains no material which has been accepted for the award of other degree in any institutions. To the best of knowledge and belief this thesis contains no material previously published by any authors except due acknowledgement has been made.

.....

**Bidur Kumar Sigdel**

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### **Abstract**

This study has explored the professional practices of mathematics teachers' throughout their involvement in teaching and other professional development activities. It has also reflected on the facilitating as well as impeding factors in mathematics teachers professional development. In order to achieve the objectives, I conducted three FGDs, six KIIs and five IDIs with mathematics teachers, teaching in secondary level at the public and private schools of Ghiring Rural Municipality of Tanahun district. The data obtained from those tools were analyzed thematically and interpreted by using the grounded theories with phenomenology since professionalism mostly based with lived experience. The information obtained from the participants depict the professional status of mathematics teachers due to their narrow technical focus without having a boarder contextual understanding, quantitative and qualitative imbalances in the professional market. Their poor teamwork, lack of content, context, and conditions of pedagogy and mismatch with pupils' need.

The impending factors as this study found were a common set of education and training, and low level of respect from the public at large. Teachers of mathematics education were also paid considerably less than expected other subject teacher and mainstream professions. The excessive politicization of public education has had a profound impact on decreased level of their accountability and seriously affected their commitment and motivation.

Poor motivation and lack of accountability is widely reported as the problems in professional development. It implies that teachers need to be prepared as professional first. At the same time they are supposed to be supported by the concerned authorities in order to fulfill their basic and safety needs. This can be started right from school and expand to the teachers professional community.

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**Abbreviation**

CDC	:	Curriculum Development Center
CPD	:	Continuous Professional Development
FGD	:	Focus Group Discussion
IDI	:	In-depth Interview
IQ	:	Intelligent Quotient
KII	:	Key Informant Interview
MOE	:	Ministry of Education
PTA	:	Parents Teacher Association
RC	:	Resource Center
SESP	:	Secondary Education Support Program
SIP	:	School Improvement Plan
SMC	:	School Management Committee
SPSS	:	Statistical Package for Social Sciences
SSRP	:	School Sector Reform Program
TPD	:	Teacher Professional Development
VEC	:	Village Education Committee

## **Chapter I**

### **Introduction**

#### **Background of the Study**

In general people understand mathematics is only calculation with four fundamental operation as; division, multiplication, addition and subtraction. This can be different as people's knowledge level and their understanding. "Mathematics is the logical study of shape, arrangement, quantity and many related concepts." (James & James , 2007). The beauty of mathematics learning depends on its process and content. Many people believe that it is very difficult to learn mathematics. The word attitude refers to feeling about something and a position of the body indicating a particular mental state. In the context of Nepal there has been a trend of frequent changes in the mathematics school teacher. It is often believed that the attitudes and characteristics of the teachers are the identification for the effectiveness in teaching learning activities. In the early days, while we were in high school, almost all the teachers presented mathematics as a huge giant with myth and mystery, But it was like a piece of cake for me. The discrimination of teaching and classroom practice becomes the problem of teaching and learning mathematics (Panthi & Belbase, 2017).

The main purpose of teaching mathematics is to develop the understanding, reasoning and analyzing power which is necessary to various aspect of human civilization. In order to make mathematics teaching meaningful and effective in the classroom, the students should be interested and attracted to learn mathematics and they should also find its usefulness and application to their real life situations. To fulfil the purpose of teaching mathematics, the teacher must decide which subject matter will be helpful to achieve the aim of the study; teacher must be of dynamic in nature.

When I was small and studying in school. I feel good towards my teacher because I feel happy to learn new things especially mathematics puzzle and IQ related problem. I am from pastoral life. Most of the relatives and family member are in teaching profession also I service as a teacher for four years both in public and private school. From the early stage of my life I feel teaching as a novel profession but after becoming teacher I fell so much complex and difficult. I found that people's perception on teaching profession is different than other profession.

Mathematics teacher are role model for every student, such types of feeling was created in my mind from secondary level while studing optional math. We face the teacher crises in our school. Only for two years in secondary level I introduce among six teacher and every teacher were different in their attitude on teaching and other activities. When, I read education and I know the problem that is related to teacher professionalism. Some education teachers are professionals. They see themselves as such, and rightly so. There is a great deal of training and education to become a teacher, and it is a position of respect in most communities. The role requires both customer service skills and technical know-how that surpasses average employees. Profession is a way living life through the work which is related to earn.

A teacher plays a critical role in helping young people achieve success in the classroom. A professional demeanor shows the ways to take responsibilities of the students seriously. Failing to act professionally sets a bad example and may cause teachers to lose the trust and respect of students. Demonstration of professionalism in all aspects of teaching career to provide pupils with the best education possible is the most important factor (Zeiger, 2018).

The best school districts create leadership roles for teachers in a multitude of areas. They empower the teachers to support in the decision making process with a student first attitude. Professionalism is important in these roles and can be seen in heard in a teacher's words and actions. In the developed country teacher are taken as highly respected profession. Teacher is the noblest among all the professions since all professionals underwent education with a teacher. It is also a process to prepare the next generation of skilled professionals and workers like politician, engineers, doctors, policeman, educators, legislators and good citizen. Teachers always contribute to the professional development of everybody so the discussion of teaching professionalism should be point out in this era on the context of Nepal.

Teaching is considered as a profession, when viewed from the internationally accepted yard stick of a profession. Teaching profession is primarily a service based, nor a commercial one every profession has to make an arrangements for its own development. If this is not done the profession will be rendered absolute and is bound to be rejected by the society in the long run. As the condition of Nepal teacher's value in society is different but it is supreme in student understanding. Working in private is more difficult as stakeholder but it's more collaborative with students. As a mathematics teacher there are lots of time to interact with student, student feel somehow difficult so they try to focus their study with the labour of teacher.

Mathematics education is one of the most sophisticated and highly rated education in the modern world which in fact plays a pivotal role for the students to commence the further studies. There is widespread acceptance that mathematics is important, even vital, for an individual and for society. In most countries, the high status of mathematics and mathematics education is rarely contested. It is presumed to be a vehicle toward social and political progress and central to the development of a

well-trained workforce that can advance the economic standing of a country, (Institute of Mathematics, 2015).

All the teachers responsible for the delivery of education to students need to possess the knowledge, professionalism, and skills to effectively prepare students to make own choices throughout life. This development needs to occur during the professional preparation of individuals as they seek a teaching credential, continuing education is needed throughout teachers' careers to enhance their understanding about the most recent research and practices related to improving teaching and learning.

### **Statement of the Problem**

This study has addressed the issue of professionalism among mathematics teacher. Professional development is must for the teachers to grow them with new knowledge and skill. In 1986, the Carnegie Task Force recommended, as part of its efforts to reform education, the professionalization of teaching .While the vigor to redefine educators as a profession has not met opposition, it lacks a strong advocacy. The low educational and social background is directly and strictly related to low results (MOE, 2013). The lack of a concise definition of professionalism and professionalization within education further hinders progress toward the goal In addition, mathematics educators face a double standard when speaking in terms of professionalism.

Mathematics educators are trapped between two distinct yet related professions, professors of education and academic mathematicians. For several years, the relationship between the two professions has encountered an incredible lack of cooperation .Given the requirements for teaching mirror those in the law and medical fields, and the only true test of professionalism lies within the medical and law professions the characteristics which define mathematics educators as professionals

need to be studied. Along with these characteristics, the development of pre-service teachers should also be addressed in order to insure the future teachers are enabled to garner these professional characteristics (Tate, 2010).

In global professionalism of teacher are mostly discussed then our country. Here in Nepal, other profession like as doctor, engineer, pilot and public service are highly rated professions. Most of young of Nepal are detach with teaching profession although older people and parents are focusing in teaching profession. I think that due to lack of discussion about teaching profession.

Here is an analogy that may help to understand why professionalism is so important: If a doctor came into a patient room to discuss cancer treatment with the patient, he would expect a degree of professionalism in dress, language, and confidentiality. Just by “looking the part,” speaking clearly and with authority, and demonstrating expertise in the field, the doctor has credibility and trust from the patient. If these were lacking, the patient may not trust the doctor he is working with and, in turn, may not take his or her advice about treatment.

The same is true of teachers. If we want those around us to treat us like professionals, we must demonstrate professionalism in what we do. If we want parents to trust us and listen our advice, we need to communicate like professionals. If parents have questions about curriculum and instruction, we teachers should know the latest research and best practices in our field. In this sense this study has made attempts on exploring professional activities of mathematics teachers throughout their teaching and the factors affecting in their professional development. Through the condition of Nepalese society, perception of people towards teaching profession, labor and difficulty which I did in my teaching

period, my family professional background are most notable factor which leads me for this research.

### **Objectives of the Study**

The main objectives of the study were as follows:

- To assess mathematics education teachers everyday life in relation to professional life and evolution of professionalism throughout their professional career.
- To identify the affecting factors for the professional development of mathematics education teachers.

### **Research Questions**

Grounding on the study of objectives, the study was guided by the following research questions:

- What constitutes teaching a profession in Nepal in changing global and national contexts?
- What are the factors that facilitate and impede the professional development of mathematics teachers of Nepal?

### **Significance of the Study**

Since professionalism is in discussion on global and national level. I have identified the factors of teacher professional so, the finding of this study will be significant to the prospective teachers for their further development in professional life. This study has the following significance. Professionalism is most necessary to develop teaching activities as professional through that we can improve teaching learning activities. Professionalism helps to teacher to show their professional performance in teaching, stakeholder for formulating the plans and it would be also use in formulating the law. This research study has the following significant

- This study would find out the description of professionalism of mathematics teacher.
- This study would identify the factor of teacher professional development.
- This study would help for progression of educational environment and student achievement.
- This study would be useful for educational offices to develop teacher professionalism detecting the de-motivating factors.
- Result of this research would be practicable in formulating law related teacher professionalism and for policy maker, stakeholder and school management of public and private school.

### **Delimitations of the Study**

This study has the following delimitations:

- This study was conducted four months in the field with different time segments.
- In this research, grounded theory was implemented and the findings were generalized qualitatively.
- Due to the limited resource materials and time, it was not possible to include all the public and private school of the Ghiring Rural Municipality of Tanahun district in the study. Therefore the researcher analysed professionalism of mathematics teachers from (two private and three public) schools.
- Researchers has conducted focus group discussion (FGD) with student, In-depth interview (IDI) with teacher and key informant interview (KII) with related person of education field.

- This study was based on secondary level mathematics teachers.

### **Operational Definitions of Key Terms**

The following key terms are explained operationally:

**Professionalism.** Mainly Professionalism means the skill, good judgement, polite behavior, good attitude from a professional person. This is the combination of all the qualities that are connected with trained and skilled people in their particular work.

**Personal Characteristics.** In my research work personal characteristics of teacher include their age, sex, qualification and teaching experience.

**Organizational prospective.** Organizational prospective related to teacher professionalism are teacher status and prestige, working and living condition with school environment and facility.

**Commitment.** Commitment include the teacher' overall dedication related to organization, classroom and teaching learning activities.

**Accountability.** In my research accountability refer to the fact or condition of being responsible which mathematics teacher show in their profession.

**Conduct.** The manner in which mathematics teacher behaves inside and outside of school especially in particular situation.

**Compensation.** In my research, compensation means the payment of mathematics teacher and their complementation of courses. It also the recovery classes where teacher were absent in class.

**Satisfaction.** The fulfillment of teacher wishes, expectations of needs or the pleasure derived from teaching profession.

**Motivation.** The reasons for choosing teaching profession and factor which leads for better teaching learning activities.

**Mathematics Teacher.** I have used the term 'mathematics teacher' to refer to the teacher who have been teaching mathematics at secondary level schools of Tanahun district and who have bachelors or master degree in mathematics education.

## Chapter II

### Review of Literature

In this section, the theoretical foundations of professionalism among mathematics teacher along with the prevailing parameters of profession grounded on different theoretical models are discussed. This literature review help to derive research design and gives many idea about teaching professionalism. Literature review is secondary materials. It is continuous process which starts before select research problem and continue till complete the research. It require to do innovative research, to avoid the repetition, and to fulfill the gap in researches.

The literature review is a written summary of journal article, books and other document that describes the past and current state of information on the topic of research study. With the information available, searching and locating good literature on the topic of research study can be challenging (Creswell, 2014). The previous studies cannot be ignored because they provide the information to the present study. The following empirical researches have been reviewed in this study. Though not seriously and uniformly raised, questions are often in literatures on whether teaching can be called as a profession or it is a job only. Similarly, whether teachers can be defined as professionals or semi – professionals or white – collar workers has been the subject in numerous studies.

Professionalism is about the quality in teachers' work and indicates different aspects of teaching. The examples of such include keeping up an ethical code and to be ethically aware, or doing what's right under the circumstances or using ones professional knowledge in the best way. Sometimes the tacit knowledge of a professional group is equated with professionalism. However, entire concept of tacit of stupidity exists as well as the concept of bail wisdom. Tacit knowledge is nothing

good in, and of, itself even if with knowledge is a necessary condition for doing a good job it is not enough. I think Max Van Manse comes very close to a description of professionalism with his concept of 'pedagogical tact' and similar to professional knowledge. It is organized as tacit knowledge but not in an explicit and formulated way. It has a quality in it that corresponds to the idea of teaching and being pedagogically oriented. One aspect of professionalism relates to how professional knowledge is gathered and used. Traditionally quality was perceived as a systematic relationship between 'theory and 'practice' (Kompf, Bond, Deworet, & Boak, 1996). However, at present it has been perceived as significant improvement in the practice of theoretical insights in real situations.

### **Empirical Review**

Regmi, (2017) has conducted a research on the topic Relationship between mathematics teacher's age, gender, and experience and student mathematics achievement. The research was based on the hypothesis; there is no statistically significant difference between mean mathematics achievement of grade five student and mathematics teacher characteristics (age, gender and experience). His research was based on basic level school of Nepal including Bhaktapur and Lalitpur district. He selected 104 school are selected randomly special student of grade five. He used a non- experimental, causal, comparative design. Especially, use ex-post facto method. He took primary and secondary data school and 296 mathematics teacher by using questionnaire.

The validity and reliability of the test was maintained by taking the help of education experts. As research tool he adopted from Odiembo and Simatwa, 2014. The data analysis process was done by SPSS. He calculated mean, standard deviation, minimum, maximum and bar graph was used to present as t-test, z-test and ANOVA.

He found different things in his research time; the teacher who had less age made classroom very interesting, the objectives were fulfilled. Lesson revision homework, different teaching technique, question answer and feedback were good if the teacher had proper age, gender and teaching experience. The teacher who got higher achievement changed the positive attitude of student towards mathematics learning.

As that we have different things related to professionalism along with context. Professionalism itself has a broad area Poudel, (2015) completed a research thesis on the topic of Student's achievement taught by teacher with and without education background. His study was based on secondary level of school. In this study he wanted to test the applied learning activities of teacher from educational and non-education. Research was based in mixed design as quantitative; (done administrating achievement test among 800 student of grade nine) and qualitative (10/10 teacher with and without education background). The information were collected using observation form in Rupandehi district. He calculated mean, standard deviation and used t-test to measure.

In his study he found, the teacher who were from educational background were slightly forward to get higher achievement. The classroom management was good and systemic from education background teacher. As the perspective of using teaching materials and different teaching methods were seen different in day to day class. The teacher without education background felt quite difficult to make friendly behavior with students and did not understand their psychology. He concluded that there is significant difference between the achievement of student taught by the teacher with and without educational background.

Similarly, Tina, (2011) has carried out research on the topic "The impact of teacher attitudes an academic achievement in disadvantaged school". This research

was based on school in rural area of America. The student and the school condition of the research school were very worse which has low income. She herself did this research on her first year of teaching in school. She want to identify ways to improve practices in order to better meet the need of student; whether the student and teacher background is same or not. By the research the researcher believes that the teacher influence on teaching. She uses data collection as internal based survey. The survey was licensed by qualified educator. She spend two weeks in one survey and conducted 19 survey. This study and research thesis was prepared when she was in teaching of her first year in rural part where there are difficult problems with student, classroom and school environment. She find that large communities, transient student, racial and ethnic diversity has make the gaps between teacher attitude and student achievement. Also low income, low parenteral, involvement, inexperienced teacher, limited resources are the cause for low achievement.

Similarly, Pail, (2018) has conducted a research on the topic “Teacher perception and practices of active learning in mathematics classroom. His research objective were to assess the teacher's perception's about active learning , to explore how often mathematics teacher practice active learning methods on the classroom at the basic level and to find out the factor affecting the implementation of active learning in the mathematics classroom. The research design was sequential mixed method design. He used both quantitative and qualitative approaches. The data collection tools were semi- structured interview, questionnaire, and documents analysis also he carried out classroom observation and quantitative descriptive survey. The data were collected and analyzed by using SPSS 21.0. He conducted pilot study and used Likert's scale in his research. The reliability test was done with Cronbach's alpha. The findings of the Research are based on active learning. He found that good

teacher perception to active learning in mathematics. He added the active learning change the capacity of student. It provides opportunities for sharing the knowledge. Active learning help for student independent and makes student searching environment. Both student and teacher feel more responsible for learning.

Pail finds some problem in teachers' perceptions and practices of active learning in mathematics classroom; if the size of student is large or the space of classroom is narrow, it may be difficult. Most of the teacher of schools use lecture method. This lecture method is also another problem for active learning in mathematics. He added the problem in focus of technology in teaching learning mathematics. Now this is the period of modern technology of email and internet, so we should focus of using technology based tools in teaching learning activities.

### **Theoretical Literature**

Mathematics education teacher's professionalism is an important concern for the stakeholders of education as it has become a major input in the supply side so as to ensure and enhance school effectiveness and student learning. Much has been talked about teacher professionalism in the past and every educational reform directly or indirectly has laid emphases on it till date, different theories and models have been used to explain the determinants, dynamics and discourses of teacher professionalism. Such theories and models have emphasized different concepts and variables. Most of the studies are fragmented. What is revealing from theories is that they overvalue one or few variables but overlook others. The existing frameworks are insufficient to describe mathematics education teacher professionalism in changing contexts of the so-called educational reforms.

Studies based on certain theories or models e.g. applied science model and craft model on a particular point of time in a particular culture and context may not

adequately interpret and represent the dynamics and variables of teacher professionalism in other contexts, particularly in developing countries. Hence, it will be practicable for better understanding of teacher professionalism as a dynamic social process and to harmonize specificity and complementarity of the existing theories.

At the point, it is worth mentioning, most of the view is that if competing theories make the same basic epistemological assumptions and differ primarily due to specialization and focus of their authors, it is often best to undertake a coherent unification of those theories, in order to be better able explain the complexity of the phenomena under study. An original theoretical synthesis or a more global framework for the solution of practical problems may result from such integration. Therefore, I would like to discuss my research interests and assumptions based on different theoretical explanations made by the other researchers and scholars in the past and propose a new conceptual framework and compare it with the grounded theory that emerge from the study. The analysis made in this chapter proceed from simple definitions of teacher professionalism to its variables and determinants in consonance with the changing contexts and in contestation with other professions, where possible.

Though not seriously and uniformly raised, questions are often in literatures on whether teaching can be called as a profession or it is a job only. Similarly whether teachers can be defined as professionals or semi – professionals or white – collar workers has been the subjects of discussion in numerous studies Etzini, (1969). In this section, an effort has been made to discuss the ingredients of a profession citing different sources so as to ascertain the commonalities of the variables of professionalism and to portray how well teaching falls within the domain of professionalism.

Wagle, (2002) studied occupational prestige of teaching and generalized that teaching is high in the range of all occupations, and it is relatively high within the group of public and the personal service professions (e.g. nursing, social work and police), In addition, teaching is higher than that of skilled manual and white collar occupations. However, he concludes that teaching is lower than that of the major professions e.g. Medicine, law and architecture.

Lortie, (1975), citing historians and economists concluded that teachers are low and underpaid, emphasizes teacher income as somehow inappropriate given the importance of education. He has mentioned the prevailing interpretation that teaching is a temporary employment for men and continuing employment for women and teaching is an easy job followed with easy entry. He appreciates the changes brought in regarding the pre-service training, teacher certification and licensure. However he is questioning that if professionalization requires sharp changes in status (income, prestige), it seems premature to claim that it has taken place in teaching, teaching is only partially professionalized.

For Lortie, (1975) being identified externally as a professional is to continue learning through a career, deepening knowledge and skill judgment, staying abreast of important development in the field and experimenting with innovation that promise improvements in practice. A number of conditions that distinguish a profession from other occupations have been identified as specialized knowledge base and shared standard of practices (technical culture), Commitment to meet client needs (service ethic), strong identity with the profession (professional commitment) and collegial as opposed to bureaucratic control over practice and profession (Professional autonomy). Finally, it is imperative that the long-standing debate over whether teaching is or is not a profession has been unproductive.

There is a wide variation in the definitions of what constitutes a profession and professionalism, together with a shortage of empirical research. There is little consensus as to what degree schools currently exhibit the characteristics of professionalized workplace and it is unclear to what extent the teaching occupation has undergone change in consonance with the school reform. A little is known of what factors affect teacher professionalism and their teaching. The functionalist theory of professions holds that professions are that occupations whose members bring a high degree of knowledge and skills to those social functions, which are most central to the social function and the wellbeing of society. According to the functionalism theory, the five key criteria of a profession are as follows (Brown, Bucklow, & Clark. 2008):

Social function-education is a social process; teaching is for wellbeing of Society. Knowledge of subjects matter to be transmitted to student, theory- practice Debate. Practitioner autonomy from state curriculum, administrator, local community and peers, Collective autonomy – self-governing status and independence from state (medical council), organized into unions and professional values (set of values) - client centeredness, and code of ethics, but these are difficult to determine as teachers have multiple clientele (students, parents etc.).

For the sociologist professionalism refers to the attitudinal attributes ideology of those who are considered to be, or aspire to be considered as professional. These include a belief in value of expertise the ideology and attitudes as an indicator of professionalism be irrespective of the level of professionalization of professions. The teacher professionalism model assumes that effective teacher is instrumented in helping students learn and meet challenging standards. Given the skill developments placed on teacher in today's classrooms, teaching must be conceived along lives of

professional model. Aligning academic standards for pre service preparation, developing state licensing standards and creating standards for advanced teacher certification, creating a career development system, supports to the teacher moving through a continuum, starting as a teacher candidates and finishing his or her career or a master or board-certified teacher are required for the reforms in teacher development.

The career development system according to Gordon (1985) should include support for beginning teachers, including initial licensure and induction program during first years of teaching, career growth and development opportunities such as career Licensure, professional development, differentiated roles and responsibilities and ongoing teacher evaluations and tiered certification and compensation system that provides additional leadership responsibilities and compensation as teachers move through career.

There has given one of the dynamic interpretations of profession and professionalism. It has presented a participatory model of professionalism and classified them in a hierarchical order as wrong professionals (highest profile), normal professionals (they accept ideas, values, methods and behaviors and higher status discipline/dominate environment is standardized, controlled and predictable and they treat, people as things) and lowest status discipline and professions (They concern with people as people. E.g. social workers, nurses. They work in environments, which are diverse, dynamic and uncontrollable). In his model he has presented ideas that things versus peoples, quantifications versus judgment, centralized versus decentralized, universal versus local, beneficiaries versus partners/actors and top down planning versus bottom up (Gordon, 1985, P.122).

Gordon further writes that professions or disciplines, which develop or adopt skilled techniques of measurement, move upwards. As the idiosyncratic attributes of people are difficult to measure, their individual behaviors is unpredictable and approaches and methods for handling them are in continued evaluation and change. Forwarding the concept of “professional prison”, that draws people and holds them into it, he questions central prescription of power in the name of planning. Thus professions like teaching that has lower power and status and have to adopt behaviors and approaches that are unpredictable are need reconsideration.

Under that hierarchy, professional advancement means moving out to the classroom into a “higher” level position such as principal or resource teacher, often removing the teacher from the classroom and students (Bennell, Bulwani & Musikanga, 2003). In addition, this model assumes an end destination, or top step of the ladder, in a career path. This model is flawed in that it does not consider remaining in the classroom as care advancement. A better model of teacher professionalism centers on process and growth the individual in his or her classroom practice as part of a never-ending career path that builds the capacity of teachers. Finally, participatory model is personally and professionally affirming to the teacher and offer true career paths, goals and choices. Based on the foregoing propositions, it can be concluded that teaching professional should be seen as a moving target rather than a static set of attributes. As education system and the schools are ever changing due to reform initiatives, there is no specific point of defining professionalism on the basis of stringent criteria. It should be seen as an evolving concept.

Morris, (2010) has given an analogy of medicine preferred an accountability model in what individuals were liable to review and might have sanctions imposed on them if they fail to satisfy those to whom they were accountable. He proposed four

main models of accountability; public or state control, professional control, consumerist control and market control. He viewed accountability as a social phenomenon and construct. For him professionalism was also a construct but with an individualistic essence. His definition of professionalism constitutes profession of specialist knowledge, a particular problem teaching as everyone thinks the known how to educate and an altruistic concern for the beneficiaries of one's work. He has emphasized for a model, which addresses both need for individual creativity/ freedom and public accountability. He has taken identity a key concept in constructing a profession. He opines that for a new professionalism professional has a duty to equip themselves with knowledge of all aspects of education and need to refresh this knowledge through professional training and contacts beyond their own school. They have to become experts and proud of being professional.

Knowledge and participation on professional task substantiate a sense of individual identity for both new entrants and long – serving teachers. The accountability model for teacher professionalism holds multiple stakeholders accountable various levels of the system-to-system teaching as a profession and enhances the professional skills of teachers. It relies on professional accreditation and meaningful state licensing. It also includes peer and administrator evaluation to ensure that teacher engage in appropriate professional practice.

Components of professionalism according to this model are: (a) Standard based assessments of student learning at state and district levels (b) Teacher accountability to possessing content knowledge and instructional strategies (c) Student accountability for meeting academic standards (d) Accountability to ensure that teachers are exposed to and acquire the knowledge and skills necessary for beginning teachers. This is accomplished through accreditation of pre-service

preparation and board entry requirement (e)Teacher preparation institutions are held accountable to professional standards for preparing teachers and administrators candidates (f)Teacher's associations are involved in accrediting role and in the development of pre-service standards (g) Accountability at the district and school level through evaluation of teacher and school leader performance. Finally, an ideal teacher (professional) should have the qualities, like a role model, a lifelong learner, an agent of change, a reflective practitioner, a specialist communicator, an effective manager, an action researcher, a teaching professional, a visionary pragmatist.

The distribution of power, authority and control in school is one of the most important issues in contemporary education research and policy. Indeed, this issue lies at the crux of many current reforms-teacher empowerment, site-based management, and related form of school decentralization (NCES, 1997). The distribution of power in school system whether to be centralized or decentralized is a subject marked by substantial disagreement and confusion. They suggests that any teacher development program should actively listen to the teachers' voice in order to provide opportunities for them.

Teachers should be partners in and an agent of change, not as something to be change. It reminds that focusing primarily on student cognitive achievement creates and unnecessary narrow definition of good schools and undermines the role of schooling for societal change. Parajuli, (2002) carried out a study on, "The State, the School and the Society Dilemmas and crises in Education in Nepal". He has explained how school interacts with other social issues and how people perceive and participate in schooling. He further shows how the centralized education structures of state restrict wider participation of local actors in schooling, and in the process of

development and decentralization. He has shown that school as a state organization is under tension in the local and the central levels.

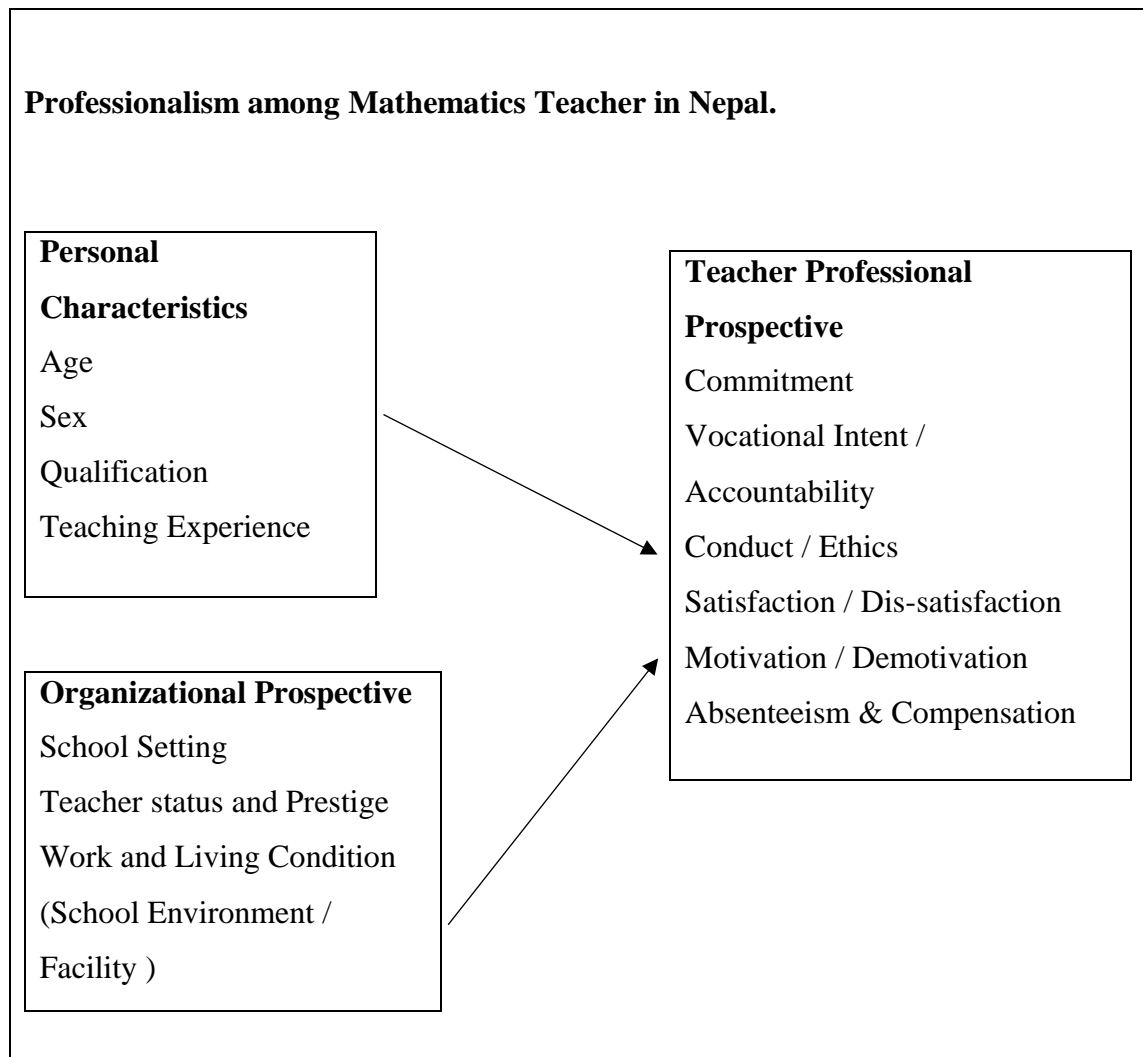
Bennell, Bulwanil and Musikanga (2003) studied the interactions between the school, development and state by focusing on Basic and Primary Education Project (BPEP) of Nepal. They have shed light on teacher participation and perceptions, educational planning and management and have elaborated how the education sector has become integral part of the state politics and power. Based on the existing definitions of professionalism in relation to teacher professionalism, theoretical models and explanations, I would like to propose a broad conceptual framework by integrating the different variables of teacher professionalism studied by various scholars. Since none of the theories and models seems perfect in studying the variables of teacher professionalism in changing contexts particularly under decentralization school settings against the state management. I have prepared following conceptual framework to understand, examine and explain teacher professionalism in the context of Nepal.

### **Conceptual Framework**

The conceptual framework was made through the analysis of literature review. Conceptual framework for the study is the way that organized the all the process of the research from initial stage to final stage. In this topic researcher prepared a concept for the study, which played the important role in guiding the research to achieve the determined goal. The basis of the development process of this conceptual framework was the specific objectives of this research because of the exploration and documentation of mathematical knowledge are the key concepts of this study.

The components of my conceptual framework is the combination of the related document. The personal characteristics are based on Regmi (2017) and poudel

(2015) as the research and the organizational prospective were placed from Pali (2018), as own experience and help of subject experts. The factor which determine teacher professional prospective were combined from Etzini, (1969) i.e. commitment, Morris (2010) and Gorden, (1985) i.e. vocational intent and accountability, Lottie, (1975) i.e. motivation, demotivation with teachers working and living condition, Parajuli, (2002) and Brown, Bucklow & Clark, (1994) i.e. conduct and ethics of mathematics teachers also Tina, (2011) and Lortie, (1997) i.e. absenteeism and compensation with motivation and demotivation where as Wagle, (2002) with satisfaction and dis-satisfaction on the basis of discussion with teaching profession.



As shown in the figure above the variables are categorized into three groups; personal characteristics comprising age sex, qualification and teaching experience. Similarly the contextual variables are classified into educational development in the facility, management setting of school, teacher status and recognition variables are main themes of this research placed under the dependent variables. They are: Commitment, indication, certification and licensure, vocational intent, service orientation, conduct/ethics, continuous professional development (CPD), autonomy /authority, accountability, identity, compensation, professional knowledge and expertise and student performance/ teacher productivity.

The tools for data collection were prepared from the basis of conceptual framework. I consider all the aspect and components on focus group discussion schedule and interview schedule. For better effort I made the semi extract tool where the indicators of professionalism were divided into many factors which help to pick out the main factors and indicators related to professionalism.

## **Chapter III**

### **Methods and Procedures**

This section discusses the research design, sampling strategy, study area, methods, tools and procedures of data collection, data analysis and interpretation procedures. It provides the information on how to conduct research. It helps the researcher to achieve the objective of the research. This is a whole roadmap for the research too.

#### **Research Design**

Qualitative approach has been used in this study because it captures life as it is lived (Bryman & Burgess, 1994). This perspective focuses on the reality and experiences of the teachers and provides a framework to analyse their behaviors. This research design emanating from the grounded theory approach and phenomenology study to qualitative inquiry was included so as to use purposive sampling, focus group and in-depth interview. The phenomenological study is designed to describe and interpret an experience by the people who have participated in it (McMillan, 2000) and grounded theory design is a systematic, qualitative procedure used to generate a theory that explains at a broad conceptual level, a process, an action or an interaction about an essential topic (Creswell, 2012). The study has drawn extensively on the stakeholder's perceptions that yield significant insights into the ways they described teacher professionalism.

Qualitative researchers argue that manipulating, measuring or controlling variables, cannot describe human experiences. This design watched teachers and other stakeholders in their own setting and interacted with them in their own terms. The participants of the study comprised critical reference group-academics, educational planners, educationists, the consumers as well as teachers from differently managed

school i.e. public and private. In the first level Focus group discussion (FGDs) with secondary level of student and in-depth interview with mathematics teacher were made and their perceptions on what constitutes a profession were collected. Their opinions were mapped for deriving a theoretical frame work.

In second stage if the data were seems less for interpretation, key informants interview (KII) with headmaster, academician, subject expert, educationist and educational planner were conducted.

### **Selection of Respondents**

The study was based on purposive sampling. It means the data collection is guided by theoretical sampling. Based on principle of purposive sampling, two private and three public schools each were chosen purposively from Tanahun district. While choosing the schools, only the secondary schools were selected. Sampling in grounded theory proceeds not in term of drawing sample of specific group of individuals. It should started from phenomenon based of knowledge, an organization of community representative (Strauss & Corbin, 1998).

Five teachers who were teaching mathematics from sampled schools were selected for in-depth interview. The students, members of school management committee (SMCs), members of parent teacher association (PTAs) and parents were approached for focus group discussions (FGDs). The key informants were also selected purposively from academician, stakeholder, educationist and educational planner from the study area.

### **Study Site**

Ghiring Rural Municipality of Tanahun district was selected as the study area. The area was selected due to my personal experience related to the field which helped me getting more consent and support from participants. Only five school were

selected for interview and focus group discussion. In-depth interviews were taken from mathematics teacher who was teaching in secondary level. As the effectiveness of research both public and private school were taken. For the qualitative judgement key informants interview was done from the academician and other educational related people.

### **Data Collection Tools and Instruments**

Since study was based on qualitative methods the main tool for data collection was interview schedule and focus group discussion guidelines. The tools were made by the researcher through the help of subject experts and thesis supervisor for the actual and literal data from the tools.

**Focus group discussion (FGDs) guidelines.** Focus group discussion has been conducted with students of secondary level. Focus group discussion involves gathering students from similar backgrounds or experiences together to discuss. It is a form of qualitative research where questions were asked from the guidelines for student perceptions attitudes, beliefs, opinion or ideas about professionalism. Student always related with school environment and teacher so we can take live experience of teacher. Based on focused group discussion researcher mostly pick life experience with teacher and student activities. It generally involves group interviewing in which a small group of usually 6 student from homogeneous group. It is led by a researcher (myself) in a loosely structured discussion of professionalism among mathematics teacher. It takes at least 25 min for one FGDs in one stage.

**In-depth interview (IDI) schedule.** This was the main sources for data collection. In-depth interview was held with the secondary level mathematics teacher who was bachelor degree or master degree in education and teaching mathematics subject in secondary level. In-depth interviewing has involved conducting intensive

individual interviews with secondary mathematics teacher to explore their perspectives, ideas, program, or situations about their teaching professionalism which always related with teacher's experience with their professional life with everyday life.

Questions which are considerable for professionalism were noted thorough the review and verified by subject experts. The interview schedule was in points around 20 questions and questions were open-ended. To provide the most detailed and rich data from an interviewee, researcher make that person comfortable and appear interested in what they were saying. IDI was last long for 30 min as intention of the interviewer. Researcher has been tried to use effective interview techniques, such as avoiding yes/no and leading questions, using appropriate body language, and keeping their personal opinions in check.

**Key informants interview (KII) guidelines.** This was the validations of data from in-depth interview and researcher expect more key information regarding to teaching professionalism. The questions were open ended with focus on key facts about the topic. It involve interviewing people, who have particularly informed perspectives on an aspect of professionalism being evaluated and people were selected for their with first-hand knowledge about teacher professionalism. The interviews were loosely structured, relying on a list of issues to be discussed. It was like a conversation among acquaintances, allowing a free flow of ideas and information which was about professionalism of secondary level mathematics teacher also the issue from in-depth interviews and focus group discussions.

### **Trustworthiness**

After completing the construction of the research tools, it was necessary to maintain quality standard. In qualitative studies, trustworthiness refer as validity and

reliability. However in this concept is more unclear because it is put in different terms. Trustworthiness is all about establishing the four things which are credible, transferable, confirmable and dependable (Joke, 2015). Which is used in my research for validity and reliability maintaining process. For better quality standard, I used cross match, triangulation, member cheating in the field. For maintaining quality I followed the following ways:

**Credibility.** This concept replaces the idea of internal validity, by which researcher seek to establish confidence in the truth of their finding. To maintain credibility of my research I tried to spend as much time with my responded for interview and discussion. After getting information I wrote notes, I asked similar types of question to other responded and tried to find real practices from those information.

**Transferability.** Transferability replace the concept of external validity. This criterion refers to the applicability of finding is one context (where the research is done) to other contexts or setting (where the interpretations might be transferred).To maintain transferability I had expanded professionalism perception and indicators of professionalism. I had tried to capture most of scenario by using tick description of group discussion, interview and my meaning making.

**Conformability.** A third standard is conformability, which refers to the quality of the results produced by an inquiry in terms of how well they are supported by informants who are involved in the study and by events that are independent of the inquiry. This is sometimes referred to as the audit trail (a record of how decisions were made throughout the study).I am also student. So to maintain conformability before concluding information I reviewed those information among my other students and friends before concluding information as well.

**Triangulations.** Triangulation is the combined comparison between three components which leads towards true fact and conclusion. For this researcher has examine the interviews from student, teacher and stakeholders. The facts from focus group discussion should be comparison with teacher's in-depth interview and that is also confirm from the key informants interviewer. Through this triangulation process it is very easy to bring the exact facts about professionalism.

### **Data Collection Procedures**

In order to attain the objectives of the study the data was collected from each of the two categories of schools (public & private) those were selected purposively. I was heavily involved in the data collection process. Key informants interview, In-depth interview and focus group discussion were the main methods of data collection. Separate set of guidelines was developed in order to determine what information to pursue in detail. All the interviews and FGD notes were tape recorded and transcribed later with the consent of participants.

For the focus group discussion, first researcher request for consent with principle in school. After getting consent student 6-10 student selected from secondary school by the help of class teacher and principal and get the consent of student individually. The group discussion was conducted as the guidelines and semi extract tool also considerable things for discussion.

In-depth interview was started as taking consent from secondary level mathematics teacher and the things were discussed as the interview schedule. After complementation three focus group discussion and five in-depth interview and recorded data were transcribed and try to fulfil the components of professionalism as conceptual framework. Then researcher meet thesis supervisor for the data and in another stage key informant interview was conducted.

Data was continuously collected until the interviews and FGDs add nothing to what the researcher already knows about a category, its properties and relationship to other core category. The trend of basic education indicators of the study schools was also collected accordingly.

### **Data Analysis and Interpretation Procedure**

Data were analyzed manually due to personal constraints. For data analysis theoretical sampling is used (it is a central part of the grounded theory advocated by Glaser and Strauss in 1967). The qualitative information related to mathematics teachers professionalism was transcribed, translated and analyzed by developing different themes and its domains. Since the study was guided by the grounded theory, the data collection, analysis and organization was intimately connected, each informing and guiding the other. Therefore, data was analyzed through coding, sorting and organizing. This involved a process of repeated immersion into data and repeated sorting and coding. The transcript was re-read and the sentences and phrases along with the verbatim was highlighted, quoted and organized into in indexing system.

Bringing border conditions into the analysis requires integration them into the theory. It is the researcher responsibility to show specific linkages between conditions, actions and consequences (Strauss & Corbin, 1998). As more data was collected, further codes were established between different codes and consensus and differing discourses and meanings were interpreted accordingly. The themes that was emerged and the interrelationships between categories were described in terms of existing theoretical interpretations.

### **Ethical Considerations**

The protection of human subject through the appropriate ethical principles is important in all research study. The main step for ethical considerations is consents.

That will be kept strict in this research. The privacy of all respondents and participants are kept secret and code is used. Respondents have given the right for personal independence at any time. Each interview was conducted individually and all the data was transcribed in private and quiet room. Data were stored and analysis in password protected devices. Therefore the information from the respondents are strictly private and only use in this research process with the basis of rule and law of research.

## Chapter IV

### Analysis of Data and Interpretation of Result

This chapter presents the analysis of data collected through the in-depth interview (IDI) with secondary level mathematics teacher, key informant interview (KII) with academician, stakeholder and education planner and focus group discussion (FGD) with secondary level students. It starts with the concept and information of professionalism, followed by the determining factors of professionalism, sources of understanding professionalism, indicators and other related things about professionalism. Moreover, this chapter interprets the factors impeding and facilitating for the professional development of mathematics teacher.

Under the data collection process, I did in-depth interview with secondary level mathematics teacher in selected five (public-3, private-2) schools, three focus group discussion with secondary level students and one key informant interview with academician, stakeholder and education planner in Ghiring Rural Municipality of tanahun district.

#### **Occupational Status of Mathematics Teachers**

Occupational status depends on the “public valuing” of the competence, role and overall contribution of a particular occupation to individual and societal welfare. Occupations that have attained professional status share a common set of characteristics including a high level of respect from the public at large. In terms of professional status of mathematics teacher in Ghiring, I myself raised some questions regarding the occupational status of mathematics education teachers. One key informant made the following remark:

*The status of mathematics teacher in both private and public school has declined appreciably during some years. However, the mathematics teacher force that were*

*resulting in the 'de-professionalization'. Qualified teachers with lower salary, minimum or insufficient number of teachers posts creating by Nepal government, insecure feeling on job made their status poor. (KII 1)*

Also another key informant further added:

*Teachers dedicated in their services and they were performed better but unfortunately they are paid considerably less paid than the other professionals and viewed them teachers with general subjects. (KII 5)*

One Mathematics teachers working in private school reported:

*Occupational status of mathematics teachers in Ghiring, basically works in private school do not have very well due to lack of supportive working environment, similar levels of compensation as others professions, lack of a high level of education, insufficient ICTs based material and specialized body of knowledge. (IDI 2)*

On the aspect of occupational status of mathematics teacher most of the teacher agree that mathematics teacher plays vital role in schools. The concentration of students and parents shows that many of them gives their value. The main challenge to be professional for mathematics teacher is the achievement level of student. As Lortie (1975) the low payment and prestige are the vital cause for occupational status of mathematics in school. The less teacher post in school as student number and educational environment, also student perception towards mathematics subject make difficult to perform well.

### **Commitment**

Teaching profession requires commitment. An effective educator need to be committed not only to their students but to the teaching profession as a whole. This means teacher are commanded by the rules and regulations with the principles of the

teaching profession as well as the requirements. For the information of teacher commitment researcher make compression between students FGDs and teacher IDI.

*I am principle of this school. By the organizational work I can't attend my regular class in some days. I am responsible to complete whole course and there is no other teacher to give class so I take extra classes. (IDI 4)*

*Being a vice principle in school gives many challenges to teach regular class. Most of the time we give with student and parents sometime I should go to other program too. I give class work and other work when I can't take my class. (IDI 2 & 5)*

It seems that mathematics teacher has got extra responsibility like as principle, vice principle and other. The personal condition and organizational work make them trouble in taking regular classes. The double load as a subject matter and as organizational related work should be combined to be professional for every mathematics teacher. As that participations on focus group discuss suggest;

*Teacher mostly absent in classroom, for the completion of course we need to study extra class by paying fee. Our course isn't completed before examination. Teacher give formula to solve problems and give some example of question, we haven't close relationship with our teacher. We think, our mathematics teacher should give clear concept and trends to changing mathematics teacher should stopped. (FGDs II)*

In this school student are quit dis-satisfied with teacher, teacher seems less commitment towards student interest when in IDI the teacher said;

*Becoming a principle and mathematics teacher I feel double load and most challenge work. Many time I should be go out of the school because of organizational work. There is no any supportive teacher in our school so class remain free but I take extra classes to complete the lesson. (IDI IV)*

This is somehow contradict with other but another responded agree that there should be another option of mathematics teacher if the teacher has get extra responsibility.

*Here in our school our principle sir and I both teaches mathematics. If one of us absent another will take the class. Generally we plan next day classes if we were absent another day. (IDI V)*

*Among the teacher, mathematics teacher is different as tenancy towards subject matter, thinking capacity, difficult concept for learning. We are mostly free to share any kinds of problem, we somehow share our problem outside the school too. (FGDs III)*

This shows that the mathematics teacher are seems less committed in some condition as they have extra responsibility in organization. As mention by Etzini (1969) the main things to define teacher professional as the commitment shown by teacher whether they are professional or not. Also that can be maintain with involving another teacher in subject or classes. The regularity of class makes impact in student learning which directly related to professionalism.

### **Conduct / Ethics**

There is the great role of conduct in for every profession. Teacher is most respected profession in the society of every country. The nature of teacher is a rating from student, parents and stakeholders. While doing focus group discussion student says:

*Our parents mostly visit our school meet with teacher and discuss about our study.*

*We feel very happy and good while our teacher came in school uniform. Teachers are participating in social activities, we see them in our society. (FGDs 1)*

There is no more special view from student but they want their teacher is self-aware, with team work, responsible, proper dress up and good behavior with other. On the

step of social participation in the context of Nepal most of the teacher are seen as leader of society. They were playing vital role in social development.

*The school routine itself has been designed in such a way that they have to be divided in terms of subjects which makes teacher as subject teacher rather than grade teacher. They have to move from one class to another in each period. Teachers also feel less comfort to seek suggestion, advice or feedback because they think they would be considered inferior and incompetent to others if they ask for help, feedback and support from colleagues. (IDI 1)*

Teacher, further added,

*Successful collaborative work among teachers should be rewarded. It made teacher motivated. Financial incentives, developing fair and transparent reward system, refreshment training, and administrative support with sizeable salary made teachers satisfied and well-motivated. (IDI 1)*

I state that a moral way of life helps the development of human life, it protects and supports it. At present, contemplations on these global ethical issues have been revived, thanks to, in part, discussions on ethics and morality regarding various professional aspects of human life. Many deal with moral issues occurring in individual professions and look for ways to solve them. With regard to these activities, there is an effort to integrate moral reasoning in people's professional lives in order to achieve happiness and contentment, or to minimise negative consequences.

The new characteristics of the globalized world and its accelerated process of modernization have caused society to face situations considered unthinkable until then a more way of professional life helps the development of human life. It protect and supports in professional life. Teacher always need or except good feedback from

other. The work with their team and other colleagues gives more idea for professional development. Teacher professionalism is a social process where code of conduct and social responsibility are measurement of professionalism (Brown, Bucklow & Clark (1994). For every mathematics there is close and distinct relationship with parents. When parents have worried about student then they are quite polite on student progression on examination and when their children result is bad then they keep blaming on teacher.

### **Absenteeism and Compensation**

There are two types of system in teacher absenteeism. Teacher in government school seems to be more absent than private school.

*Our mathematics teacher is vice-principal of our school, due to teacher's personal work and training our class remain free but another mathematics teacher take our class. (FGDs 3)*

*I try to be regular in school; in my absent day that is my legal holiday so I didn't take extra class as compensation but I cover the course of content. In my leisure period I often control the free class, in that class I give classwork related mathematical problem and focus all student about my subject also I discuss student difficulties about subject matter. (IDI 3)*

Poor motivation and lack of accountability is widely accepted to result in high levels of absenteeism. Poor teacher attendance as a direct consequence of the lack of accountability of teachers and schools to parents, students and local communities. In response to the issue of mathematics teacher absenteeism, causes of absenteeism and its compensation to the concern sectors, it was found:

*Mathematics teacher has more responsibilities than other subject's teacher because s/he is the vice principle of our school. S/He is not only the teacher but also the person related administration. (FGD 3)*

They further added:

*Most teacher absenteeism is for some reasons, namely personal illness, involve in cultural program, leave, but unfortunately sometimes teacher absent due to involvement in political programmers. Sometime for training. But there is no practice to give compensation of leave to the students and organizations. (FGD 3)*

Significantly, job satisfaction and motivation are very essential to the continuing growth of educational systems around they rank alongside professional knowledge and skills, Centre competencies, educational resources as well as strategies, in genuinely determining educational success and performance. Teacher related sources of job satisfaction seem to have a greater impact on teaching performance, as teachers are dissatisfied with the educational policies and administration, pay and fringe benefits, material reward and advancement. Here questions raised in terms of job satisfaction or dissatisfaction to the teachers teaching mathematics. The responses are discussed below:

### **Satisfaction and Dis-satisfaction**

In terms of the friendly manner under the job satisfaction one mathematics teacher of public school informed:

*Because of the limited number of the teachers available for the schools, they have to take, on an average, at least five period a day which offers them little time to plan , share and teach together. The school routine itself has been designed in such a way that they have to be divided in terms of subjects which makes teacher as subject teacher rather than grade teacher. They have to move from one class to another in*

*each period. Teachers also feel less comfort to seek suggestion, advice or feedback because they think they would be considered inferior and incompetent to others if they ask for help, feedback and support from colleagues. (IDI 1)*

Another responded added

*Being a principle of school has very load with teaching in classroom. We did not have much time with principle but in staff meeting we can discuss all about the problems.*

(IDI 4)

Wagle (2002) only talk about prestige of teacher as their satisfaction but most of key informants interviewer are agree with lower priority for teaching professionals among other professionals. The interview with private and public schools teacher has different types of view regrading on job satisfaction. Most of the teacher want to obtain another business for better income and family planning. The good result among student was key factor for the satisfaction and low participation on classroom activities and student thinking towards subject matter makes somehow dissatisfaction.

### **Accountability / Vocational Intent**

It is widely noted that motivating factor for schools and teachers in the public education system to perform well are frequently weak due to inspiration. This is particularly the case when mathematics teachers cannot be effectively disciplined for unacceptable behavior (absenteeism, lateness, poor teaching, and abusive behavior toward pupils) by school managements because it is very difficult to dismiss them and pay and promotion are largely unrelated to actual performance.

The concept of accountability and responsibility are often confused and many define are in terms of the other. This is most important in every management system. For the professionalism of mathematics teacher one should be considerable factor.

Teacher accountability mostly deals with teacher's condition and their accountable behavior in school and particular organization.

On the prospective of teacher accountability the one of the FGDs group says;

*It is very difficult to be mathematics teacher because of subject matter, problems and student activities. Teacher are participating in social activities, we see them in our society. Sometime our teacher go for training after taking training we feel change in our teacher mostly teacher share the learning things of training with us. (FGDs I)*

In student precipitation it is somehow difficult to be mathematics teacher.

When I asked them about their future plan they focus that to be mathematics teacher it is tops and very challenging. When teacher are participating training they share new knowledge with student this shows teacher more accountable.

*When teacher join the difficult concept toward local materials, we feel very happy.*

*We do project work related to mathematical concept and problems. Among the other teacher mathematics teacher is strict we think that is due to teaching subject matter.*

(FGD III)

Where teacher pay is very low, there is normally de-factor recognition that the labor process in schools has to be organized in such a way that enables teachers the autonomy to generate additional income. More generally, there is a widespread acceptance that 'you get what you pay for, which is not very much when pay does not meet minimum livelihood needs.

*Most of the parents have complain regrading with mathematics teacher performance.*

*The common reason is the result in mathematics. Mathematics teacher should focus on live related problem. We also find that many student in secondary level are poor in general calculation. (KII 3 & 4)*

Parental views about the mathematics teachers in school regarding accountability are in fact, often quite contradictory and even paradoxical. Parents generally know very little about education and schooling, which, in the past, probably enhanced the public perception of role of teachers. However, lack of understanding and unrealistic expectations has led to frustration and negative perception of mathematics teachers. Often views of private schools which parents have knowledge of procession are far more positive than perception of public schools and teachers as a whole where as Gorden (1995) supports for initial licensure for teacher to their professional.

### **Motivation/Demotivation**

Teacher motivation refers to the psychological processes that influence individual behavior with respect to the attainment of workplace goals and tasks. However, measuring the determinants and consequences of teacher motivation and satisfaction is complex because these psychological processes are not directly observable and environmental obstacles that can affect goal attainment.

*The salary of teacher is very low in our context. Qualified teacher with low salary, minimum or insufficient number of teacher post creation by government of Nepal, insecure feeling towards profession made teacher status poor. (KII 1)*

It is often hearing that every teacher place complain about salary. Most of the teacher raise the issue of load on teaching mathematics for teacher in every organization. The post of teacher should as the ratio of student number so that teacher can develop their professional life.

*The work and living environment for many mathematics teacher is poor, which tends to lower self-esteem and is generally de-motivating. Schools in many parts of Nepal*

*lack basic conveniences such pure drinking water, staff rooms, rest rooms. Moreover housing, rental house is also a crucial issue for majority teacher. (KII 3)*

Another key informant also focused on:

*The government should make all teacher full timer rather than 10 AM- 4Pm. The facilities and salary should be provided properly for their life standard. (KII 5)*

There are two key inter-related aspects of motivation- will do and ‘can do’, Will do, motivation refers to the extent to which an individual has adopted the organizational goals and objectives. “Can do” motivation, on the other hand, focuses on the factors that influence the capacity of the individuals to realize organizational goals? A teacher may be highly committed to the attainment of the school’s learning goals, but she/he may lack the necessary competencies to teach effectively which ultimately becomes de-moralizing and de-motivating.

In response to a query about the important motivating and demotivating factors of mathematics teacher, one public school teacher of subject mentioned that Successful collaborative work among teachers should be rewarded. It made teacher motivated. Financial incentives, developing fair and transparent reward system, refreshment training, and administrative support with sizeable salary made teachers satisfied and well-motivation.

### **Concept and Perception of Professionalism**

One of the mathematics education teachers having master's degree specialization in mathematics explained the professionalism was:

*Teaching professionalism is a truly service oriented profession. Due to specific capacity of using teaching skill, ideas and knowledge, it is called respectful profession. It meant communicating effectively and appropriately and always finding a way to be Productive manpower. (IDI 3)*

According to a key informant of this study who has been working as a head teacher in government school before and now he is the president of village education committee (VEC) provided straightforward responses to the question, what do you mean / understand about teacher professionalism?

*Teaching professional is a highly contextual context, it depends on organization, the workplace, and specifies of each subjects & disciplines. Professionalism is based on well- established, personal qualities and values. Professionalism is the way providing service as all types of qualities. (KII 1)*

There is a few knowledge about professionalism with student. When I discussed with student they reply:

*The work which is done to survive is profession. It is based on profit but somehow it is a service work. (FGDs 1 & 3)*

Views of professionalism came from a wide variety of sources. When I asked to the mathematics teachers about the concept of teacher professionalism, one of the teachers said:

*Professionalism was a holistic construct, as an expression of self, as a set of attitudes and behaviors, including appearance, knowledge, and commitment towards work.*

(IDI 5)

He further added,

*Professionalism is a work which directly deals with profit but teaching is a profession without profit although there was no single definition of professionalism rather it is concept that can mean different things to different people, in different contexts. (IDI*

5)

Some definitions were similarly holistic, but more explicitly focused teaching in and around the school premises. It was concerned with performance of the subject matter.

*“It comes down to basically doing the job correctly, that and combine it your student contact and focus on satisfaction of student and parents. Somehow the learning achievement of student refers the teacher professionalism”. (FGD.3)*

Several respondents defined teaching professionalism reflexively, by thinking of it as the standard of teaching. This could be a way of expressing a holistic view of professionalism, and also a benchmark for their own behavior.

“I think it’s about insight as well. It’s about having the skills and choosing the appropriate level or the appropriate skill at the right time so that you are not over the top, but additionally you are not taking and responsibilities with doing something incorrectly.” (FGD 3)

One mathematics teacher mentioned about the concept of teacher professionalism as an expression of self. When talking about this personal level of construct with professionalism as well. In this way professionalism was seen by both educators and students as essential referring to qualities which may be natural or at least pre existing.

*To me, people’s values underpin everything they do as a professional. So, from my point of view, professionalism has come before I even entered the profession. It is not about the job you do or anything like that, it is about what is decent behavior to the students and satisfaction of student. (IDI, 4)*

This was identified in the potential for students to express their professionalism by their attitudes and behavior outside schools as well as within.

Some students were seen by educators to life because of their values, work and personal feelings.

Many specific elements of professionalism were described as reflecting attitudes-good and bad. Attitudes were discussed in terms of readiness to learn and to question. A professional attitude to the job includes ensuring being fit for work. Education identified attitudes as important in relation to student's relationship and interest for their work.

Professionalism therefore was not seen as a fix well defined concept, but rather was felt to be constructed in specific interactions. Consequently, definitions of professionalism were fluid, changing dynamically with changing context.

### **Identification of Professionalism and Lack of Professionalism**

When I asked whether the identification of teacher professionalism or lack of professionalism, one key informant stated:

*Teachers, those who had social role modelling, that society expected, confidence on the contents, relevant guidelines and handbooks, and had some extra knowledge, context based knowledge and ICTs based knowledge was known as professionalism in current time. (KII 1)*

One mathematics teacher of private school stated the identification of teacher professionalism was:

*I think being a professional as a sort of professional body and it is a regulation process. It is a reflection of a set of core belief or attitudes rather than knowledge-based competency. The part played by morals and values raises questions regarding the teaching of professionalism, for examples teacher confidence, student learning achievement and response from society and other. (IDI 2)*

Views of professionalism came from a wide variety of sources from upbringing, through experience in education and work before joining the profession, to explicit within their training and role modelling from colleagues. The interaction among teachers, educationists, educational planners and other respondents of the sources explained the complex pictures of mathematics teacher professionalism that has emerged from the study. Examples of sources and experiences informing people's professionalism were:

*Personal experiences around time keeping personal experiences at work place observing other professions in another work context (before starting teaching), experience of interacting with students/parents, experience of meeting and being part of an educational team, documentation such as a student's handbook and policies formulating by policy level, role models in placements, activities in classroom, peers, modals encounter in the media (ICTs) and updated towards subject matter. (KII 1, FGD 1 &3, IDI 2, 3 &4)*

There were elements of professional and unprofessional behavior which help to do judgment. Professional behavior and professionalism are critical to effective education of mathematics students and the practice of their respective professions.

All students, staff and teachers in the school are expected to demonstrate high standards of professional behavior in all educational settings including classrooms and in non-educational settings,

One of the respondents was reported that the indicators of professional were honesty. He further stated:

*Demonstrate dependability to carryout responsibilities; differentiate appropriate interpersonal interaction with respect to culture, race, religion, ethnic origin, gender and sexual orientation demonstrate an ability to share someone else's feelings or*

*experiences by imagining what it would be like to be in his/ her situation is the sense of professional.(IDI 2)*

Most of the interviewees whom I contacted commended that professional behaviour, show regard for persons in authority in classroom, expose fitting behavior when representing the schools either in curricular activities skills of doing negotiation, compromise and conflict resolution, time management with decision-making, denoted professional if not so it was called non-professionals.

### **Organizational Perspective**

One of the major factors which determine mathematics teacher professionalism make better or worse is workload demands and expectation. For better motivation on the profession, the employee needs to be highly satisfied. With regard to workload condition and fulfil their expectation, the questions were raised to the mathematics education teachers.

Data are not readily available on the relative workloads of teachers at governments and private schools. Often comparisons are not meaningful because private schools rely heavily on part-time teachers who are employed to teach a few periods and a few lessons per day and somewhere per week. They are only paid for the classes they teach so salary costs per class are generally much lower than in publicly funded schools.

Overall pupil teacher ratios are lower in government than private schools, which to a considerable extent is a reflection of the low level of demand for public education. But elsewhere, class sizes are generally smaller in private schools and both students and parents are more motivated, which makes teaching more rewarding.

In terms of external motivation on the profession, the question was raised to the respondent to assess the work and living condition of mathematics teacher. The key informant (academician/ educationist) remarked:

*The work and living environment for many mathematics teachers is poor, which tends to lower self- esteem and is generally de-motivating. School in many parts of Nepal lack basic amenities such pure drinking water, staff rooms. Moreover, housing/ rental is also a crucial issue for majority teachers. (KII 3)*

Also it was found,

*The government should make all teacher full timer rather than 10 AM- 4 PM. The facilities and salary should be provided properly for their life stander. (IDI 4, KII 2)*

On the basis of the above quotations, it was drawn that professionalism in mathematics education is based upon values that reflect the very special nature of the interaction between students and teachers, parents and management. Individuals learning the knowledge, skills and attitudes of a profession face many new challenges. Students rely upon professional to address their needs in an expert, professional manner. Pali (2018) also see the problem for active learning which barred teacher to be professional as large size of student, narrow classroom and school environment. There are core values of professionalism that are universal and apply to those in mathematics teacher. These include, but are not limited to moral values such as honesty, integrity, and trustworthiness.

## **Chapter V**

### **Findings, Conclusion and Implications**

This section presents an overall synthesis of the findings from the empirical data and review of literature presented in the previous chapters, conclusions and recommendations. The discussion is presented under the following themes: concept and perception of professionalism indicators of professional or unprofessional teachers, job satisfaction and motivation of mathematics education teacher.

#### **Findings**

From the in-depth interview, focus group discussion and key informant interview, I come to explore the followings.

- It is very complex to draw clarity about concept and perception of professionalism but it can be express as a holistic concept and as a multidimensional, multi-faceted construct consisting of professional attitudes and professional behaviour.
- Professionalism was a consequence of qualities that the individual brought to the professional perhaps not actually innate but certainly pre-existing.
- Professionalism is an essential part for a teacher; as it was a consequence of right qualities of individual for their success.
- Professionalism include the context, with the needs, demands and expectations of students, organizational context, including the expectation of parents.
- Organizational and management support may encourage the professionalism but working under pressure with poor resources increased demotivation on teaching.

- Working environment, organizational cultures, up to date towards new knowledge, behaviour among teachers are seriously considerable things for professionalism.
- To be professional honesty and integrity, trustworthiness, empathy and cultural diversity, communication, punctuality, professional behaviour and ethical standards were needed also they can be taken as impending factors for professionalism.
- It is very difficult to observe a teacher as professional or unprofessional however, student and teacher interactions, beliefs, traits, attitude, responds towards the demand of student and organizational and physical interactions with stakeholders were flourish thing of professionalism.
- On the beyond of job satisfaction of mathematics education teacher some sorts of causes like poor inspiration, uncertainly of insecurity in job, teaching physical and education environment, dominative altitude to the subject variation, less number of teacher posts (allocation) created by government of Nepal made teacher unsatisfied in both public and private school.
- There is lots of dis-satisfaction about the salary that they have provided both in public and private also the paying system one times in every four months also great issue to became professional.

## **Conclusion**

This study has identified key themes in relation to mathematics education teacher professionalism, from a sample of mathematics teachers, school management

committee, stakeholders, academicians, educational planners, educationists, school headmasters.

The participants in focus group discussion and interview perceive 'professionalism; as a holistic concept and as a set of specific appropriate behavior. The experiences and examples of professional are expectations of students, parents, the demands of situation and the environment. Professionalism is not perceive as an absolute but constructed in the interaction of unprofessional behavior, question of professionalism and lack of professionalism better framed more in terms of ability to identify when behavior is appropriate rather than always in terms of absolute behavior.

As the informants of professionalism; training, modern technology, better relationship with school management, generating appropriate number of post, strict education act, and improvement on working and living condition of teachers are well motivation for the job. Also continuous update of knowledge, information, new innovations, self-regulation, development of accountability focusing on teacher motivation whereas poor salary, poor work and living condition, detachment or unsatisfactory relationship between teacher and school management, inappropriate post creation by government, mismatch between workload are demotivating factor for mathematics education teacher which is common conclusion from teachers, academicians, subject experts as well as the educational planners.

### **Implications**

From the findings of the study the following implications have been made:

- This study can useful for situational awareness and contextual judgement, theoretical and practical skills and for apply the appropriate skills of teaching.

- This can be practiced in formulating the law and incorporate it in School Improvement Plan (SIP) as well as implement it in the classroom teaching.
- Key term of teaching professionalism as a judgement rather than skill and the role of organizational support may be developed to explore new ways of encouraging professionalism in new comers and existing teacher through teacher orientation.
- This can be practiced in the classroom by the teacher, in career by teacher in reducing the obstacles by policy makers' and school management.
- For further researchers on teacher professionalism motivation and satisfaction can be replicated and extended by using teachers and students.
- This research helps for formation and development of teacher professionalism policy and it would be effective and fruitful for future programme design about betterment of teaching professionalism.
- Due to some constraints, the findings of this study may not address to all issues of mathematics education teacher professionalism so another research can be done in same topic by using different method.
- Quantitative data also required to picturize the problem well, so further study with mixed methods (quantitative and qualitative) with wider number of stakeholders will help to generate innovative ideas in this field.

- Research I understood is an unaccomplished task and I believe that my present research also has opened a door to further research in this particular areas.

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## APPENDICES

### I. INFORMED CONSENT FORM FOR THE RESPONDENTS

I understand that I am being asked to participate in a research study at schools of Ghiring Rural Municipality, Tanahun. The purpose of this study is to find out the **Professionalism among mathematics teacher in Nepal.**

The researcher needs information regarding professionalism of the teachers. If I agree to participate in this study, I will be taken interview and focus group discussion. It will take around 2-3 days to complete the interview and FGDs for one school. I understand that my privacy will be maintained, code number will be given instead of the name in the interview and FGDs.

The study will involve no foreseeable risk or harm. I realize that the participation in this study is completely voluntary, and I have full right to withdraw from the study at any time I want, without reason. If I decide to discontinue my participation in this study, I will continue to be treated in the usual and customary fashion. I also understand that the information obtained will be kept strictly confidential, and will be used only for the study purpose.

I have read and understand the consent form and I agree to participate.

Signature: .....

Name: .....

Date: .....

## II. INFORMED CONSENT FORM FOR THE PRINCIPAL

I understand that this research study is being conducted for the partial fulfilment for the course of master in education. The researcher of this study is a student of master fourth semester from Central Department of Mathematics Education; University Campus, T.U. Kathmandu. The topic of this research is **“Professionalism among Mathematics Teacher in Nepal.”**

As a Part of the study our school has been selected as the study area and the respondents will be the students of secondary level. I understand that my privacy will be maintained. The study will involve no foreseeable risk or harm. I understand that the participation in this study is completely voluntary, and students have full right to withdraw from the study at any time they want, without reason. I also understand that the information obtained will be kept strictly confidential, and will be used only for the study purpose.

I further state that I have no questions regarding the research study and my questions have been answered to my satisfaction. The students were also explained about the purpose and the procedure of the research study and their question regarding the study has also been answered. Since, a Principal is the legal guardian of the students in absence of parents, I hereby give permission to enroll my students in the research study. By signing this form I have not waived any of my legal rights in this research study.

.....

Principal

.....Secondary School

Ghiring- ....., Tanahun

### **III. FGD Guidelines for Students of Secondary level Student**

Dear all, Namaste

My name is Bidur Kumar Sigdel. I am here on behalf of data collection for my Master Degree thesis on the topic of "**Professionalism among Mathematics Teachers in Nepal.**" The information provided you would help to complete this research. With your kind consent, I would like to commence the discussion. Please feel free to take in the discussion and ask if you have any questions.

#### **A. Occupational status of mathematics teacher**

1. Regularity in classroom and compensation
2. Punctuality
3. Competency in subject matter
4. Classroom performance
5. Personality
6. Social relationship
7. Friendliness
8. Co-operative

#### **B. Public service ethos**

1. Professional conduct / misconduct
2. Believe and trust
3. Occupational diversification
4. Declining education standard

#### **C. Organizational Support**

1. School Culture, climate and values
2. School setting
3. Status and prestige

#### **IV. In-depth Interview Schedule for Mathematics Teacher**

Dear Sir/ Madam, Namaste:

I am Bidur Kumar Sigdel, as a process of data collection in my master degree thesis entitled “**Professionalism among Mathematics Teachers in Nepal.**” I request you to share your experience without any hesitation. The information you provide will be kept confidential and will be used exclusively for the study purpose. It will be a great help to me if you could provide your honest and frank answers to all questions.

Thank you for your kind cooperation.

Personal Details: (Not Compulsory)

Name:

Sex:

School:

Age:

Qualification:

Teaching Experience:

##### **A. Profession and professionalism**

- Professional ethics
- Code of conduct

##### **B. Occupational status of mathematics teacher**

- Recognition, status and subjectivity
- Satisfaction / dis-satisfaction to student performance
- Classroom regularity
- Compensation
- Additional pay includes
- Accountability
- Professional security and sustainability

##### **C. Job Satisfaction**

- Pay scale

- Additional pay

**D. Teacher Motivation**

1. Motivational Factors
2. De-motivational Factors
3. Existing trend
4. Factor affecting in professionalism
5. Institutional support

**E. Professionalizing tendencies**

1. Education and economic Crisis.
2. Occupational diversification.
3. Declining educational standard.
4. Professional misconduct

Thank You

## V. Key Informants Interview (KII)

**Guideline for Head teacher /Academician / Subject Expert / Educationist /**

**Educational Planner**

Dear Sir/ Madam,

Namaste:

I am Bidur Kumar Sigdel. As a process of data collection in my Master Degree thesis entitled “Professionalism among Mathematics Teachers in Nepal.” I request you to share your experience without any hesitation. The information you provide will be kept confidential and will be used exclusively for the study purpose. It will be a great help to me if you could provide your honest and frank answers to all questions.

Thank you for your kind cooperation.

### A. **Personal Details.** (Not Compulsory)

Name:

Age:

Sex:

Qualification:

Experience years:

### B. **Perception on mathematics teacher professionalism.**

1. Teacher professionalism?
2. Professionalism identify?
3. Sources of understanding of professionalism?
4. Professional Standards?

### C. **Occupational status of mathematics teacher**

5. Status of mathematics teacher
7. Perception on their occupational roles
8. Subjectivity
9. Professional strengths

**D. Teacher Satisfaction.**

10. Pay-scale
11. Training
12. Competency
13. Readiness / wiliness in profession
14. Satisfaction towards management and Relationship

**E. Teacher Motivation**

16. Problem in motivation
17. Motivators and de-motivators Factors
18. Trends in teacher motivation
19. Assessing motivation

**F. Professional knowledge and expertise.**

21. Capability in job performance
22. Competency & performance
23. Competent to organize extracurricular activities
24. Friendly and work co-operatively and Punctuality
25. Problem faced
26. Students performance and productivity

**G. Organizational/ Contextual Support.**

28. Support to organization
29. Future prospective

Thank You

**VI. Semi Extract Tool (Indicators with Factors)**

<b>Factors (From Conceptual framework)</b>	<b>Indicators for measurement</b>
<b>Commitment</b>	Classroom regularity Punctuality Time spend in classroom Response / Behaviour with principal, other teacher, student, parents Sharing classroom problem with others Behaviour and response towards week student Extra class as compensation Overall job satisfaction Pay scale and benefits Course completion Homework / class test Impact on student learning
<b>Vocational Intent</b> /	Wish to get participation in training Extra payment / Tuition fee Co-ordination with stakeholders Participation on School programme ( extracurricular activities) Relation with related people Classroom performance

<b>Accountability</b>	<p>Co-operative behaviour</p> <p>Service orientation</p> <p>Beliefs</p> <p>Use of technology and teaching materials in classroom</p> <p>Leadership</p>
<b>Conduct / ethics</b>	<p>Self-awareness</p> <p>View from parents / student and teachers</p> <p>Participation in social work / community participation</p> <p>Welfare</p> <p>Behaviour with other</p> <p>Daily Activities / Dress up</p> <p>Teamwork</p> <p>Self-reflection</p> <p>Responsibility</p>
<b>Compensation</b>	<p>Extra class / Recovery class</p> <p>Tuition ( fee)</p> <p>Extra focus / exam orientation class</p> <p>Other activities in free times / leisure class</p>
<p><b>Satisfaction</b></p> <p>/</p> <p><b>Dis-satisfaction</b></p>	<p>Behaviour with stakeholders</p> <p>Any further goal</p> <p>Wish for their children ( future goal )</p> <p>Access towards school / Student</p> <p>Pay scale</p> <p>Additional pay</p>

	<p>Social emotion</p> <p>Attachment towards school community</p>
<p><b>Motivation</b></p> <p>/</p> <p><b>De-motivation</b></p>	<p>Dedication</p> <p>Participation on community programme</p> <p>Education (Academic qualification)</p> <p>Payment / pay scale</p> <p>Skill</p> <p>Aptitude / courage</p> <p>Distraction ( disturb)</p> <p>Up to date towards subject matter</p> <p>Training ( condition / wish )</p> <p>Institutional support</p> <p>Professional security / sustainability</p>