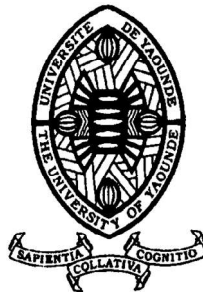


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REPUBLIC OF CAMEROUN

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UNIVERSITY OF YAOUNDE I
HIGHER TEACHER TRAINING COLLEGE
DEPARTMENT OF Science of education

**Professional development and teachers effectiveness in
addressing students with specific learning disabilities:
the case of secondary school teachers in Buea
municipality**

A Dissertation submitted in partial Fulfilment of the requirements for an
award of D.I.P.C.O

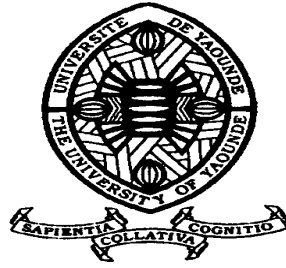
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LIST OF ABBREVIATIONS

- ANOVA:** Analysis of Variance
- BGD** : Bilingual Grammar School
- CWD** : Children with Disabilities
- EFA** : Education For All
- GCE** : General certificate of Education
- GHH** : General Research Hypotheses
- GHS** : Government High School
- GLD** : General Learning Disabilities
- ISCED** : International Standard Classification of Education
- LD** : Learning Disabilities
- MINESEC:** Ministry of Secondary Education.
- MSA** : Ministry of Social Affairs
- NGO** : Non Governmental Organization
- NJCLD** : National Joint Committee on Learning Disabilities.
- OECD** : Organization For Economic Cooperation and Development
- PCSS** : Presbyterian Comprehensive Secondary School
- PD** : Professional Development
- RH** : Research Hypotheses
- SLD** : Specific Learning Disabilities
- SPSS** : Statistical Package for Social Sciences
- UDRH** : Universal Declaration of Human Rights.
- UN** : United Nations
- UNESCO** : United Nations Educational, Scientific and Cultural Organization.
- UNICEF** : United Nations Children's Fund
- ZPD** : Zone of Proximal Development
- ENIEG** : Ecole Normale D'instituteur de L'enseignement General
- HTTC** : Higher Teacher Training College
- ENSET** : Ecole Normale Superieure de l'Enseignement Technique

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ABSTRACT

This work entitled “professional development and teachers’ effectiveness in addressing students’ with specific learning disabilities”. This study is out to evaluate the extent to which professional development influences teachers’ effectiveness in addressing students with specific learning disabilities. The main research hypothesis stipulates that professional development has a significant influence on teachers’ effectiveness in addressing students with specific learning disabilities. In order to proceed, four secondary research hypotheses were formulated to guide the study.

This study was quantitative in nature and involved 226 teachers drawn from five secondary schools in the Buea municipality (GHS Bokwango, PCSS Buea, BGS Molyko Buea, GHS Buea and GHS Buea Rural). The random sampling technique was used and data were collected through the use of questionnaire and observation checklists. These hypotheses were tested at the level of 0.05 level of significance and analyzed using Pearson’s Correlation Coefficient and Multiple Regression. The results show that:

- There is a significant positive correlation between training in students’ needs assessment and teachers' effectiveness, $r(224) = 0.337, (p < .001)$.
- There is a significant positive correlation between training in teaching techniques and teachers' effectiveness, $r(224) = 0.387, (p < .001)$.
- There is a significant positive correlation between training in remedial teaching and teachers' effectiveness, $r(224) = 0.365, (p < .001)$.
- There is a significant positive correlation between training in collaborative teaching and teachers' effectiveness, $r(224) = 0.337, (p < .001)$.

These findings reveal that for teachers to be effective in filling the gaps of learners in the classroom, emphasis should be laid on their continuous training. Based on these findings, recommendations were made to the state and educational authorities to restructure the professional development of teachers to improve on their effectiveness.

Key words: professional development, teachers’ effectiveness, learning, specific learning disabilities.

RESUME

Ce travail intitulé «Développement professionnel et efficacité des enseignants dans l'aide des élèves avec des troubles spécifiques d'apprentissage ». L'objectif de cette étude est d'évaluer dans quelle mesure le développement professionnel influence l'efficacité des enseignants dans l'aide des élèves avec des troubles spécifiques d'apprentissage. L'hypothèse de recherche principale stipule que le développement professionnel a une influence significative sur l'efficacité des enseignants dans la lutte contre les élèves ayant des troubles d'apprentissage spécifiques. Afin de procéder, quatre hypothèses de recherche secondaires ont été formulées pour guider l'étude.

Cette étude qui est de nature quantitative a impliqué 226 enseignants issus de cinq établissements secondaires de la municipalité Buéa (GHS Bokwango, PCSS Buéa, BGS Molyko Buéa, GHS Buéa et GHS Buéa rural). La technique d'échantillonnage aléatoire a été utilisée et les données ont été collectées par utilisation de questionnaires et d'observation. Les hypothèses ont été testées au niveau de signification 0,05 et analysées en utilisant le Coefficient de corrélation de Pearson et la régression multiple. Les résultats montrent que:

- Il existe une corrélation positive significative entre la formation des enseignants à l'évaluation des besoins et l'efficacité des enseignants, $r(224) = 0,337$, ($p < .001$).
- Il existe une corrélation positive significative entre la formation aux techniques d'enseignement et l'efficacité des enseignants, $r(224) = 0,387$, ($p < .001$).
- Il existe une corrélation positive significative entre la formation au cours de remédiation et de l'efficacité des enseignants, $r(224) = 0,365$, ($p < .001$).
- Il existe une corrélation positive significative entre la formation à l'enseignement collaboratif et l'efficacité des enseignants, $r(224) = 0,337$, ($p < .001$).

Ces résultats révèlent que le développement professionnel des enseignants les rendrait efficaces pour combler les lacunes des apprenants dans la salle de classe, l'accent devrait donc être mis sur leur formation continue. Sur la base de ces conclusions, des recommandations ont été faites aux autorités de l'Etat et de l'éducation pour restructurer le développement professionnel des enseignants dans le but d'améliorer leur efficacité.

Mots clés: Développement professionnel, l'efficacité des enseignants, apprentissage, troubles d'apprentissage spécifiques.

GENERAL INTRODUCTION

In recent times, the Cameroon government has been promoting teacher education by opening up teacher training institutions to train teachers. It has also made changes within the educational system to prepare its teachers to be effective in the classroom (Fonkeng,2007).In every community teachers form the vehicle for the provision and dissemination of relevant knowledge, skills and values for socio-economic development. The quality and performance of teachers has been focused on education (Ballou & Podgursky, 1997). Therefore a teacher with good academic qualification, good knowledge of the subject matter, pedagogy but without being effective in addressing all learners will not sustain desired students' outcome.(Maaning & Patterson, 2005; cited in Coladarci, 1992). In other words teachers' effectiveness is greatly influenced by the knowledge and skill obtained during their professional training. (Rikard, 1999). Teachers' professional development and their effectiveness have been identified as one of the most critical factors in the success of education (Huberman, 1993; Nias, 1981). A high quality teacher is one who understands and demonstrates the ability to address the content, challenges of learners. Quality teaching in the classroom is a very important school- related factor that ensures students achievements (Greenwalls, 1996).

Looking at what is happening in our educational system today, there is the policy of collective promotion in the primary schools. As such, teaching tends to be less effective. Thus by the end of primary school education, students who get to secondary schools face a lot of difficulties (reading, spelling, writing difficulties and the lack of basic numerical skills) to cope with secondary school task (Adedeji & Bamidele, 2003). This is therefore the reason why this study is calling on policy makers, to focus on teacher quality by laying emphasis on their professional development. By so doing, they will improve on their effectiveness and increase students' academic outcome.

In a period of constant change in Cameroon due to globalization that highlights the need for a dynamic education, as well as criticism about teachers' effectiveness, we proposed to investigate the types of training that could positively impact on teachers' effectiveness in the classroom. Our main focus was to examine the extent to which professional development impact on teachers' effectiveness in addressing students with specific learning disabilities. We focused on the notion of teachers from different academic backgrounds or qualifications and years of experience. We also explored how professional development influences their effectiveness in addressing students' learning needs.

This work was motivated by many reasons. Firstly, there is this question that always runs in the minds of people (parents) whether teachers are adequately trained to be effective in addressing the needs or difficulties of all learners judging from the gap that exists between learners in the classroom. Also there is a need to understand the correlation between continuing professional development and teachers' efficacy with regards to students' academic achievement. Because the teachers are the key actors of students' academic outcome or achievement, understanding the factors that could have impact on their effectiveness would be helpful for the government. The government will therefore revive the curriculum of teacher training institutions and also encourage continuing professional development for in-service teachers to meet the needs of learners thus teachers' effectiveness. This study will finally educate the government to understand that for teachers to be effective, they need to include certain models in their curriculum. To teachers, they will understand that there is relationship between continuing professional training and their effectiveness in addressing the needs of learners so as to record a positive outcome.

The main objective of this research is to evaluate the extent to which professional development influence teachers' effectiveness in addressing students' with specific learning disabilities. To achieve this, we used the self efficacy theory of Bandura (1977), Social constructivism theory of Lev Vygotsky (1896- 1934) and the social learning theory of Albert Bandura (1977). Based on previous empirical research, we generated a main research hypothesis and four secondary research hypotheses. The general research hypothesis was formulated as follow: There is a significant link between professional development and teachers' effectiveness in addressing students' with specific learning disabilities. This study is divided into five chapters.

Chapter one presents the research problem, research questions and research objectives. It also includes the justification, significance and delimitation of the study. Chapter two deals with the definition of concepts, review of related literature and elaboration of the theoretical framework related to the study. Chapter three is concerned with the methodology used in the research work. It presents the research design, population and sample of study, sampling techniques, instruments and data collection plan, data analysis method and a recapitulative table including variable and indicators of study. In chapter four we organize the data and present our results and describe them. Chapter five deal interpretation of results, discussion of findings and conclusion.

CHAPTER ONE

PROBLEM OF THE STUDY

1.1. Background of the Study

In every community teachers form the vehicle for the provision and dissemination of relevant knowledge, skills and values for the younger generation (students). The quality and performance of teachers has been a focus of concern in education (Ballou & Podgursky, 1997). Education is said to be a social phenomenon and an important vehicle for advancement in the contemporary world. It is through education that knowledge, skill and values are transmitted from generation to generation to ensure social, economic and political cohesion, stability, continuity and advancement of every country. Education has therefore become an important ingredient for advancement in knowledge-based economy of the modern world (Baffour & Akwas, 2013). It is in this regard that the quality of teaching is not only influenced by the knowledge and skill or competence of teachers but it is also greatly influenced by how teachers are effective in their teaching (Rikard, 1999). In recent years, the imperative about improving student outcomes is also about improving the quality of the teaching workforce (Maaning & Patterson, 2005). Teachers are one of the key elements in any school and effective teaching is one of the key propellers for school improvement. When a teacher is motivated and loves the teaching profession, the students not only learn the content taught by the teacher, they may also be motivated towards learning (Czubaj, 1996).

The Pan African Conference on education held in Yaounde-Cameroon (1984), also declared that, “no educational system can rise above the quality of its teachers”. This is to say that the key role of trained teachers is very strong in that there can be no excellence in education without high quality teachers. One can change the curriculum, buy materials, refurbish the physical environment lengthen the school hours but without trained teachers in students outcome will not be met as well as teaching will not be the desired effect because teachers will not be effective in their field. It is in this regard that the Ministry of Education in Cameroon as well as those in other developing countries to effectively manage their teacher education programs with the belief that professionalism and academic training are two distinctive words and that both of them are necessary prerequisites for teachers effectiveness. The kind of professional knowledge

teachers acquire, the role of teachers in making this knowledge available to their colleagues and students, and the impact of motivation on teachers' job effectiveness are essential to educational development and teachers' effectiveness.

Teachers' effectiveness is therefore important because effective teaching helps student learning. It has become even more important as the emphasis on quality in higher education has increased. Effective teaching does not occur by chance. Effective teachers have become good at what they do because they evaluate their practice (Beck, 2005). James (2006, p.38) suggests that "educational evaluation is a professional responsibility for academic staff, arising from a commitment to understanding the effects of teaching on students and to enhance student learning." There are numerous ways of evaluating teaching or monitoring its effectiveness.

According to Seldin (2006, p.24), effective teaching is:

The hallmarks of good teaching which are reasonably consistent in most studies. They include being well prepared for class, demonstrating comprehensive subject knowledge, motivating students, being fair and reasonable in managing the details of learning, and being sincerely interested in the subject matter and in teaching itself.

Effective teaching can also be defined as "activities that promote student learning where student ratings, self reviews, and peer evaluations are all used for evaluating different aspects of teaching," explaining that important sources of data to measure teaching effectiveness fall into three main categories: student, peer, and instructor and they should be part of any comprehensive approach to evaluating teaching effectiveness (Guide to Evaluation of instruction, UCLA Office of Instructional Development).

Goe et al (2008, p.61) also look at effective teaching by outlining five definition scale focusing on the measurement efforts on multiple components of teacher effectiveness:

- Effective teachers have high expectations for all students and help students learn.
- Effective teachers contribute to positive academic, attitudinal, and social outcomes for students.
- Effective teachers use diverse resources to plan and structure engaging learning opportunities; monitor student progress formatively, adapting instruction as needed.
- Effective teachers contribute to the development of classrooms and schools that value diversity and civic-mindedness.
- Effective teachers collaborate with others to ensure student success.

Professional development, on the other hand, refers to the development of a person in his or her professional role. More specifically, “*Teacher development is the professional growth a teacher achieves as a result of gaining increased experience and examining his or her teaching systematically*”(Glatthorn, 1995, p.41). Professional development includes formal experiences (such as attending workshops and professional meetings, mentoring, etc.) and informal experiences (such as reading related to an academic discipline, etc.) (Ganser, 2000). This conception of professional development is, therefore, broader than career development, which is defined as “*the growth that occurs as the teacher moves through the professional career cycle*” (Glatthorn, 1995, p. 41), and broader than staff development, which is “*the provision of organized in-service programs designed to foster the growth of groups of teachers; it is only one of the systematic interventions that can be used for teacher development*” (Glatthorn, 1995, p.41). When looking at professional development, one must examine the content of the experiences, the processes by which the professional development will occur, and the contexts in which it will take place (Ganser, 2000; Fielding & Schalock, 1985). The first step in any process of developing a professional in any field is the initial professional preparation of that person. In teaching, this preparation takes very different shapes and forms and varies dramatically from country to country. Yet it is agreed that learning to teach is personal (as it depends on the students’ personal learning history, their pre-conceptions and beliefs about learning and teaching), complex (because of the variety of skills and competences that have to be learned) and context-specific (Hauge, 2000).

Continuing education and training refers to a form of additional education and training which aims to keep individuals abreast of developments in carrying out their professional duties. Continuing education and training can thus be relatively defined as general continuing education providing capabilities that are broadly applicable to professional duties. Lieberman (1996) classified continuous professional development into three types: Direct teaching such as courses and workshops; learning in school (such as peer, coaching, critical friendship, mentoring, action research and task-related planning teams); and out of school learning such as learning networks, visits to other school, university partnership etc. According to Malone (1984), continuous development is a form of in-service training offered by an organization from time to time for the development of skills and knowledge of employees. In-service training may broadly be categorized into five different types: (1) induction or orientation training, (2) foundation training, (3) on-the-job training, (4) refresher or maintenance training, and (5) career development

training. All of these types of training are needed for the proper development of teachers throughout their service life to have desired outcome.

According to Tambo (1995, p.28), teacher education is described in terms of formal processes related to the activities of teacher education institutions that is, initial education, organized experiences teachers continue to have the field following their formal institutions of teaching that is in-service education. However, effective teacher training is the preparation of new teachers for challenges that they will face each day in the classroom, Kelly (2009), Which implies that proper teacher training will enhance effective teaching. Thus, effective teacher training in special needs education will also enhance effective teaching. For effective teaching in secondary schools to take place, teachers are expected to understand that special needs education training is practical. Which means it demands complete involvement of all teachers to make the learning process of students with specific learning disabilities comfortable at all levels and all classes of secondary schools. Similarly, special needs education training equips teachers at the secondary level with knowledge on the subject development of positive attitudes towards students with specific learning disabilities in their classrooms, exhibition of good behaviors by teachers and an improvement in their teaching skills which are required for effective teaching to take place and desired students outcome. To the organization for economic co-operation and development (2010), teacher training has gained special importance, as teacher quality is more and more being identified as decisive to student outcome and it is now acknowledged that teachers are the school variable that influences the most achievements.

Lawal (2003, p.41) points out that “*Education is a powerful instrument of social progress without which no individual can attain professional development.*” It then follows that the best way to enhance instruction is through teacher education programs, which are key to understanding both teaching and learning. Such programs are meant to help individual teachers grow and develop as teachers, provide them with the skills and professional abilities to motivate children to learn, and to assist them in acquiring the right understanding of the concepts, values, and attitudes needed, not only to manage classroom instruction but also to contribute to the society in which they are born, grow, and live. Thus, teacher education is designed to produce a highly motivated, sensitive, conscientious, and successful classroom teacher who will handle students effectively and professionally for better educational achievement. For this reason, teacher education is a part of the education process or training that deals with the art of acquiring teaching skills. It is an essential exercise that enhances the skills of learning and teaching.

Yusuf's (2002) view that the main objectives of teacher education are to develop awareness, knowledge, attitudes, skills, evaluate ability and encourage full participation in the teaching and learning process. Again, Lawal (2003) argued that adequate training is the best possible way teachers in Africa can move forward in meeting the challenges of the 21st century.

He quoted Fafunwa (in Akinyemi, 1972) saying:

If the African Teacher is to cope adequately with the monumental task that lies ahead of him, he has to be well trained for his job. He must be willing to enter into the spirit of new African age, willing to share new information and skills with his fellow teacher, seek more knowledge on his own initiative and above all, be flexible and willing to experiment and not be afraid of failure. The new teacher envisaged must have flexibility built into his total professional and academic make-up, and should be helped through regular in-service training to keep abreast of new techniques, skills and research in his field. Effective teacher education programs are a necessary prerequisite for a reliant education system. They lead to increased confidence in both teacher and students as they coordinate learning effectively and professionally, and rectify problems inherent in the teacher education.

According to Yates & Hains (1997) in-service special needs education training occurs once a teacher is performing the teaching job, though certificates for the completion of training may be awarded by an institution of higher education for the completion of a training course in special education. This is to lay emphasis on the fact that all teachers in secondary schools must undergo special needs education training to enhance effective teaching. Students' performance in secondary schools depends on the quality of the teachers that is the training of the teacher is the school-based determinant of students' achievements (Harris & Sass, 2008).

The education of students with special education needs has been a concern to the international community since 1989. The United Nations (UN) convention on the Rights of the Child (1989) raises the question of special needs education insisting that it has to "form part of an overall educational strategy and indeed new social and economic policies" and above all calls for major reforms in ordinary schools (p.81). Also, the same convention focused on children with disabilities (CWD), which stipulates that "a child with physical or mental disability should enjoy decent life and should have access to education. In order to achieve this, primary education should be made compulsory and free to all." In the 1990s, UNESCO held a number of conferences around the world with insightful outcomes geared towards the provision of education for all children without exception. The said conferences and Salamanca Conference (1994) raised concerns related to Education for All (EFA, 1990). Also, the declaration of the World Education Conference in Jomtien Thailand (1990) recognized the existence of disparities, and acknowledged the vulnerability of particular groups with the inherent discrimination exerted on

them in education while also advocating a breakaway from rigid prescriptive educational systems towards flexible ones. The declaration therefore agreed that active commitment must be made to remove this disparity and every person with disabilities “*who should not suffer any discrimination in access to learning opportunities*” should be provided with normal education as an integral part of the educational system (UNESCO, 1990, p.5)

The education of students with special education needs has been a concern to the international community since the 1994 United Nations Salamanca statement and framework for action on special needs education (UNESCO, 1994).

After raising concerns on EFA at the 1990 conference in Thailand, the subsequent conference in Salamanca 1994 outlined practical modalities for the implementation of inclusive education (IE) in its conference Statements and Frameworks in what has become known as the Salamanca statement or framework for action. While reiterating previous sessions, the Salamanca statement confirmed that “*all children and young people of the world with individual strengths and weaknesses, with their hopes and expectations have the right to education*”. The Universal declaration of Human Rights (UDHR) mention children with special education needs in article 26 which entitles everyone to equal access to education and allow parents the right to choose the kind of education they want for their children. The United Nations Children’s Fund also believes that the goal of education should be to enable all children to have full participation in the development of their community, UNICEF (2003). Inclusion is “*an ongoing process aimed at offering high quality education for all while respecting diversity and the different needs and abilities, characteristics and learning expectations of the students and communities, eliminating all forms of discrimination*” (UNESCO, 2008. p.3).

For the above objective to be attained, the Salamanca Statement and Framework introduced the principle of inclusion which was to find expression in inclusive schools. Such schools amongst other things should “*accommodate all children regardless of their physical, intellectual, social, emotional, linguistic or other conditions (and) schools have to find ways of successfully educating all children including those with serious disabilities*”.

According to the Commonwealth of Nations (2005), regular schools are not only required to enroll students with disabilities but they are also required to ensure that the curriculum is modified to meet each student’s educational needs. Cameroon being a member of the United Nations has passed laws in relation to the education of students with disabilities. This was introduced in Cameroon in 1975 with the creation of the Ministry of Social Affairs (MSA),

which was responsible for the well-being of individuals with disabilities (Yuh & Shey, 2008). Cameroon Law No. 83/13, Article 3, of July 1983, also provide for the needs and protection of individuals with disabilities with three major provisions: integration of children in ordinary schools, admission in special classes, and admission into specialized institutions (Protection of Disabled Persons, 2003).

A Review of the Present Situation in Special Needs Education in Cameroon suggested that children with severe language, learning or behaviour problems were excluded from the public education system in that teachers could not identify their problems. Categories of special educational needs were not included in the legislation (Hegarty, 1995). The review also discussed the lack of administrative structures that deal with specific issues of special education. The government takes an active role in the supervision of private agencies that provide services and education for individuals with special education needs. In a position paper, the National Joint Committee on Learning Disabilities (NJCLD, 1998) suggested that core competencies were required for all educators and that comprehensive Trans disciplinary preparation programs were needed to most effectively meet the needs of students with and without disabilities, UNESCO (2011), Revision of the International Standard Classification of Education (ISCED). Special Education Needs is 'Education designed to facilitate the learning of individuals who, for a wide variety of reasons, require additional support and adaptive pedagogical methods in order to participate and meet learning objectives in an educational program. Reasons may include (but are not limited to) disadvantages in physical, behavioral, intellectual, emotional and social capacities. Educational programs in special needs education may follow a similar curriculum as that offered in the parallel regular education system; however they take individuals' particular needs into account by providing specific resources (e.g. specially trained personnel, equipment, or space) and, if appropriate, modified educational content or learning objectives. These programs can be offered for individual learners within already existing educational programs, or be offered as a separate class in the same or separate educational institutions'. (p.83)

According to Tambo (1995), teacher education is described in terms of formal processes related to the activities of teacher education institutions that is, initial education, organized experiences teachers continue to have the field following their formal institutions of teaching that is in-service education. Also the Pan African Conference on education held in Yaounde-Cameroon (1984), declared that "*no educational system can rise above the quality of its teachers*".

This is to say that the key role of trained teachers is very strong in that there can be no excellence in education without high quality teachers. One can change the curriculum, buy materials, refurbish the physical environment lengthen the school hours but without trained teachers in schools students outcome will not be met as well as teaching will not meet the desired effect. However, effective teacher training is the preparation of new teachers for challenges that they will face each day in the classroom, Kelly (2009), which implies that proper teacher training will enhance effective teaching. Thus, effective teacher training in special needs education will also enhance effective teaching.

For effective teaching in secondary schools to take place, teachers are expected to understand that special needs education training is practical. Which means it demands complete involvement of all teachers to make the learning process of students with specific learning disabilities comfortable at all levels and all classes of secondary schools. Similarly, special needs education training equips teachers at the secondary level with knowledge on the subject development of positive attitudes towards students with specific learning disabilities in their classrooms, exhibition of good behaviors by teachers and an improvement in their teaching skills which are required for effective teaching to take place and desired students outcome. To the organization for economic co-operation and development (2010), teacher training has gained special importance, as teacher quality is more and more being identified as decisive to student outcome and it is now acknowledged that teachers are the school variable that influences the most achievements.

According to Yates & Hains (1997) in-service special needs education training occurs once a teacher is performing the teaching job, though certificates for the completion of training may be awarded by an institution of higher education for the completion of a training course in special education. This is to lay emphasis on the fact that all teachers in secondary schools must undergo special needs education training to enhance effective teaching. Student's performance in secondary schools depends on the quality of the teachers that is the training of the teacher is the school-based determinant of student's achievements (Harris & Sass, 2008).

Adey (1998) states that,

Graduates from teacher training should regard all students as capable of learning and be committed to treating all students equitably” and also graduates should have “an understanding of the general nature of diversity and the conceptual and ethical issues involved”. A number of principles for implementation were proposed including the caveat that “any procedure must promote and support quality, diversity, innovation, and the networking of best practice in initial teacher education. (p.10,-11, and 47).

Rockoff (2004), say that the quality of training of teachers in special needs education is a logical starting point for any policy to address the achievement of students with disabilities. Determining the teacher training and student outcome is particularly important given the difficulty schools face in the adequate staffing of special education programs, (Boe & Cook, 2006).

Dupourx, Hammond, Ingalls, & Wolman (2006) discussed that the attitudes and beliefs of teachers contributed to their abilities to accommodate students with disabilities in their classes. Teacher professional development is a preparation of new teachers for challenges that they will face each day in the classroom. Which implies that proper teacher training will effectively help teachers in addressing learners with specific learning needs. Thus, effective professional teacher development in specific (special) needs education will also enhance effective teaching. For effective teaching in secondary schools to take place, teachers are expected to understand the specific learning needs of the students. Which means it demands complete involvement of all teachers to make the learning process of students with specific learning needs comfortable at all levels and at all classes of the educational milieu. Similarly, specific(special) needs education training equips teachers at the secondary level with knowledge on the subject development of positive attitudes towards students with specific learning needs in their classrooms, exhibition of good behaviors by teachers and an improvement in their teaching skills which are required for effective teaching to take place.(Kelly, 2009).

1.2. Formulation of the Problem of the Study

Base on the observation of the drastic rise in the number of children with learning disabilities in our secondary schools and the difficulties teachers encounter in meeting the needs of these students, we are tempted to say that most institutions of training have failed in their attempt to adequately prepare teachers or educators to fulfill their teaching duties (Grossman & Lankford, 2008). The observation of the state of education today is always emphasizing the challenges of meeting the needs of students with learning disabilities and many gatherings and conferences around the world, have tried to addressing these issues (Reeitz & Kerr, 1991; Fonkoua, 2006).

This can be related to my experience during my practicum which ran from the 25th of January to the 6th of April 2016 at Bilingual Grammar School Molyko. During a class council held on the 14th and 16th of March 2016, we discovered that while some students passed with an average of 18, others failed with an average of 5.7. This caught the attention of the counselors who then called up these students with poor average for counseling to find out why they perform very poor. During the counseling process, it was discovered that these students fail because they have one learning difficulty in either “reading, spelling, writing and even calculations”. To remedy this situation, counselors recommended that teachers try to follow up such students and also recommended parents or guidance to be involved in meeting the needs of their children by employing specialized home based teachers to help their children overcome these difficulties. For one thing, those whose parents could afford home based teachers recorded an improvement during their 4th sequence test. This is a clear evident that teachers lack the pre-requisite to address students learning needs because the needs of the learners are not met. While other teachers attempt to learn on the job through collaboration with counselors, others are adamant to change and they even go as far as qualifying students with poor average to be dull or less hard working. Their interest is for them to complete their scheme of work as outlined in the curriculum.

Organizations like UNESCO, UNICEF, UN, (1994,2003 and 1984 respectively) have been working to equip teachers to effectively address the needs of students with learning disabilities. They work in partnership with governments of different countries; educational systems, NGOs, and host of other stakeholders to promote a teaching that meet the needs of all students. They have invested huge sum of money to reach their goals. Considering the case of Cameroon, they participate in many teaching forum to insure effective teaching. That is teaching geared at meeting the needs of all students. The trend of teacher education today emphasizes on constructive and co-constructive approaches, where teacher education have been shifted from teacher dominated classroom practices to that of partnership between the teacher and the learners much is still to be done for teachers to be effective in their duty to address students with learning disabilities (Tchombe 2001). The challenge is for teachers to be able to grasp the broader issues of knowledge and professional skills. With this, teachers can create and re-create knowledge, understand their learners and know how to effectively deal and interact with them (Tchombe 2006). Moreover, the bedrock of these problems can be traced back to basic education level that seems aligned well enough with an unwritten policy that “no child left behind” or “collective promotion in Cameroon no matter the situation. But this “promotion policy” it has a negative

effect on students and the teachers of secondary schools in the sense that learning disabilities tend to worsen as the students go higher in the academic ladder. In so doing teachers end up finding it difficult to effectively manage their class thereby pushing them to focus on completing their scheme of work or syllabus rather than paying attention on students outcome.

This is evident in that during a National Education Seminar held in Yaounde- Cameroon, in 2002, it was discovered that students in government secondary schools were promoted to next class based on ambiguous criteria. That is those who have above 10 average and even those who had below average were promoted to the next class. This is an indication that students needs assessment methods and teaching methods are less effective, very little learning is taking place at this level of education since the educational system allows every child to be promoted to the next class(no child left behind), (Bamboh.2012.p.2).

Additionally, in the 90s, UNESCO held a number of conferences around the world with insightful outcomes geared towards the provision of education for all children without exception. And the conferences raised concerns related to Education for All (EFA, 1990), the World Education Conference in Jomtien Thailand (1990), and the Salamanca Conference (1994). The main objectives of these conferences were to make education accessible to all, wherever there is a need.

Teachers' professional development on how to address learners with learning disabilities effectively have to be included or emphasized in the curriculum of teacher training colleges in Cameroon, so that they can acquire adequate knowledge to identify and address specific learning needs. Besides, Teachers need a thorough follow up to ensure that teaching objectives are met at the end of each sequence or term.

This study therefore intends to look at the extent to which professional development influence teachers effectiveness in addressing students' specific learning need.

1.3. Research Questions

Research questions according to Creswell (2012) are interrogative statements that narrow the purpose to specific questions that researchers seek to answer in their studies. And Schlos & Smith (1999) argued that a research question asks about the relationship between two or more variable. In order to carry out this study, a number of questions will be formulated to guide the process and shall be divided into general and specific questions.

1.3.1. General Research Question of the study

To what extent does professional development influence teacher's effectiveness in addressing students' specific learning needs?

1.3.2. Specific Research Questions of the study

The following are the research questions formulated to guide the study:

- To what extent does students' need assessment influence teachers effectiveness in addressing students' specific learning needs? ?
- To what extent does teaching techniques influence teacher's effectiveness in addressing students' specific learning needs?
- To what extent does remedial teaching influence teachers' effectiveness in addressing student's specific learning needs?
- To what extent does collaborative teaching influence teacher's effectiveness in addressing student's specific learning needs?

1.4. Objectives of the Study

A research objective is a statement of intent for the study that declares specific goals that the investigator plans to achieve in a study (Creswell, 2012). According to Amin (2005), the

Purpose of the study is sometimes referred to as the general objective. The objectives of the study were looked upon from the general and specific point of view.

1.4.1. General Objective

The main objective of this study is to evaluate extent to which professional development influence teachers' effectiveness in addressing student with specific learning needs.

1.4.2. Specific Objectives

Following the purpose of the study, the following objectives were stated to guide the study :

- To investigate the link between training in students' needs assessment and teachers' effectiveness in addressing students with specific learning needs.
- To determine the link between training in teaching techniques and teachers effectiveness in addressing students specific learning needs.

- To investigate the link between training in remedial teaching and teacher's effectiveness in addressing students' specific learning needs.
- To determine the link between training in collaborative teaching and teachers effectiveness in addressing students specific learning needs.

1.5. Justification of the problem of the study.

The table below shows the results of form 1, 2, 3 students of secondary schools in Buea. These classes were selected because they are the primary level of the secondary school towards the G.C.E and teachers are the determinant of their academic performance and achievement.

Table 1.1: 2016 Second Term Results of form 1A & C students of G.H.S Buea Rural.

Form	Effective population	Sequence	Number pass	Number fail	Highest average: first five	Lowest average: last five
1 A	77	3 rd	47	30	17.2, 16.8,16.1,15.4 & 15.1	4,4.02,4.38,4.43& 5.42
		4 th	43	34	16.8,16.6,16.1,15.7&15.3	3.6,4.46,4.48,5.41,&5.46,
1C	66	3 rd	40	26	16.82, 16.25, 16.13, 15.98 &14.98	3.3, 3.8,3.58,4.4 & 4.84

Source: G.H.S. Buea Rural- Bokova, 3rd and 4th sequence results 2015/2016

Table 1.2: 2016 Second Term Results of form 2 & 3 students of B.G.S Molyko.

Form	Effective population	Sequence	Number pass	Number fail	Highest average: first five	Lowest average: last five
3A	73	3 rd	45	30	16.82,16.25,16.13,15.98 &14.98	5.54,5.85, 6.29,6.56 & 6.92.
		4 th	41	34	16.72,15.47,15.33, 14.72 & 14.6.	4,4,02,4.38,4.43 & 5.42
3D	63	3 rd	31	32	18.32, 16.86, 15.83, 15.3& 14.27	5.6,5.8,5.82,6.15 & 6.5
		4 th	29	34	18.06, 16.29, 15.23, 14.19 &14.16	4.48, 5.4, 5.52, 5.62 & 6.87
2C	62	3 rd	37	25	16.29,15.83,14.22,14.11 &13.52	5.54,5.85,6.29,6.56 & 6.92.

		4 th	29	33	16.72,15.47,13.83, 13.72 & 13.6.	4.7,5.51,5.97, 6.11, & 6.41.
2D	56	3 rd	33	23	16.1,15.99,15.83,15.47& 14.16	5.59,6.26,6.55,7.23& 7.38
		4 th	29	27	15.72,15.23, 15.03,14.53 &14.04.	4.95,5.6,6.5,6.15&6.42

Source: Form 2 & 3Marksheet, Bilingual Grammar School Molyko-Buea.

From the above statistics, it can be observed that the rate of failing is relatively high. Judging from our statistics, we will notice that there is a clear gap between those who pass and those who failed and also we will notice that the rate of failure increases in the 4th sequence in most if not all of the classes used. This gap between the first five students and the last five students is at an alarming rate, and this can be linked to many factors and teachers' ineffectiveness might be one of them.

1.6. Significance of the Study

This study will be of great importance to the teachers, educational authorities, the parents and students with special learning disabilities.

To Teachers

This study will enable teachers to know the impact of professional development or training on teachers' effectiveness. Also, teachers in secondary schools will be able to understand the implications of not being able to address students with learning disabilities. Most importantly teachers in secondary schools who did not have the opportunity of having pre-service special needs educational training will be able to know that they still have a chance to acquire the training through continuing professional training and thus improve their teaching skills. Finally, teachers will also understand that certification is not enough in the teaching profession but more and new ideas are brought in and implemented everyday to satisfy the needs of learners and to make them more effective in their field.

To Educational Authorities

This study will lead to the revision of the curriculum of teacher training colleges by the government, emphasizing on the training of teachers specifically on students needs assessments,

collaborative teaching and teaching techniques because this will enhance teachers effectiveness to addressing the needs of all learners.

Also, government should create opportunities for teachers who are already on the job to gain knowledge on skills to handle all types of students in their classroom so as to be effective and achieve the desired goals.

The government will also assign inspectors to monitor teachers in class to see in to it that they are applying what they have learnt in school during training.

To Parents of Children with specific learning disabilities

Parents will be able to understand that they are also important in children's education. While teachers can change from year to year, parents are the constant connection between children and learning both at home and in school. On their part they have a big role to also play in helping their children to identify their learning disabilities.

Parents of children with specific learning disabilities through this study will be able to have answers to some of their frequently asked question such as:

- Can school teachers be able to cope with their children in school?
- Can the school teachers help them solve the problems of their children in various school subjects?

The answers to all these questions can only be attempted by any teachers who have been professionally trained to address students with specific learning disabilities.

1.7. Scope and Delimitations of the Study

This project is limited in scope, space and time: Professional development for teachers already in the classroom and training acquired during pre-service training on specific learning needs in the classroom for each batch of students. Also, through seminars and workshops focusing on the impact of special needs education training on the teaching process or profession will include; participants such as special educators, counselors, therapists, doctors, teachers who will be able to exchange ideas and also give a chance for teacher to expose themselves to the various changes and types of learners found in various classrooms through answers provided to their questions. The study is also limited in terms of space, to secondary school teachers in the Buea municipality, South west region. In time, the scope is limited to the 2015/2016 academic year.

1.7.1. Theoretical delimitation

This study was limited to the self-efficacy and social learning theories of Albert Bandura and the social constructivist theory of Lev Vygotsky. The self- efficacy theory focuses on an individual, his behavior and his outcome. In self- efficacy, Mastery experiences are the most influential source of efficacy information because they provide the most authentic evidence of whether one can master whatever it takes to succeed. Success builds a robust belief in one's personal efficacy. Failures undermine it, especially if failures occur before a sense of efficacy is firmly established. So self-efficacy is determined by performance outcome, vicarious expectations, verbal persuasion and psychological feedback. While the social constructivist main focus is on the Zone of Proximal Development which says students can only succeed when they work in collaboration with adults or teachers and social learning theories assumes that learning takes place through the interactions students have with their teachers, peers and other experts.

1.7.2. Geographical Delimitation

This study is carried out in four secondary schools in Buea municipality because it was impossible to include all secondary schools in the municipality due to limited time and the time for the administration of the questionnaire was not timely because most teachers were busy with mock examines which made them not to be willing to fill the form.

From the above chapter, we are going to focus our attention now on chapter two which is made up of literature review that is made up of theoretical frame work and literature review.

CHAPTER TWO

LITERATURE REVIEW

2.1. Elaboration of the Conceptual Framework

According to Miles and Huberman (1994), conceptual framework is defined as a written product that explains either graphically or narrating the main things to be studied, the key factors, concepts or variables and the presumed relationships amongst them. A conceptual framework is a structure of what has been learned to best explain the natural progression of a phenomenon that is being studied (Camp, 2001). This section will examine and explicitly elaborate on the concept of teachers' effectiveness, professional development, specific learning disabilities.

2.1.1. Teachers effectiveness

The responsibility of imparting knowledge revolves around the teacher who plans, organizes and implements the teaching-learning process. Nonetheless, one of the issues to be resolved is whether or not the teachers are effectively performing their role in the teaching - learning process and to see the effects of their role in students' academic achievement. In the teaching-learning process, both the teacher and the learners must be active. The learner learns through some activities while the teacher does all he considers necessary to make learning possible (Borko, 2004). For any society to be equipped with the basic knowledge and skills that will enable it to better appreciate the nature of economic problems, and how to make rational economic decisions, such a society must depend on the accumulated knowledge of economics, which the citizens possess. For many years, educators and researchers have debated over which variables influence student achievement. A growing body of evidence suggests that schools can make a great difference in terms of student achievement, and a substantial portion of that difference is attributable to teachers. Thus, the impact of teacher effectiveness (or ineffectiveness) seems to be additive and cumulative (Cohen, Raudenbush, & Ball, 2002).

2.1.2. Effective teaching

Teachers are one of the key elements in any school and effective teaching is one of the key propellers for school improvement. Teacher effectiveness is generally referred to in terms of a

focus on student outcomes and the teacher behaviors and classroom processes that promote better student outcomes. This view suggests that effective teachers need to be clear about instructional goals, knowledgeable about curriculum content and the strategies for teaching it, communicate to their students what is expected of them, and why, make expert use of existing instructional materials in order to devote more time to practices that enrich and clarify the content (Anderson, 2004). Effective teachers should be knowledgeable about their students, adapting instruction to their needs and anticipating misconceptions in their existing knowledge, be able to teach students meta-cognitive strategies and give them opportunities to master them, address higher- as well as lower-level cognitive objectives, monitor students' understanding by offering regular appropriate feedback, integrate their instruction with that in other subject areas and accept responsibility for student outcomes. Also in order to achieve good teaching, good subject knowledge is a prerequisite. Also, the skillful use of well-chosen questions to engage and challenge learners, and to consolidate understanding, is an important feature, as is the effective use of assessment for learning. (James, Sammons and Bakkum, 2013, p.2).

2.1.3. Professional development

In education, the term professional development may be used in reference to a wide variety of specialized training; formal education, or advanced professional learning intended to help administrators, teachers, and other educators improve their professional knowledge, competence, skill, and effectiveness. When the term is used in education contexts without qualification, specific examples, or additional explanation, however, it may be difficult to determine precisely what “*professional development*” is referring to, (Campbell, & Perlman, 2004. p.11). Professional development (PD) can also be defined as teachers' ongoing learning to improve the way they teach, and it occurs in both formal and informal ways. PD days are the most familiar formal structure of professional development and usually feature a combination of presentations, hands-on workshops, and collaborative teamwork that are often organized in advance by school and school district leadership. Teachers also routinely set their own, informal, ongoing PD agendas, such as taking additional courses, pursuing graduate study, personal study of their subject matter or teaching approaches, sharing resources and ideas with colleagues, and building learning networks through social media (Muijs & Reynolds, 2010).

2.1.4. Teacher development

Teacher development, as we understand it, draws on the teacher's own inner resource for change. It is centered on personal awareness of the possibilities for change, and of what influences the change process. It builds on the past, because recognizing how past experiences have or have not been developmental helps identify opportunities for change in the present and future. It also draws on the present, in encouraging a fuller awareness of the kind of teacher you are now and of other people's responses to you. It is a self-reflective process, because it is through questioning old habits that alternative ways of being and doing are able to emerge (Garet et al, 2001).

According to Anderson, (2004), teachers effectiveness is one who quite consistently achieves goals, be they self-selected or imposed that are related either directly or indirectly to student learning. Four major assumptions are implicit in this definition of teacher effectiveness

- ❖ Effective teachers tend to be aware of and actively pursue goals.
- ❖ The teaching is an intentional and reasoned act.
- ❖ The vast majority of teachers' goals is, or should be, concerned either directly or indirectly with their students' learning.
- ❖ No teacher is effective in every aspect of their profession.

Teacher professional development recognizes that teachers are professionals who should be given an opportunity to select what they would like to learn from a variety of research-based ideas about improving students' learning, Provides long-term, ongoing opportunities for teachers to reflect upon both their chosen and mandatory experiences. It also Provide opportunities for teachers to coach one another and work together to analyze new teaching techniques, which often connects new teachers with experienced colleagues and also provide opportunities for teachers to study and gather data on the effects of changes in their teaching approach, particularly in response to new ideas or initiatives in education.(p.19-32)

2.1.5. Teacher training

Procedure designed to equip prospective teachers and those already teaching in classrooms with the knowledge, attitudes, behaviors and skills they require to perform their teaching task effectively in the classroom. We know that within a school, teacher quality is the single biggest influence on student engagement and achievement and that improving teacher effectiveness is the best method of improving student performance. Teacher preparation and the early years of teaching experience are critical in developing effective teachers. To improve classroom practice and get the best teachers in every school, we need to attract the right people into teaching, give them the best possible training, and support them as they move into the classroom (Campbell et al. 2004, p. 61).

2.1.6. Learning needs or disabilities

Learning disabilities represent the gap between what the learner wants to get out of the learning experience and his or her current state of knowledge, skill, and enthusiasm (Noessel, 2003). Potential learning needs can be classified in four different domains: cognitive, social, affective, and psychomotor. When facilitators establish a new learning environment, it is important that they assess preparedness of participants in all four domains.

Each learner is unique, and brings to the learning situation his or her own different learning style, knowledge set, pool of past experiences, and motivation. In learner-centered instruction, it is important for instructors to consider the level of knowledge and skill development attained by the learners prior to instruction (Dick, Carey & Carey, 2004). The best way to get this information is by asking the learners themselves. To determine the readiness of participants for learning, the instructor/facilitator should decide, prior to the first class or workshop, how to collect and use data on learner needs. The process of collecting and playing back these data can raise the level of participant excitement about the learning experience. The instructor can use this knowledge throughout the rest of the educational process to customize instructional strategies to enable learners to reach shared educational objectives (Allyn & Bacon, 2003)

Learning needs also refer to a number of conditions that might affect the acquisition, organization, retention, understanding or use of verbal or nonverbal information. These disorders affect learning in individuals who otherwise demonstrate at least average abilities essential for thinking and or reasoning. Learning disabilities look very different from one child to another. One child may struggle with reading and spelling, while another loves books but can't

understand math. Still another child may have difficulty understanding what others are saying or communicating out loud. The problems are very different, but they are all learning disorders.

2.1.7. Specific learning needs or disabilities

This is a disorder in one or more basic psychological processes involved in understanding or using language, spoken or written, which may manifest itself in an imperfect ability to listen, speak, read, write, spell, or do mathematical calculations. Specific learning disability is also a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations, including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. Specific learning disability does not include learning problems that are primarily the result of: visual, hearing, or motor disabilities; significant limited intellectual capacity; significant identifiable emotional disability; cultural factors; environmental or economic disadvantage; or limited English proficiency (United Nations Education, 1977, p.1082) .A specific learning disability is unique to the individual and can appear in a variety of ways. It may be difficult to diagnose, to determine impact, and to accommodate. Generally speaking, someone may be diagnosed with a learning disability if he or she is of average or above-average intelligence and there is a lack of achievement at age and ability level or there is a large discrepancy between achievement and intellectual ability. An untrained observer may conclude that a person with a learning disability is "*lazy*" or "*just not trying hard enough.*" He may have a difficult time understanding the large discrepancy between reading comprehension and proficiency in verbal ability. The observer sees only the input and output, not the processing of the information. Deficiencies in the processing of information make learning and expressing ideas difficult or impossible tasks.

2.1.8. Types of learning Disabilities or Needs

Specific or minor Learning Disability: The term Minor Learning Disability means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations. Specific learning disability does not include learning problems that are primarily the result of: visual, hearing, or motor disabilities; significant limited intellectual capacity; significant identifiable emotional disability; cultural

factors; environmental or economic disadvantage (U.S. Office of Education, 1968). In 1977, a single inclusionary criterion was added for each of the areas in which LD could occur, ". . . a severe discrepancy between achievement and intellectual ability in one or more of the areas: oral expression, listening comprehension, written expression, basic reading skill, reading comprehension and mathematics calculation; or mathematic reasoning" (United States Office of Education, 1977, p.1082).

Hear Kirk (1963) cited:

I have used the term "learning disabilities" to describe a group of children who have disorders in the development of language, speech, reading, and associated communication skills needed for social interaction. In this group, I do not include children who have sensory handicaps such as blindness; because we have methods of managing and training the deaf and blind excluding children with generalized mental retardation (p.3).

Learning Disability construct is the idea that low achievement is "*unexpected*," representing people who struggle to learn to read, write, or do math despite the absence of conditions that typically interfere with success. This is why early attempts to identify LD focused on the exclusion of known causes of low achievement

The term 'students with specific learning needs' is a broad term that includes students with a range of disabilities, difficulties and additional needs that impact on their ability to learn. A specific learning disability is quite different to a general learning disability. The student with a SLD may be characterized as a learner with extreme low achievement and limited positive response to appropriate instruction (Shinn, 2007; Fletcher, 2008). Students are eligible for special education and related services when it is determined that they differ substantially from their peers on both of these dimensions. That is, they demonstrate low academic performance and inadequate growth (Fuchs et al 2002). Specific learning disabilities include:

- **Dyslexia:** This is a difficulty in learning to read. This may mean that the child finds it hard to learn to read words or to understand what is written. Rutter (1978) indicated that "*if all the known causes of reading disability can be ruled out, the unknown (in the form of dyslexia) should be invoked.*" (p. 9).
- **Dyscalculia:** This is a difficulty with numbers. This may mean that the child finds it hard to understand how numbers work or learn to count or add, subtract, multiply and divide.
- **Dysgraphia:** Which is a difficulty with writing/spelling? This means that the child finds it difficult to write legibly and may have problems with spelling. They may find it hard to order their thoughts when writing a story or essay.

General learning disability (GLD): Children with general learning disabilities find it more difficult to learn, understand and do things than other children of the same age. They can continue to learn and make progress all through their lives but at a slower pace than other children. A general learning disability can be at the level of mild, moderate, severe or profound. The impact of the disability can be very different for individuals, with each child showing a unique profile of strengths and needs.

Moderate general learning disability: Children with moderate general disabilities show significant delays in reaching developmental milestones, such as talking, reading, writing and so on. They have considerable difficulty with basic literacy and numeracy and their language, communication, personal and social development is affected. Many students with moderate general learning disabilities have great difficulty concentrating on tasks and transferring what they learn from one situation to another. They need simple, direct and clear instruction in order to benefit from the classroom situation. Some children with moderate general learning disabilities can have additional disabilities or conditions, including autistic spectrum disorders, medical conditions, physical and/or sensory disabilities, and emotional/behavioral difficulties.

2.1.9. Special needs education

Special needs education is the practice of educating students with special needs in a way that addresses their individual differences and needs. Ideally, this process involves the individually planned and systematically monitored arrangement of teaching procedures, adapted equipment and materials, and accessible settings. Special needs education is a critical component in the development of the whole child. It promotes quality and equitable education for all including giftedness, learning disabilities amongst others. (UNESCO, 1994)

2.2. Review of Related Literature

2.2.1. Training in Students' needs assessment

Assessment is an ongoing process which information is gathered about student's strengths, interests, abilities, psychological, social and emotional development, over a period of time. It requires looking at how a person functions in different environments from many viewpoints. The assessment process may be different for each student depending upon their needs and should determine what they can do, as well as what they cannot do. The purpose is to open doors of opportunity rather than close off options as the student moves toward employment and greater

independence (Kluwer, 2001). Because assessment is an ongoing process, the information will help the teachers to plan appropriate services and support for their learners in the classroom. This process should begin as early as in the primary school level which can help the teacher to have a “picture” of the student’s abilities and disabilities. In order to gain a comprehensive understanding of a student’s strength and weakness, it is good to look at the student’s academic achievement, learning style, interest and preference, medical or personal background.

For teachers to be effective, the need to learn should underpin any educational system. Therefore, at least in relation to continuing professional development, learning will more likely lead to a change in practice when needs assessment has been conducted, because education is linked to practice, personal incentive drives the educational effort, and there is some reinforcement of the learning. Learning needs assessment is thus crucial in the educational process. The key lesson might be for those who design new systems of education and training for them to include needs assessment in the curriculum of teacher training colleges so as to fulfill part of what is required to make a teacher effective in the classroom.

Drew (2005) says that special education is more needs oriented to meet the needs of learners which imply that special education takes account of the unique and individual learning needs of the child. In doing these the curriculum content and the actual teaching is drawn and modified to suit the child’s learning needs and that special education is principally aimed at enhancing (add) the capabilities of the special learners. According to Mensah & Florence (2003), students with Learning disabled are those who demonstrate a significant discrepancy, which is not the result of some other handicap, between academic achievement and intellectual abilities in one or more of the areas of oral expression, listening comprehension, written expression, basic reading skills, reading comprehension, mathematical calculation, mathematics reasoning, or spelling. Learning disabilities represent the gap between what the learner wants to get out of the learning experience and his or her current state of knowledge, skill, and enthusiasm (Noessel, 2003). Potential learning needs can be classified in four different domains: cognitive, social, affective, and psychomotor. When facilitators establish a new learning environment, it is important that they assess preparedness of participants in all four domains.

Each learner is unique, and brings to the learning situation his or her own different learning style, knowledge set, pool of past experiences, and motivation. In learner-centered instruction, it is important for instructors to consider the level of knowledge and skill development attained by the learners prior to instruction (Dick, Carey, & Carey, 2004). The best way to get this information is by asking the learners themselves. To determine the readiness of participants for

learning, the instructor/facilitator should decide, prior to the first class or workshop, how to collect and use data on learner needs. The process of collecting and playing back these data can raise the level of participant excitement about the learning experience. The instructor can use this knowledge throughout the rest of the educational process to customize instructional strategies to enable learners to reach shared educational objectives (Allyn & Bacon, 2003)

2.2.2. Training in Teaching Techniques

Teaching techniques are the principles and methods used for instruction to be implemented by teachers to achieve the desired learning in students. These strategies are determined partly on subject matter to be taught and partly by the nature of the learner. For a particular teaching method to be appropriate and efficient it has to be in relation with the characteristic of the learner and the type of learning it is supposed to bring about. Davis (1997) suggests that the design and selection of teaching methods must take into account not only the nature of the subject matter but also how students learn. In today's school the trend is that it encourages a lot of creativity in teaching is students centered. In Student-Centered Approach to Learning, while teachers are an authority figure in this model, teachers and students play an equally active role in the learning process. The teacher's primary role is to coach and facilitate student learning and overall comprehension of material. Student learning is measured through both formal and informal forms of assessment, including group projects, student portfolios, and class participation. Teaching and assessments are connected; student learning is continuously measured during teacher instruction. Commonly used teaching methods may include class participation, demonstration, recitation, memorization, or combinations of these approach.

2.2.3. Training in Remedial teaching

Remedial education or teaching also known as developmental education, basic skills education, compensatory education, preparatory education, and academic upgrading, is the assistance given to students in order to achieve expected competencies in core academic skills such as literacy and numeracy. While special education is designed specifically for students with special needs, remedial teaching is designed for any students, with or without special needs. The reason here is simply that they have reached a point of under preparedness, regardless of the level.

Before a school decides on which remedial method to use on its students, they should consider the need of the students, the number of students and the amount of time to serve all the students. Some teachers may decide to use the reading intervention method that calls for one-on-one

method or the pull-out model while others may decide to use the small group or the entire class by using the push-in model (Bean et al, 2003). Passow(1990), also look at the importance of a rich and balanced curriculum for disadvantaged students that emphasizes the integration of reading, writing and oral language elements of literacy and comprehension to be linked with the pull-out model(p.3)

2.2.4. Training in Collaborative Teaching

Morse (2000) suggested that collaboration is an educational reform imperative: *“Educators will recognize they are not alone in searching for new modes of human exchange. The fact is, this quest for a new way of human exchange is endemic in the social order. Rejecting collaboration is not an option”* (p.11). A focus on the process of collaboration, however, has prompted emphasis on outcome indicators. Indeed, collaboration is often advocated, yet its effects are less frequently investigated. Many studies have reported positive outcomes of collaboration for teachers, including improved efficacy (Shachar & Shmuelewitz, 1997), more positive attitudes toward teaching (Brownell et al.), and higher levels of trust (Tschannen, 2001). Little has been done, however, to test the prediction that teacher collaboration is associated with increased student achievement.). According to Hausman & Goldring (2001), teachers must be central to any meaningful change in schools, adding that the more teachers collaborate, the more they are able to converse knowledgably about theories, methods, and processes of teaching and learning, and thus improve their instruction.

Hausman and Goldring (2001) view schools as potential *“communal organizations”* characterized by, among other constructs, *“enhanced Teachers College Record legality and collaboration”* (p.31). There are a variety of configurations, both formal and informal, within which collaboration may occur. For example, regular and special education teachers may work collaboratively to meet the needs of students with disabilities who spend a portion of the day in regular education settings. Secondary school teachers may follow a team model in which they collaborate to improve instruction. School administrators at any level may establish teams of teachers to *“problem solve about students experiencing difficulty, to establish and discuss academic standards, and to create positive working relationships with parents”* (Friend & Cook, 2000, p.16). Moreover, collaboration can occur when teachers talk often about their professional work (for example during planning periods). These examples clearly demonstrate that schools can present many opportunities for teachers to collaborate for the improvement of instruction, yet not all schools do. Indeed, not all teachers have opportunities to engage in professional

discourse about their own learning and instruction. For example, they may work in schools with no formal mechanisms for collaboration and where administrators tightly control educational decisions involving curriculum, assessment, and student placement.

When educators having unique knowledge of a child operate in isolation, the child's educational experience becomes fragmented, and the child's needs may go unmet (Hart, 1998). Conversely, when teachers have opportunities to engage in professional discourse, they can build upon their unique content, pedagogical, and experiential knowledge to improve instruction. Although many scholars suggest that the combined skills and knowledge possessed by a team of educators should be an asset to school processes and hence student achievement, this argument is mainly theoretical.

2.2.5. Teachers' effectiveness

For teachers to become more effective, Barber & Mourshed (2007) provide compelling evidence of the value of teacher development that is concrete and classroom-based. When development takes place in the classroom, teachers build practical skills both during initial teacher education (ITE) and in the course of continuing professional development (CPD) (Fleer & Robbins, 2003; White et al 2006; Meeus et al 2008; Andrews, 2006; Bryant et al., 2001). Student teachers value their school-based experience more highly than any other aspect of their training (Hobson et al., 2007). As one moves from the classroom, teachers may be able to benefit from engaging in other activities that help bridge the gap between theory and practice. Effective changes have been recorded for teachers who write role plays based on their classroom experiences (Darvin, 2011); engage in case study-based methodology (Tinker-Sachs & Ho, 2011) or work in a guided manner on minor inter-ethnic conflicts in multicultural teacher education classrooms (Elbaz-Luwisch, 2009)

The responsibility of imparting knowledge revolves around the teacher who plans, organizes and implements the teaching learning process. Nonetheless, one of the issues to be resolved is whether or not the teachers are effectively performing their role in the teaching – learning process and to see the effects of their role in students' academic achievement. In the teaching-learning process, both the teacher and the learners must be active. The learner learns through some activities while the teacher does all he considers necessary to make learning possible (Borko, 2004). For any society to be equipped with the basic knowledge and skills that will enable it to better appreciate the nature of economic problems, and how to make rational economic decisions, such a society must depend on the accumulated knowledge of economics,

which the citizens possess. For many years, educators and researchers have debated over which variables influence student achievement. A growing body of evidence suggests that schools can make a great difference in terms of student achievement, and a substantial portion of that difference is attributable to teachers. Thus, the impact of teacher effectiveness (or ineffectiveness) seems to be additive and cumulative (Cohen et al 2002).

According to Quillen & Hanna (1961) an effective teacher is one who does pre-planning which is the preparation for actual teaching carried out by a teacher or a committee of teachers. It involves anticipating the need and questions young learners, analyzing and organizing the factual content to be used, developing broad understanding and generalization to guide instruction forming a clear conception of the objective to be achieved, collecting material and learning about available resources, planning for classroom activities and developing evaluation procedures.

Gallahan & Clerk (1982) noted on the other hand that an effective teacher is one who is at constant state of planning. They plan the scope and sequence of course(s), develop the content within each course to study, develop units within each course of study and topics within units. It is also necessary for teachers to update their skills through constant training and retraining to put them on top the learning curve. In rapidly changing societies with increasing demand on the teaching profession as we find ourselves today – preserving existing quality of school system calls for increased training as well as new competence (Buchberger et al, 2000)

According to Ingvarson (2005) the role of practical field experience in teacher education has to be reevaluated by the school administration to include seminars and workshops where teachers are enlightened on the new models of teaching in the secondary school system.

Also, systematic certification for teachers and acceleration for teacher education providers have to be put into place. Thanks to these quality mechanisms, educational authorities can establish professional standards, independently to what is taught in the teacher education programs. This is also a way to influence on these programs, and make their outcomes closer to what the educational system needs, in terms of skills and competences. Another important element to take into account in the design of teacher education system is the level of school support. This implies that a supportive school environment has a significant influence on teachers learning opportunities (Snow et al, 2005). To avoid producing new teachers having inadequate skill and professional commitments as many incumbent teachers it would be necessary to design policies directed towards improving the knowledge and skills of new teachers which means a changes in recruitment practices (Marlaine et al, 1990).

Grant (1986) says a knowledgeable teacher is one who has acquired good training, developed his interest and ability for teaching children and that no one should enter or remain in the teaching profession unless he is determined to do his best as an effective teacher for his or her students. Hargreaves (1975) points out that with tacit knowledge the teacher will be able to take decision in the classroom when he is face with disciplinary infringement by pupil's and that the decision should be immediate. He should have the knowledge to give some taught to the matter before reaction. And this will create conducive classroom discipline of students.

According to Weimer (2008), the two components that are critically important in teacher preparation are teacher knowledge of the subject to be taught, and knowledge and skill in how to teach that subject. Research tells us that subject matter knowledge is necessary for effective teaching. But there is a second part of it that is knowledge and skill on how to teach is also very important. Effective teachers understand and are able to apply strategies to help students increase achievement. They understand and apply knowledge of child and adolescent development to motivate and engage students. They are able to diagnose individual learning needs. They know how to develop a positive climate in the classroom in order to make it a stimulating learning environment.

The typical college teacher has spent years in courses developing the knowledge skill set and virtually no time on the teaching set. This way of preparing professors assumes that the content is much more complex than the process, when in fact both are equally formidable. Marrying the content and the process requires an intimate and sophisticated knowledge of both. Some kinds of content are best taught by example, some by experience. Other kinds are best understood when discussed and worked on collaboratively. Other kinds need individual reflection and analysis. Besides these inherent demands of the content itself, there are the learning needs of individual students, which vary across many dimensions.

The best teachers are not always, not even usually, those teachers with the most sophisticated content knowledge. The best teachers do know their material, but they also know a lot about the process. They have at their disposal a repertoire of instructional methods, strategies, and approach, a repertoire they continually cultivate, just as they develop content knowledge. They never underestimate the power of the process to determine student learning outcomes.

2.2.6. Teachers' development/professional development

Professional development, in a broad sense, refers to the development of a person in his or her professional role. More specifically, Teacher development is the professional growth a teacher achieves as a result of gaining increased experience and examining his or her teaching systematically (Glatthorn,1995).Professional development also refers to ongoing learning opportunities that are available to teachers through their school or school district (National Commission on Teaching and America's Future, 1996). Professional development includes formal experiences (such as attending workshops and professional meetings, mentoring, etc.) and informal experiences (such as reading professional publications, watching television documentaries related to an academic discipline, etc.) (Ganser, 2000) .This conception of professional development is, therefore, broader than career development, which is defined as the growth that occurs as the teacher moves through the professional career cycle against staff development, which is the provision of organized in-service programs designed to foster the growth of groups of teachers; it is only one of the systematic interventions that can be used for teacher development (Glatthorn, 1995). Looking at professional development, one must examine the content of the experiences, the processes by which the professional development will occur, and the contexts in which it will take place (Ganser, 2000; Fielding & Schalock, 1985).

To Edutopia (2008), great teachers help create great students. An inspiring and informed teacher is the most important school-related factor influencing student achievement, so it is critical to pay close attention to how we train and support both new and experienced educators. The best teacher-preparation programs should emphasize on subject-matter mastery and provide many opportunities for student and teachers to spend time in real classrooms under the supervision of an experienced mentor. Furthermore, Odden et al (2002) underscore the fact that effective professional development produces change in teachers' instructional practice, which can be linked to improvements in student achievement. Little wonder why The United States Educational System believe that the primary purpose of professional development is to prepare and support teachers by giving them the knowledge and skills they need to help all students achieve high standards of learning and development (U.S. Department of Education, 1996).

Michelle & Roser (2011) say that teacher education refers to the policies and procedures designed to equip prospective teachers with the knowledge, attitudes behaviors and skills they

require to perform their teaching task effectively in the classroom, school and wider community. Thus, teacher education can be divided into these stages which include:

- Initial professional development.
- Continuing professional development.

Initial professional development: The first step in any process of developing a professional in any field is the initial professional preparation of that person. In teaching, this preparation takes very different shapes and forms and varies dramatically from country to country. Yet it is agreed that learning to teach is personal (as it depends on the students' personal learning history, their pre-conceptions and beliefs about learning and teaching), complex (because of the variety of skills and competences that have to be learned) and context-specific (Hauge, 2000).

Pre-service teacher education varies dramatically around the world in such aspects as institutional context, content areas, time allocation and form of practical experiences for the students (Peretz, 1995). It also varies in how societies perceive its purpose. Although many societies consider this preparation to be the only professional preparation teachers will receive throughout their careers, the current tendency is to acknowledge that this is merely the first step in a longer process of professional development. It is well-documented that “during initial training and their first few years in the classroom many teachers, perhaps even the majority, experience difficulties thus, most educators are advocating for more support to expand the conception of teacher preparation and professional development, which does not necessarily imply more years of ‘pre-service’ or initial education.

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Models of pre-service education Calderhead & Shorrock (1997) present the following three models of early professional development found in different countries around the world. Each model places a different emphasis on specific aspects of learning how to teach and is based on a variety of different approaches to the learning process. The enculturation, or socialization into the professional culture, model emphasizes the socializing processes in professional development. The organization, physical resources of schools, and values embedded in institutional practices exert a powerful influence on the teachers, and may often overrule the practices acquired in the institutions of teacher preparation. This is, in fact, a complex model, as schools generally have multiple ideologies. Research has found that the pressures experienced by first-time teachers when trying to integrate a new school usually explain how they can, in a manner of speaking, abandon what they learned in their initial preparation as teachers, or their own exploration of their personal teaching style.

The technical, or knowledge and skills model emphasizes the knowledge and skills teachers need to acquire in order to contribute to classroom practices. In the 1960s and 1970s, the model focused on classroom behavior, for example micro-teaching, questioning techniques or behavior control during times of transition. More recently, an effort has been made to conceptualize these skills, not only in terms of behavioral practices, but also in terms of thinking processes. In addition, this model also focuses on pedagogical content knowledge; that is, the kind of knowledge that expert teachers usually have and which novice teachers need to acquire. This includes knowledge of children, teaching strategies, curricula, school rules, the availability of materials, subject matter, how to facilitate understanding in others, etc.

The teaching as a moral endeavour model focuses on a method of teaching which involves caring for young children, taking into consideration their interests, preparing them to be a part of a future society, and influencing the way in which they live and relate to each other. It has been claimed that this constitutes an important aspect of teaching, which is highly valued by teachers, parents and children, but is usually ignored in discussions on the professional development of teachers. According to Hargreaves (1995), it is the moral dimension of teaching that makes this profession unique. After reviewing the teacher-preparation programs, Vonk (1995) concludes that there are two models:

One is teacher professionalism, *“which is based on the principles of mastering the academic or subject knowledge and professional competence. In this model, teacher education provides future teachers with instructional skills and knowledge of pupils’ learning processes and of child development”* (p. 291).

The second model, the personal growth model, assumes that *“if teachers have greater self-understanding, more reflective, more sensitive, more empathic, and more fully self-actualized, they would inevitably be better teachers”* (p. 291)

According to Ware et al, (2009); Ofsted (2006), the key factor in the progress of students with complex needs, is access to experienced and qualified teachers. The Organization for Economic Co-operation and Development (OECD) has suggested that the quality of teachers and their teaching is the most important factor in student outcomes (OECD, 2005, p.12). In its review of teaching and teacher education in 25 countries, the OECD suggested that raising teacher quality and standards is perhaps the policy direction most likely to lead to substantial gains in school performance (OECD, 2005, p.23).

The recent first World Report on Disability states that ‘the appropriate training of mainstream teachers is crucial if they are to be confident and competent in teaching children with diverse educational needs’. The principles of inclusion should be built into teacher training programs, which should be about attitudes and values not just knowledge and skills (World Health Organization, 2011).

Teacher education and training in Cameroon provides initial and in-service at all the levels in compliance with the presidential decree of 19th June 1980, structuring teacher education institutions and courses This was the first policy stipulating the duration of basic teacher education and training. Efforts to democratize teacher education program and make them more effective were primary in government’s venture in the 1980s and 1990s with focus on ensuring quality and excellence. Trailing government efforts were those of the private sector which did not lag behind. The strength of teacher education in Cameroon today is on government and private sectors. (Tchombe, 2000).

Professional teacher development should be to make the connection between teaching practice and student learning more direct and clear. The present generation of students deserves the best practice we can give them and their learning should not be mortgaged against the probability that something good will happen for future generations. Improvement should be focused directly on the classroom experience of today’s students (Elmore 2002). Moorosi & Sebatane (1993), define further that teacher training is the process of training teachers and exposing them to special education, special teaching methods and techniques which does well in enhancing the quality of life of children with special needs attending regular schools. Furthermore, it is believed that it is only when teacher acquire these skills that they can understand the physical, emotional,

intellectual and social growth of children with special needs. They can be in better position to provide to the children's needs.

Chambers & Healy (2008) say that Pre-Service Special Training takes place largely or exclusively in institutions of higher education and it may be organized according to two basic models: consecutive model where teachers first obtain a qualification in one or more subjects often an Undergraduate Bachelor's Degree and then studies for a further period to gain an additional qualification in teaching which may take the form of a Master's Degree. Secondly the concurrent model where a student simultaneously studies both one or more academic subjects and the ways of teaching that subject, leading to a combined Bachelor's Degree and Teaching credentials to qualify as a teacher of that subject. Tchombe (1997) explains that in a classroom context, there is the teacher and students who are functioning at different cognitive levels with different motives and reactions. The teacher has the major role of synchronizing these complex structures to ensure effective teaching and learning. Giangreco (1997) says that "pairing students with and without disabilities in the same activity having different objectives for different students may sometimes improve experience".

To Reusen et al, training in special education as the enhancement of understanding and improving the attitudes regarding children with special educational needs. Thus, teachers who have not understood or undertaken training regarding teaching students with disabilities may exhibit negative attitudes towards students with disabilities. While increased training was associated with more positive attitudes towards teaching students with special educational needs. Farrant (1980) sums it up that handicapped children can only be helped by teachers who are alert to the needs of individual children and are willing to take time and trouble to assist each child enjoy better life, noting further that, in severe cases such children may not be able to be taught in normal schools and could need teachers who could give tuition to them at home. That it is advisable for all teachers to monitor the progress of their students or pupils and to be alert to warning signs in their performance. Roger (1968) says "*special education is a form of intervention that involves the planning of instructional and learning environments designed to meet the unique needs of special child and this includes specially trained teachers for children with wide range of developmental problems*". Maria & Pechaka (1993) added that the training of teachers was embarked upon with teachers selected from pilot schools. The intensive training given to teachers was intended to help them understand disability needs and also to equip them with skills to assist children with disabilities in their education

Mellisa (2009) defines effective teacher training as the preparation program that provides them with knowledge, experience as well as special needs educational management skills, attitudes, behaviors and guidance. Thus, when this does not happen, we do not only risk teachers leaving the teaching profession quickly, but more importantly we risk the education of the entire classes of student.

Meanwhile Kilgo & Bruder (1997) say that Pre-Service Special Needs Education Training is training which occurs before a person becomes licensed or certified to perform the teaching job. This usually occurs within an institution of higher education and culminates with a degree or a certificate to prove that this study was done. Li Feng & Sass (2010) say that pre-service preparation in special needs education has statistically significant and qualitatively significant effects on the ability of teachers of special education courses to promote gains in achievement for students with disabilities especially in reading and writing. Forling et al (2001) argue that Pre-Service Special Needs Education is the most effective training a teacher should acquire compared to in-Service Special Needs Education Training.

From the above analysis, it can be realized that learners with special educational needs learn properly in the presence of teachers who acquire pre-service special needs education training than those that did not. These teachers are well prepared to meet the needs of all their learners in the classroom before they commence the teaching program. Adequate training of specialized teachers is necessary to eradicate the negative effects of disabled learners in secondary schools and thereby improve on their academic performance and teachers' effectiveness.

Continuing professional development: Continuing education and training refer to a form of additional education and training which aims to keep individuals abreast of developments in carrying out their professional duties. Continuing education and training can thus be relatively well defined vocational continuing education and training or general continuing education providing capabilities that are broadly applicable to professional duties. Lieberman (1996) classified continuous professional development into three types: Direct teaching such as courses and workshops; learning in school (such as peer, coaching, critical friendship, mentoring, action research and task-related planning teams); and out of school learning such as learning networks, visits to other school, university partnership etc. according to Malone (1984), continuous professional development is a form of in-service training offered by an organization from time to time for the development of skills and knowledge of the teachers. In- service training may broadly be categorized into five different types: (1) students' needs assessments training, (2)

teaching technique training, (3) on-the-job training, (4) collaborative training, and (5) remedial training. All of these types of training are needed for the proper development of teachers throughout their service life so as to enhance their effectiveness.

Professional development is understood and described in many different ways. Joyce et al (1976) for instance define it as “*formal and informal provisions for the improvement of educators as people, educated people and professionals, as well as in terms of the competence to carry out their assigned roles*” (p.6). Gall & Renchler (1995) defines professional development as “*efforts to improve teachers’ capacity to function as effective professionals by having them learn new knowledge, attitudes and skills*” (p.6). According to Fullan (1995,), professional development is the sum total of formal and informal learning pursued and experienced by the teacher in a compelling learning environment under conditions of complexity and dynamic change (p.265) .

Says Day (1999), professional development consists of all natural learning experiences and those conscious and planned activities which are intended to be of direct or indirect benefit to the individual, group or school, which contributes, through these, to the quality of education in the classroom. That notwithstanding, it is the process by which, alone and with others, teachers review, renew and extend their commitment as change agents to the moral purposes of teaching; and by which they acquire and develop critically the knowledge, skills and emotional intelligence essential to good professional thinking, planning and practice with children, young people and colleagues throughout each phase of their teaching lives.

Teachers’ perceptions of what activities constitute continuous professional development is frequently limited to attendance at courses, conferences and whole school in-service training, often to meet national requirements. Professional learning or “on the job” learning is regularly seen by teachers as separate from continuous professional development, and something that is just done as part of job (Edmonds & Lee 2002; Husler et al, 2003; Robinson & Sebba, 2004).Continuous professional development is a form of in-service training offered by an organization from time to time for the development of skills and knowledge of teachers. In-service training may broadly be categorized into five different types: (1) induction or orientation training, (2) foundation training, (3) on-the-job training, (4) maintenance training, and (5) career development training. All of these types of training are needed for the proper development of teachers throughout their service life.

Professional development training is the category that is of great importance in this study. This type of in-service training is designed to upgrade the knowledge, skills, and ability of teachers to help them assume greater responsibility in their teaching field. The training is arranged to teachers at all levels, for their own continuing education and professional development. Malone (1984) opined that extension services that provide the opportunity for all staff to prepare a plan for professional training will receive the benefits of having longer tenured and more satisfied teachers which increases both the effectiveness and efficiency of the teacher. Continuing professional development is important to teacher's personal lives and professional development focuses on fostering individual competence to enhance effectiveness and facilitate dynamic changes in education (Blandford, 2000).

Lieberman (1996) classified continuous professional development into three types: Direct teaching such as courses and workshops; learning in school (such as peer, coaching, critical friendship, mentoring, action research and task-related planning teams); and out of school learning such as learning networks, visits to other school, university partnership etc. A great deal of valuable professional development is gained from informal activities such as improving personal technology skills, academic programs, participating in subject associations and curriculum development, federation seminars and workshops, applied research, collaborating with other teachers, collaborating with outside organizations and lastly participation in extracurricular activities.

There has been recent increase in the recognition of the importance of professional development to foster the continuing engagement, enthusiasm, effectiveness and retention of teachers. This explains why the national education goals specifically call for increased support for the professional development of the teaching workforce in the United States (National Education Goals Panel, 1995).

According Walker (2005), satisfied employees will become loyal when they perceive their organization as offering the opportunities to learn, grow and at the same time providing a clear established career path that they can pursue in the organization. He also found that training and development to be one of the biggest factors that lead to teachers' effectiveness. According to the report, teachers want the opportunity for them to be effective, and they want developmental path and opportunities that allow them to advance within the company. This was supported by Carlson (2005), who concluded that in order for the teachers to be committed, which is a broad

definition of effectiveness, they look forward to the opportunities of continuous learning in order to improve their skills and knowledge.

Professional workshops and other formally related meetings are a part of the professional development experience (Ganzer, 2000). Much broader in scope than career development, professional development is defined as a growth that occurs through the professional cycle of a teacher (Glattenhorn, 1987). Moreover, professional development and other organized in-service programs are designed to foster the growth of teachers that can be used for their further development (Crowther et al, 2000).

Teacher development has moved beyond simple in-service workshops and has expanded into a more robust system of continuing education. In order to advance in their careers, teachers should seek out professional development opportunities which are ongoing and aligned with standards and assessments.

According to the organization for economic co-operation and development (2005) says continuing training activities are activities which seek to update, develop and broaden the knowledge teachers acquired during the initial teacher education and or provide them with new skills and professional understanding. These activities have in common that they lead to changes in knowledge and skills to respond better to practical problems in the classrooms. A good continuing training through experience is a motivation to create new professional knowledge and opportunity to engage actively in innovation. Also, experience aids in the development of skills in testing the validity of innovations and mechanisms for transforming the validated innovation rapidly within their school and their classroom (Hargreaves 2003)

Continuous professional development is the process by which teachers reflect upon their competences, keep them up to date and develop them further. Also, continuous professional development should include the following: the program should be spread overtime, be collaborative, use active learning, be delivered to groups of teachers, include periods of practice, coaching and follow up, promote reflective practice, encourage experiments and respond to teacher's needs (Snow & Lauer .2005).

According to the organization for economic co-operation and development (2005) says even if teachers receive a quality initial teacher education, teachers need to be trained their whole life. Continuing training is even more important when teachers have all the academic preparation and

motivation they should have from their school administration. The promotion of continuing training is also very much linked to the idea that schools are valuable places for teacher learning.

According to Tchombe (2006),

Cameroon is progressively transforming teacher education so that it responds to providing an education for sustainable development. Transformative teacher education presupposes the preparation of teachers who can in their practices ensure transformative learning, where teacher and learner, learner and learner are co-constructors of knowledge.

Education during the colonial era had its specific mission and teachers were trained to respond to that mission. Today there are new expectations for education where the focus is on having teachers be visionary leaders to ensure sustainable education. The paradigm shift is from teacher dominated classroom practices to that of partnership between the teacher and the learners and their peers. The shift takes its conceptual cues from constructivism and social constructivism that address participatory pedagogy. Although a law was passed on the 14th of April 1998 addressing models, patterns, duration and programs in the training of teachers, much is still to be done to effectively trained and retrained teachers so that they take their places in the new social order and market economy. Continuing special needs education training allows teachers to understand the link between particular teaching activities and techniques the way different groups of students respond to what their students actually learn. “Because, *teachers work in such varied contexts, there can be no guarantee that any specific approach to teaching will have the desired outcomes for students*”. (Timperley, 2008).

According to the international Alliance of leading education institute (2008) says continuing training is a transforming teacher education and a key avenue for developing the knowledge, skills and dispositions needed to reach higher student outcomes. Also, the promotion of continuing training is also very much linked to the idea that schools are vulnerable places for teacher learning and the development of alternative programs into the teaching profession.

According to the organization for economic co-operation and development, the most effective forms of professional development seem to be those that focus on clearly articulated priorities providing ongoing school-based support to classroom teachers, deal with subject matter content as well as suitable instructional strategies and classroom management techniques and create opportunities for teachers to observe experience and try new teaching methods (2005).

Timperley (2008) says continuing training allows teachers to understand the link between particular teaching activities and techniques, the way different groups of students actually learn

because teachers work in such varied contexts, there can be no guarantee that any specific approach to teaching will have the desired outcomes.

McRel (2005) says quality in education relates to the quality of the work undertaken by a teacher, which has a significant effect upon his or her students. Also, the assessment of teacher performance may be undertaken with a view to identify teacher's needs for additional training or development or in extreme cases to identify teachers that should be required to leave the profession. The most commonly used approach in continuing training is the one-time workshop or seminar in which experts from outside the school give lectures or proceed to information dissemination (Kennedy, 2005).

It can therefore be said that based on the above contributions by different authors, on-the-job training through experience is also an important aspect in addressing learners with specific learning disabilities.

According to the National Joint Committee on Learning Disabilities (1989), Learning Disabilities is a general term that refers to “*a heterogeneous group of disorders manifested by significant difficulties in acquisition and use of listening, speaking, writing, reasoning or mathematical disabilities*”. Learning needs also refer to a number of conditions that might affect the acquisition, organization, retention, understanding or use of verbal or nonverbal information. These disorders affect learning in individuals who otherwise demonstrate at least average abilities essential for thinking and or reasoning. Learning disabilities look very different from one child to another. One child may struggle with reading and spelling, while another loves books but can't understand math. Still another child may have difficulty understanding what others are saying or communicating out loud. The problems are very different, but they are all learning disorders.

The integrationists/ecological model of special learning disabilities: This model recognizes that different factors interplay at different stages of a child's life which can affect learning. These include factors intrinsic to the child (genetic, neurological); factors in the child's home and school environment; and those within wider society such as housing or societal attitudes to disabilities. This model acknowledges “*that the needs of any child may be considered as comprising the needs (a) common to all children (b) common to children who share a disability or condition and (c) unique to each child*” (Desforges et al, 2010, p.116). While children may therefore have overlapping needs, important variations exist among children within any given disability category that reflect individual factors. This places limits on the usefulness of disability diagnosis. Desforges & Lindsay (2010) suggest that evidence from academic theory and research

supports the interactionist/ecological model as providing the best fit for the ‘complexities of identifying and providing an appropriate education to children and young people with special educational needs’ (Desforges et al, 2010, p.165). Students with learning disabilities can be easily identified through two primary methods namely the discrepancy model and the response to intervention model. The discrepancy model depends on the teacher’s ability to be able to notice that the students ‘ achievements are noticeably below what is expected’ while the response to intervention model advocate early intervention.

The Discrepancy Model: With the discrepancy model, a student receives special education services for a specific learning difficulty (SLD) if the student has at least normal intelligence and the student's academic achievement is below what is expected of a student with his or her intelligence quotient (IQ). Although the discrepancy model has dominated the school system for many years, there has been substantial criticism of this approach (Aaron, 1995; Flanagan & Mascolo, 2005) among researchers. One reason for criticism is that diagnosing SLDs on the basis of the discrepancy between achievement and IQ does not predict the effectiveness of treatment. Low academic achievers who also have low IQ appear to benefit from treatment just as much as low academic achievers who have normal or high intelligence.

Response to Intervention Model: The response to intervention model identifying children who have difficulties in school in their first or second year after starting school should receive additional assistance such as offering them remedial lessons or participating in a reading remediation program. The response of the children to this intervention then will determine whether they are designated as having a learning disability. Those few who still have trouble may then receive designation and further assistance. Sternberg (1999) has argued that early remediation can greatly reduce the number of children meeting diagnostic criteria for learning disabilities. He has also suggested that the focus on learning disabilities and the provision of accommodations in school fails to acknowledge that people have a range of strengths and weaknesses and places undue emphasis on academics by insisting that students should be supported in this arena.

2.2.7. Models of professional development and teachers’ effectiveness

Professional development school model: The professional-development school model involves and requires institutional support (Wise, 2000), and it is one of the models that does work to provide opportunities for teachers’ professional development from the beginning to the end of

their career (Koehnecke, 2001). The model of professional-development schools varies from setting to setting. However, they all share the common goal of providing professional-development experiences for both pre-service and in-service teachers in school settings (Frankes et al., 1998), and raising the standards of education and schools (Chance, 2000; and Levine & Churins, 1999). The children in schools benefit from the experiences of the mentor teachers, as well as the new knowledge and energy that student-teachers bring into the classrooms. For example, in a study that measured the impact of student-teachers' activities on students' learning of mathematics and writing skills, Knight et al. (2000) found that "*elementary students increased achievement in writing and mathematics problem solving after implementation of the interventions devised by teachers in the elementary school and implemented by pre-service teachers within the PDS*" (p. 35). Cambone et al. (1996) report that in one particular PDS, the mentoring and practicum components were less effective than expected.

Inspectional model: According to Bourke (2001), the inspectional model is typically completed by an administrator who comes into a classroom, either takes notes or checks according to a list of criteria whether the teacher is achieving all the necessary requirements, and then leaves the classroom, giving no feedback (immediate or otherwise) to the teacher. Today, most professional-development programs practice classroom evaluation as an element in the program, but not exclusively. In this new perception, supervision is considered as a means of offering helpful feedback and suggestions on ways to improve a particular aspect of one's teaching but it's not the case in our secondary schools today. Standard-based assessment and performance-based assessment; many researchers are proposing a new perception of students' assessment as a form of teachers' professional learning and development, and the creation of a new evaluation system which would contribute significantly to the quality of teaching. In developing this new system, quality assurance would be merged with professional development (Danielson, 2001). Continuous professional development is the typical 'in-service staff training' that includes the use of workshops, short seminars and courses (Zeegers, 1995, p. 13).

Collegial development model: This is a term used by Glatthorn (1987) to describe his model of collegial development. In this model, teachers develop their own plan for professional development in small groups. This kind of co-operative model makes teachers– as a group – in each school continuously responsible for quality (Wilson, 1994).

Skills development model: This model, described by Joyce & Showers (1988), was designed to develop new teaching techniques and skills such as higher-order questioning, inquiry teaching and group work. In order for this model to be effective, a significant amount of ‘time off-the-job’ is necessary.

Project-based models: The primary goal of these models is:

To develop the student and teachers’ capacity to work independently and collaboratively as reflective professionals, a goal that is supported not only by their own project experience but by accompanying discussion, comparison, and contrast with accounts in the literature and the work of their fellow-students. A secondary goal is to make a positive contribution to students’ own institutions, which helps to sustain their support for the course. (Eraut, 1995, p. 625).

These models prepare teachers for leadership roles in the classroom and the school, and improve the general quality of their professional development (Vulliamy & Webb, 1991).

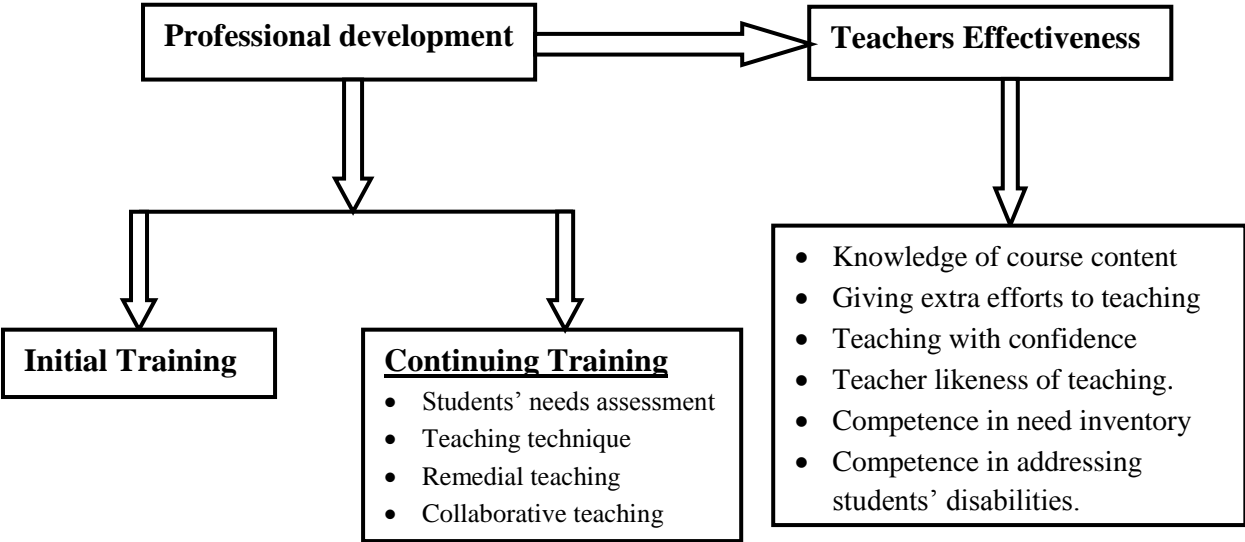


Figure 2.1: Summary model of concepts
Source : the researcher

2.3. Empirical Review

According to the Council of the European Union conclusion of May 12, 2009 on a Strategic Framework of European cooperation in education and training noted that lifelong-learning should be regarded as a fundamental principle underpinning the entire framework, which is designed to cover learning in all contexts whether formal, non-formal or informal. To Combs and Anmed (1974) non-formal educational activity carried on outside the framework of the formal system to provide selected types of learning to particular sub-groups in the population.

Kenndey (2005) says, teachers are educated as experts in their precise field, with a strong critical sense, autonomy and professional problem-solving abilities. This makes them responsible for the improvement of their skills and more effective. Also, emphasis on collaborative work allows to quickly increasing the supply of teachers in teaching secondary school subjects.

According to Wilson et al (2003) put into evidence a positive connection between teacher's preparation in terms of subject-matter and the performances of their students even if it also acknowledges the fact that the solution to achieve teacher effectiveness is more complex than "*simply requiring a major or more requiring subject matter courses*". It also shows the positive impact on teacher practice and student outcome of pedagogical preparation.

Zumwalt (1986) expressed this key role of teachers in very strong terms: "*there can be no excellence in education without first rate teachers. One can change the curriculum, buy more materials, refurbish the physical environment, lengthen the school day but without good teachers change will not produce the desired effect*". The competence of the teacher is an essential element in the operation of the school and in the accomplishment of necessary reforms (Globe & Porter 1997).

To Sheffield, & Diejomah (1972), non-formal education of teachers may serve as an extension of formal schooling for those who need additional training to get into productive employment or as a means of upgrading the skills of those already employed. Teacher education is important because of its impact upon teacher quality. To teach is a complex and demanding intellectual work, one that cannot be accomplished without the adequate preparation. Teacher education not only ensures that teachers are and remain competent, but it also assures that they stay motivated through time. (Eurydice, 2004.p 6)

According to Douwe & Verloop (2004) the studies considered in the review of recent research on teacher's professional identity formation can be divided into the following categories: studies in which the focus was on the identification of the characteristics of teachers professional identity was presented by teacher's stories. Although teacher education is recognized world-wide as a key component in educational improvement efforts, the models and practices for producing teachers may differ from one country to another in terms of factors such as resources available, teacher supply needs in the school, policy guidelines and goals of training and whether initial teacher training is monopolized by one institution or shared by many (Tambo, 1995)

According to the organization of economic co-operation and development (2005) special education training provides teachers with a number of routines which allows them to master specific aspects of the teaching practices. This training also allows the development of a strong professional identity. Thus, the school administration should stimulate teacher's problem-solving capacities which allow them to be reactive in every classroom situation.

Avramides, et al (2000) say given that, research has suggested that the successful implementation of any inclusive policy is largely dependent on educators being positive about it. The analysis revealed that the trainees held positive attitudes towards the general concept that their perceived competence dropped significantly according to the severity of the child's special educational needs.

Also, Georgios, et al (2004) say that based on self-determination theory, a mixed method design and intentions regarding participation in training and teaching of an innovative academic subject structural equation modeling reveal that autonomous motivation positively predicted teacher intentions. Thus, to participate in relevant training and implementation innovation in the future, while controlled motivation did not. The findings imply that policy makers should encourage strategies that Foster teacher autonomous motivation for promoting successful implementations of educational innovations.

From the above analysis by various authors, it can be said that professional development has an influence on teachers' effectiveness in addressing students with specific learning disabilities.

2.4. Theoretical Framework

A theoretical framework explains the phenomenon that is being studied and these explanations are based on the theories developed by many researchers and theorists (Camp, 2001). According to Amin (2005, p.10), a theory is "a predisposition that presents a systematic view of specifying

the relations among variables with the purpose of explaining and predicting the phenomena". A theory is a set of interrelated concepts, which structure a systematic view of phenomena for the purpose of explaining and predicting (kerlinger, 1973). According to Zaden (2000) ; Wujungbuen (2007), a theory is a set of interrelated statements that provide an explanation for a class of events. Therefore the theoretical frame work of this study is seen in the light of the following:

- Self-efficacy theory of Albert Bandura (1977)
- Social constructive theory of Lev Vygotsky (1869-1934)
- Social learning theory of Albert Bandura (1977)

2.4.1. Self-Efficacy Theory of Albert Bandura (1977)

Self-efficacy beliefs are an important aspect of human motivation and behaviour as well as influence the actions that can affect one's life. Self-efficacy, "*refers to beliefs in one's capabilities to organize and execute the courses of action required to manage prospective situations*" (Bandura, 1995). More simply, self-efficacy is what an individual believes he or she can accomplish using his or her skills under certain circumstances (Snyder & Lopez, 2007). Self-efficacy has been thought to be a task-specific version of self-esteem. Self-efficacy have influence over people's ability to learn, their motivation and their performance, as people will often attempt to learn and perform only those task for which they believe they will be successful (Lunenburg, 2011).The basic principle behind Self-Efficacy Theory is that individuals are more likely to engage in activities for which they have high self-efficacy and less likely to engage in those they do not (Van & Shortridge, 2002). According to Gecas (2004), people behave in the way they executes their initial beliefs; thus, self-efficacy functions as a self-fulfilling prophecy.

Judgments of self-efficacy are generally measured along three basic scales: magnitude, strength, and generality.

- **Self-efficacy magnitude:** measures the difficulty level (e.g. easy, moderate, and hard) an individual feels is required to perform a certain task (Van & Shortridge, 2002). How difficult is my class work? Are the quizzes easy or hard?

- **Self-efficacy strength:** refers to the amount of conviction an individual has about performing successfully at diverse levels of difficulty (Van & Shortridge, 2002). How confident am I that I can excel at my work tasks? How sure am I that I can climb the ladder of success?
- **Generality of self-efficacy** refers to the "degree to which the expectation is generalized across situations" (Lunenburg, 2011). How sure am I that what I have learned will apply to my new tasks?

The basic idea behind the Self-Efficacy Theory is that performance and motivation are in part determined by how effective people believe they can be (Bandura, 1982; as cited in Redmond, 2010). The theory is clearly illustrated in the following quote by Mahatma Gandhi:

"If I have the belief that I can do it, I shall surely acquire the capacity to do it even if I may not have it at the beginning" - Mahatma Gandhi.

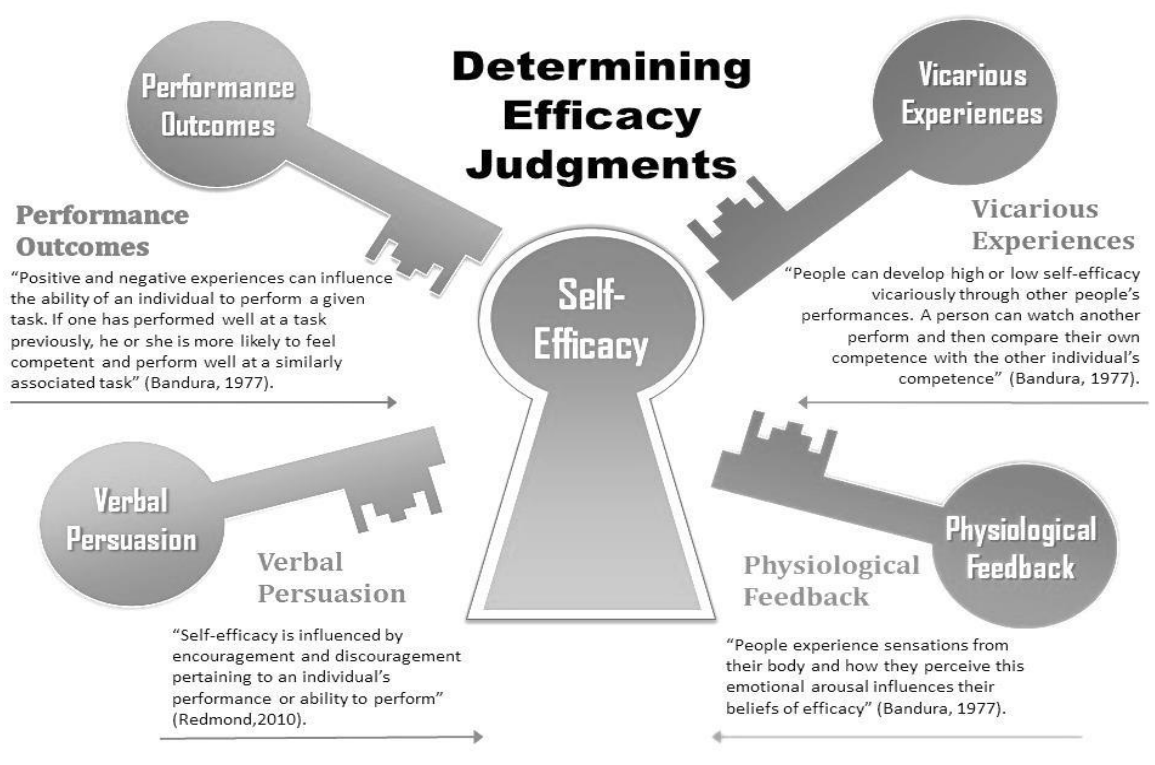


Figure 2.2: Elaboration of the self- efficacy theory.

Source: Google.com: www.education.com/self-efficacy-theory.

Bandura (1977) outlined four sources of information that individuals employ to judge their efficacy: performance outcomes (performance accomplishments), vicarious experiences, verbal persuasion, and physiological feedback (emotional arousal). These components help individuals determine if they believe they have the capability to accomplish specific tasks. Williams and Williams states that “*individuals with high levels of self-efficacy approach difficult tasks as challenges to master rather than as threats to be avoided*” (2010, p. 455).

- **Performance Outcomes:** According to Bandura (1977), performance outcomes or past experiences, are the most important source of self-efficacy. It has been suggested that, “*Positive and negative experiences can influence the ability of an individual to perform a given task. If one has performed well at a task previously, he or she is more likely to feel competent and perform well at a similarly associated task*” (Bandura, 1977). For example, if one performed well in a previous task, then they are more likely to feel confident and have high self-efficacy in performing the task if they are assigned to do a similar task. The individual’s self-efficacy will be high in that particular area, and since he or she has a high self-efficacy, he or she is more likely to try harder and complete the task with much better results. The opposite is also true, where if an individual experiences a failure, they will most likely experience a reduction in self-efficacy. However, if these failures are later overcome by conviction, it can serve to increase self-motivated persistence when the situation is viewed as an achievable challenge (Bandura, 1977).

In conclusion, Bandura (1997) made it clear that:

Mastery experiences are the most influential source of efficacy information because they provide the most authentic evidence of whether one can master whatever it takes to succeed. And success it is said, builds a robust belief in one's personal efficacy. Failures undermine it, especially if failures occur before a sense of efficacy is firmly established.

- **Vicarious Experiences:** “*People can develop high or low self-efficacy vicariously through other people’s performances. A person can watch another perform and then compare his own competence with the other individual’s competence*” (Bandura 1977). If a person sees someone similar to them succeed, it can increase their self-efficacy. However, the opposite is also true; seeing someone similar fail can lower self-efficacy. An example of how vicarious experiences can increase self-efficacy in students through

group work, where a slow learner is paired with a fast learner to carry out a task will be successful at raising the individual's self-efficacy beliefs. (Bandura, 1977)

- **Verbal Persuasion:** Self-efficacy is also influenced by encouragement and discouragement pertaining to an individual's performance or ability to perform, such as a manager telling an employee: "*You can do it. I have confidence in you.*" Using verbal persuasion in a positive light generally leads individuals to put forth more effort; therefore, they have a greater chance at succeeding. However, if the verbal persuasion is negative, such as teachers telling learners, "*This is unacceptable! You cannot answer a simple question or solve a simple mathematical equation etc.*" can lead to doubts about oneself resulting in lower chances of success. Also, the level of credibility directly influences the effectiveness of verbal persuasion; where there is more credibility; there will be a greater influence. Although verbal persuasion is also likely to be a weaker source of self-efficacy beliefs than performance outcomes, it is widely used because of its ease and ready availability (Redmond, 2010).
- **Physiological Feedback (emotional arousal):** People experience sensations from their body and how they perceive this emotional arousal influences their beliefs of efficacy (Bandura, 1977). Some examples of physiological feedback are: giving a speech in front of a large group of people, making a presentation to an important client, taking an exam, etc. All of these tasks can cause agitation, anxiety, sweaty palms, and/or a racing heart (Redmond, 2010). Although this source is the least influential of the four, it is important to note that if one is more at ease with the task at hand they will feel more capable and have higher beliefs of self-efficacy.

2.4.2. Lev Vygotsky's Social constructivism theory (1896-1934)

Vygotsky (1896-1934), in his theory of the "*Zone of Proximal Development*" (ZPD) defines "*Proximal*" as simply meaning "*next*". He observed that when children were tested on tasks on their own, they rarely did as well as when they were working in collaboration with an adult. It was by no means always the case that the adult was teaching them how to perform the task, but that the process of engagement with the adult enabled them to refine their thinking or their performance to make it more effective. Hence, to him, the development of language and articulation of ideas was central to learning and development. The common-sense idea which fits most closely with this model is that of "*stretching*" learners. The ZPD is about "*can do with*

help", not as a permanent state but as a stage towards being able to do something on your own. The key to "*stretching*" the learner is to know what is in that person's ZPD, what comes next, for them. According to Vygotsky (1993), children with disabilities tend to have a special need for "*detour*", that is in other special education environments (adapted educational milieu). This milieu may provide necessary conditions for the "*cultural introduction of children with disabilities and realization of mankind's inherent socio-cultural experience*". Thus, Vygotsky stressed on the structural complexity of functional disability has considerable impact on special education. He also stressed on the importance of a distinction between primary and succeeding symptoms in the study of upbringing, teaching and education of children with different disabilities. To him, learning and development in the classroom is a social and collaborative activity.

2.4.3. Social Learning Theory (SLT) Of Albert Bandura (1977)

From the perspective of social learning theory, the mechanism of learning and the formation of individual knowledge is through observation (Bandura, 1977). Observational learning has been found to be an important mechanism in teacher development (Lortie, 2002), as the importance of a mental model or a picture of the lesson as the teacher enters a classroom (Rowlands, et al 2011). The way in which teachers choose and construct behaviors is influenced by the extent to which they believe they will be successful with a course of action in a particular context. This self-regulatory process within SLT is referred to as self-efficacy.

Social learning theory strongly lays emphasis on one's cognition. It suggests that the mind is an active force that constructs one's reality selectively, encodes information, performs behavior on the basis of values and expectations and impose structure on its own actions. It is through an understanding of the processes involved in one's construction of reality that enables human behavior to be understood, predicted and changed. In view of the theory, the student's academic achievement is a product of interaction of his personality and consequently, study behavior he develops basing on his expectations of the outcome of his actions.

Albert Bandura (1977) studied learning processes that occurred in interpersonal contexts and were not adequately explained by theories of operant conditioning or existing models of social learning. Specifically, Bandura argued that "the weaknesses of learning approaches that discount the influence of social variables are nowhere more clearly revealed than in their treatment of the acquisition of novel responses". Skinner's explanation of the acquisition of new responses relied on the process of successive approximation, which required multiple trials, reinforcement for

components of behaviour, and gradual change. Rotter (1954) and her theory on social learning and clinical psychology proposed that the likelihood of a behaviour occurring was a function of the subjective expectancy and value of the reinforcement. This model assumed a hierarchy of existing responses and thus did not (according to Bandura 1977) account for a response that had not yet been learned. Bandura began to conduct studies of the rapid acquisition of novel behaviours through social observation, the most famous of which were the Bobo doll experiments.

It is believed that an individual has the level of success they will experience when they act in certain ways in specific contexts. Self-efficacy reflects cognitive capacities and underlying skills, it also incorporates affective components such as confidence, motivation and willingness to innovate (Bandura, 1997). Previous research has found teachers' self-efficacy to be related to positive teaching behaviors and student achievement. Teachers with lower levels of efficacy are more pessimistic about student motivation and believe in strict classroom regulation and rely on extrinsic inducements and negative sanctions to get students to study. The core component of SLT, as referred to above, is observational learning and the mental modeling of observed behaviors (Woolfolk, et al, 1990).

Teachers (re)construct behaviors to implement in classroom. Much behavior, according to Bandura (1997), becomes routine and does not require prior modeling and planning. Teachers at the beginning of their careers observe and model the practice of other teachers, adapt them and (re)produce them in the classroom (Lortie, 2002), this is consistent with SLT. Feedback and response as well as self-assessment by the individual teacher influence the formation of their teaching behaviors (Lave & Wenger, 1991). In time, practices become largely a routine (Bandura, 1997; Cuban, 2009; Wake, 2011). As teachers, we observe the largely traditional teaching of more experienced colleagues; we construct this, knowing that it represents a safe and stable practice. Thus we enter into a well-established didactic contract (Brousseau, 1997) based on traditional and conservative teaching approaches.

According to SLT, people learn from one another, through observation, Imitation and Modeling. In the process of training, the teachers do observe how their trainers give them the training and when they go to the field, they tend to imitate and give out what they learnt in school so as to be models in the courses, classes and the students they teach. This will only occur as stated in Bandura (1977) that in social learning, imitation and behavior modeling will occur if a person

observes positive, desired outcomes in the first stage to facilitate renegotiation is reliant upon teachers having the appropriate pedagogical knowledge, in the form of mental models of possible and alternate practices, pedagogies and behaviors, combined with a level of self-efficacy in order to be able to implement such approaches, it is important to be reminded of the social and contextual effects that present a challenge to innovation (Guskey, 1988).

Similarly, as teachers, if we introduce an innovative pedagogy and it is challenged or it is responded to unfavorably by students, parents and colleagues, then it is likely that we will be less confident with the approach. Ultimately we may change our behavior to an approach that we believe will be more acceptable. The kinds of teachers that persist with innovation have been shown to demonstrate high levels of self-efficacy in the context of teaching (Berman & McLaughlin, 1978). Beyond the effects of others in influencing behavior, there are also the effects of the working conditions, the demands of the job, the nature of teaching and the institution in which it takes place. It has been recognized that these environmental effects also have a strong influence on the way teachers teach (Cuban, 2009; Leinhardt, 1988).

These effects were, 1) Teacher knowledge, 2) Teacher self-efficacy beliefs and 3) Social, contextual and environmental effects. Teacher knowledge corresponds with aspects of data where the teacher refers to their knowledge and the effects on their knowledge in the context of their professional development and their teaching. In terms of SLT, knowledge is conceived of as mental models of potential behaviors. If SLT provides a reasonable descriptive and explanatory capability then there may also be suggestion of observational learning and the modeling of behaviors. For teacher self-efficacy beliefs, examples might feature direct references to confidence, motivation or expressions of willingness to include innovative processes in their teaching. Alternatively, there might be negative effects on self-efficacy. Social, contextual and environmental effects refer to aspects of the Professional development and teachers' experience that are related to student, parent or colleague expectations that may have a bearing on what the teacher does in the classroom.

The social learning theory is based on the idea that we learn from our interactions with others in a social context. Separately, by observing the behaviors of others, people develop similar behaviors. After observing the behavior of others, people assimilate and imitate that behavior, especially if their observational experiences are positive ones or include rewards related to the

observed behavior. According to Bandura, imitation involves the actual reproduction of observed motor activities. (Bandura,1977).

The principles of social learning are assumed to operate in the same way throughout life. Observational learning may take place at any age. As far as exposure to new influential, powerful models that control resources may occur at life stage, new learning through the modeling process is always possible. (Newman,2007). If, for example, an instructor observes the way another teacher interact with his/ her students in class, and is entertained, informed, and approves of the way students act, they are more likely to want to teach using the same method in their own classroom. They can then use the behavior they experienced to imitate and model other instructors' teaching styles in their world (Bandura, 1986)

2.5. Research Hypothesis

Gay (1996) defines a hypothesis as a tentative explanation for certain behaviours, phenomena, or events that have occurred or will occur. A hypothesis is defined as a presumptive statement of a proposition or a reasonable guess based on available evidence that the research intends to check (Amin, 2006). Hypotheses are declarative statements in quantitative research in which the investigator makes a prediction or conjecture about the existence or outcome of relationships (Creswell, 2012).

2.5.1. General hypothesis

This study is based on the hypothesis that:

GRH: Professional development significantly influences teachers' effectiveness in addressing students with specific learning needs.

2.5.2. Specific hypothesis

The following research hypotheses were formulated to guide the study;

RH1: There is a significant link between students' needs assessment and teacher's effectiveness in addressing student's specific learning needs.

RH2: There is a significant relationship between teaching technique and teacher's effectiveness in addressing student's specific learning needs.

RH3: There is a significant link between remedial teaching and teacher's effectiveness in addressing student's specific learning needs.

RH4: There is a significant relationship between collaborative teaching and teachers' effectiveness in addressing student's specific learning needs.

2.6. Operationalization of Variables

Elmes et al (1995) states that "variables are what makes experiments run" they go ahead to say that, effective selection and manipulation of variables makes the difference between a good experiment and a poor one. Luma et al (1999) as cited by Asongwe, defined a variable as a characteristic which has more than one category or variable, and can be classified into dependent, independent and intervening variables. For the purpose of this study, we shall consider only the independent and dependent variables.

2.6.1. Independent Variable

According to Makyighome (2003), independent variables are the conditions or characteristics that the researcher manipulates in order to determine their relationship with the other state of affairs. The independent variable of the study is professional development.

2.6.2. Dependent Variable

Makyighome (2003) defines dependent variable as those characteristics that are being predicted when statements of hypothesis are made. They change as the researcher manipulates the independent variables. The dependent variable in this study is teacher's effectiveness.

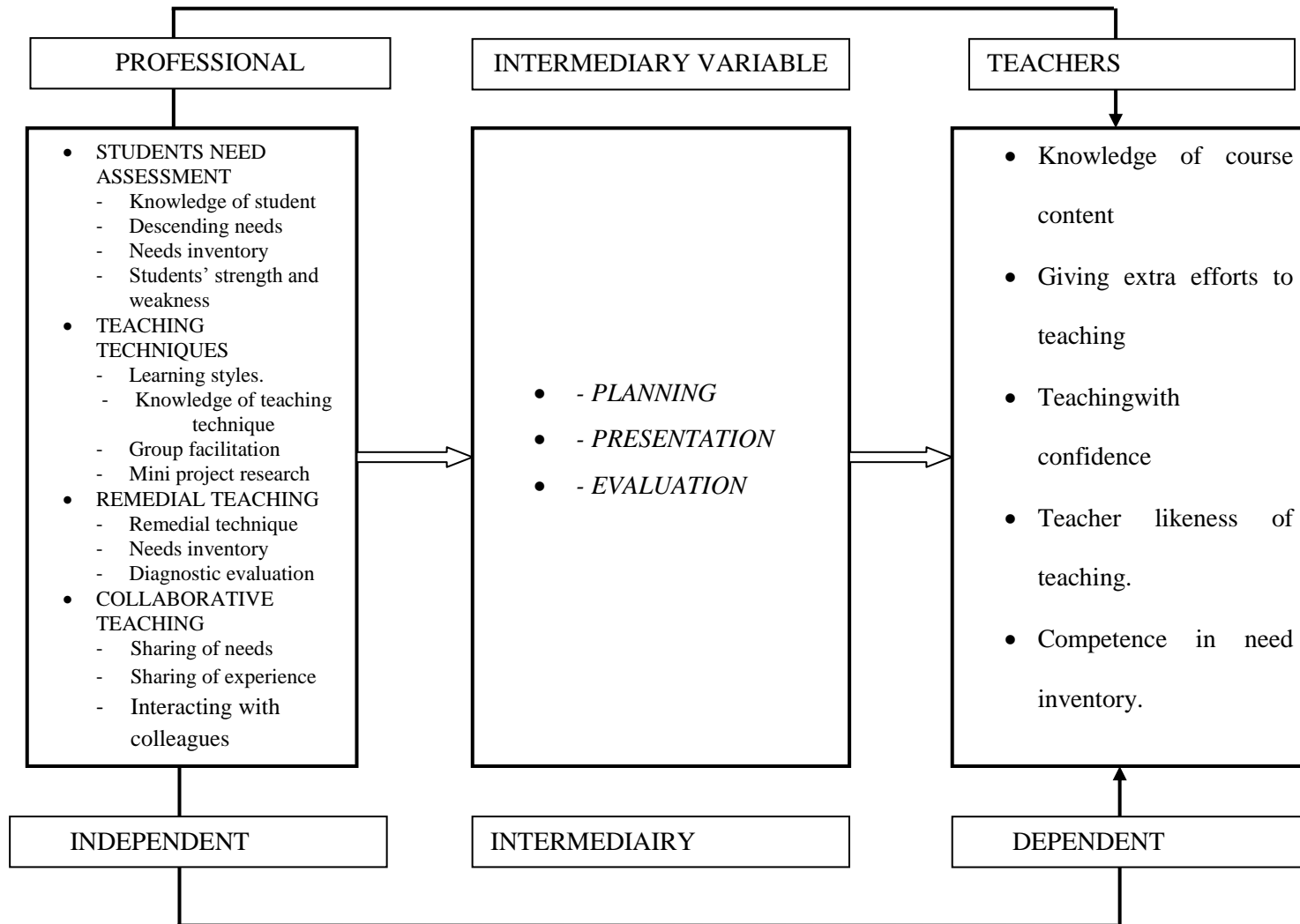


Figure 2.3: Summary model of variables.
Source: The author.

Table 2.1: Recapitulation table of Hypotheses, Variables, Indicators, Modalities, Statistical test and Questions corresponding to Hypotheses

General Hypothesis	Specific Hypothesis	Variables	Indicators	Modalities	Statistical tools	Items
There is a significant relationship between professional development and teacher's effectiveness in addressing students with learning disabilities.	H1: There is a significant link between students' needs assessment and teachers effectiveness in addressing students specific learning needs	<u>Independent variable</u> Students needs assessment	-Knowledge of student -Descending needs -Needs inventory -Students' strength and weakness	Strongly agree Agree Neutral Strongly Disagree Disagree	-Pearson's Correlation Coefficient - One way ANOVA -T-Test -Regression	7, 8, 9, 10, 11.
		<u>Dependent Variable (DV)</u> Teachers effectiveness	-Knowledge of course content -Giving extra efforts to teaching -Teaching with confidence -Teacher likeness of teaching. -Competence in need inventory.	Strongly agree Agree Neutral Strongly Disagree Disagree	Pearson's Correlation Coefficient -One way ANOVA -T-Test -Regression	25,26,27,28, 29,30,31.
	H2: There is a significant relationship between teaching technique and teachers effectiveness in addressing students specific learning needs	<u>Independent Variable (IV)</u> Teaching Techniques	-Learning styles. -Knowledge of teaching technique -Group facilitation -Mini project research	Strongly agree Agree Neutral Strongly Disagree Disagree	Pearson's Correlation Coefficient -One way ANOVA -T-Test -Regression	12,13,14,15, 16
		<u>Dependent Variable (DV)</u> Teachers Effectiveness	-Knowledge of course content -Giving extra efforts to teaching -Teaching with confidence -Teacher likeness of teaching. -Competence in need inventory.	Strongly Agree Agree Neutral Strongly Disagree Disagree	-Pearson's Correlation Coefficient -One way ANOVA -T-Test -Regression	25, 26, 27, 28,29,30,31.

	H3: There is a significant link between remedial teaching and teachers effectiveness in addressing students specific learning needs	<u>Independent Variable (IV)</u> Remedial Teaching	Remedial technique Needs inventory Diagnostic evaluation	Strongly Agree Agree Neutral Strongly Disagree Disagree	-Pearson's Correlation Coefficient -One way ANOVA -T-Test -Regression	17, 18 19.
		<u>Dependent variable (DV)</u> Teachers' Effectiveness	-Knowledge of course content -Giving extra efforts to teaching -Teaching with confidence -Teacher likeness of teaching. -Competence in need inventory.	Strongly Agree Agree Neutral Strongly Disagree Disagree	-Pearson's Correlation Coefficient -One way ANOVA -T-Test -Regression	25,26,27,28, 29,30,31.
	H4: There is a significant relationship between collaborative teaching and teachers' effectiveness in addressing students with learning disabilities.	<u>Independent variable (IV)</u> Collaborative Teaching	Sharing of needs Sharing of experience Interacting with colleagues Collaborative learning	Strongly Agree Agree Neutral Strongly Disagree Disagree	-Pearson's Correlation Coefficient -One way ANOVA -T-Test -Regression	20,21,22,23, 24.
		<u>Dependent Variable (DV)</u> Teachers Effectiveness	-Knowledge of course content -Giving extra efforts to teaching -Teaching with confidence -Teacher likeness of teaching. -Competence in need inventory.	Strongly Agree Agree Neutral Strongly Disagree Disagree	-Pearson's Correlation Coefficient -ANOVA -T-Test -Regression	25,26,27,28, 29,30,31.

CHAPTER THREE

RESEARCH METHODOLOGY

This chapter focuses on the research methods used in the collection of data or information which is observation and questionnaire. In this chapter, the following issues will be discussed, the research design, site of the study, population of the study, research instrument, sampling technique and data analysis.

3.1. Research Design

Nworgu (1991) cited by Mjienyu (1997, p.37), states that “*a research design is a plan of blue print which specifies how data or information relating to a given problem should be collected and analyzed. Research design also provides the procedural outline for the conduct of any given investigation*”. There exist different types of research designs but in this piece of work, the survey design was used through a quantitative measure (questionnaires). According to Nworgu (1991, p.55), “a survey research design is one in which a group of people or items are studied by collecting and analyzing data from a few people or items considered to be representative of the entire group” the findings of the sample of this population can be generalized to the entire population.

According to Luma et al (1999), a research design refers to all procedures selected by a researcher to aid in the understanding of a particular set of questions or hypotheses. In this study, the survey design was adopted. Survey research designs are procedures in quantitative research in which investigators administer a survey to a sample or to the entire population of people to describe the attitudes, opinions, behaviors, or characteristics of the population. In this procedure, survey researchers collect quantitative, numbered data using questionnaires or interviews and statistically analyze the data to describe trends about responses to questions and to test research questions or hypotheses. They also interpret the meaning of the data by relating results of the statistical test back to past research studies. The type of survey research design adopted in this study is the cross-sectional survey design. Cross-sectional survey design is used in this study because it has the advantage of providing tremendous amount of data and information in a short period of time. It was adopted because of its economic advantage over other research designs; in that it allows the study of representative samples which permit inferences from the population that would be too expensive to study as a whole.

This survey design was used because we had to collect information from relatively large group of respondents. It would have been difficult to question each member of the target population without drawing up a survey. The design involved the use of predetermined questions generally in the form of a questionnaire. This survey design was used because the thoughts and opinion of teachers were necessary for the study concerning the professional development and teacher's effectiveness in addressing students with special learning needs. The data collected and analyzed, was from a small group of people considered to be representatives of the entire population of the study.

Survey research designs are procedures in quantitative research in which investigators administer a survey to a sample or to the entire population of people to describe the attitudes, opinions, behaviors, or characteristics of the population. In this procedure, survey researchers collect quantitative, numbered data using questionnaires and statistically analyze the data to describe trends about responses to questions and to test research questions or hypotheses. They also interpret the meaning of the data by relating results of the statistical test back to past research studies.

3.2. Area of the Study

Any research considered as scientific is carried out in a geographical area. The research was conducted in Buea which is the administrative head quarter of the Fako division in the South West Region of Cameroon. This area consists of the following quarters namely, Molyko, Bueatown, Bokova etc. This site was purposively chosen because the area is easily accessible. The major focus was on secondary schools in Buea. These secondary schools included both public general education schools and denominational schools. Four secondary schools were chosen namely; Bilingual Grammar School Molyko (BGS) and Government High School Buea-town(GHS), Government High School Buea-Rural Bokova (GHS-Buea Rural), Presbyterian Comprehensive Secondary School Buea (PCSS).

3.3. The Target Population of the Study

Amin (2005, p.13), defines population of study as the complete collection or universe of all the elements we are interested in a particular investigation. Nworgu (1991) defines population as the limits within which the research findings are applicable.

Population according to Nwana (1985, p.195), "the term is generally used to denote those individuals with estimated characteristics and whose elements can be studied and who are

living in a geographical area” The population of this study is made up of all the public teachers of secondary education Cameroon and Buea in particular. The population of study is referred to as the target population.

A target population (or the sampling frame) is a group of individuals with some common defining characteristic that the researcher can identify and study Creswell (2012, p. 381). The target population of the study comprise of teachers in selected secondary schools in Buea sub division. The researcher selected the teachers of government secondary schools in this sub division because the area have a lot of schools and also this is where the oldest secondary and bilingual school which was created in 1961 then called the federal bilingual grammar school is found now called BGS Molyko with a good number of teachers (206) there is a similarity between the target population and the entire population of study. There are about 30 secondary schools in Buea sub division in the South West Region of Cameroon and the researcher made use of 5 secondary schools namely Bilingual Grammar School Molyko (BGS) is situated in Molyko- Buea, found in the Fako division of the South West Region. It is situated directly opposite Government Technical High School Molyko and the Catholic University. It shares boundary with, the Omni sport stadium to the left and to the right with the ministry of scientific research and innovation and the Cameroon general certificate of education (GCE) board. Bilingual Grammar school Molyko- Buea was created as far back as July 1961. Its doors were opened on the 26th October 1963 at Man O War Bay, Victoria with a population of 70 young Cameroonians, 35 boys from west Cameroon and 35 from east Cameroon. Today the enrolment of students is about 3652 with 1696 boys and 1956 girls. There is also a staff strength of 235 that is 206 civil servants and 29 PTA paid staff. The teaching staff is 206, 120 male teachers and 85 female teachers. In terms of infrastructure and equipment BGS Molyko is endowed with a lot of equipment namely: 19 administrative offices, 64 Ordinary classrooms, 4 computer rooms, 3 science laboratory, 1 multimedia, 1 library and so on.

Government High School (GHS) Buea Rural was created in 1994 and it is situated in a village called Bokova some 30km away from the cosmopolitan town of Molyko –Buea. It had a staff of 54 with 4 permanent structures and 1 semi-permanent building and an administrative building with a student population of 650. Today GHS Buea Rural has a student population of 1500 with a teaching staff of 98 teachers. Government High School(GHS) Bokwango-Buea which is situated in Bokwango and has a student population of about 2000 students and a teaching staff of 104, Government High School Buea Town(GHS) situated in Buea Town

with a student population of about 1300 students and a teaching staff of 78 teachers, and finally Presbyterian Comprehensive Secondary School (PCSS) Buea was created in 1993 with a student population of 250 students and a staff strength of 30, Today PCS have a student population of 1250 and a teaching staff of 70 teachers. The above schools were selected because they have a population ranging from 1250 – 3652 students. The total number of sample population comprise of 226 teachers, 84 teachers from BGS Molyko, 40 from GHS Buea- Rural, 32 from GHS Buea Town,42 from GHS Bokwango and 28 from PCSS Buea.

This was done in order for the sample to be representative, according to krejeie and Morgan(1970) they used it to select appropriate size. The Table below provides the total number of schools and teachers that make up our target population.

Table 3.1: Target population

School	N
BGS Molyko	206
GHS Buea Rural	98
GHS Buea Town	78
GHS Bokwango	70
PCSS Buea	104
Total	556

3.4. Sample and Sampling Technique of the study

A sample according to Creswell (2012, p.145), in a convenience sampling, the researcher selects participants because they are willing and available to be studied. Therefore 265 teachers (which is the sample size of the study) who were available at the moment when the researcher was administering the research instrument were asked to respond to the research instrument. According to Amin E. (2005), sample is a portion of the population whose results can be generalized to the entire population. Sampling is the process of selecting elements from a population in such a way that the sampled elements represented the population. The sample of this study which is 265 teachers was obtained from the parent population using the convenience sampling technique. According to Amin (2005, p.242), convenience sampling involves selecting whoever is available at a given moment for a researcher conducting the study. This sample size is determined from the table developed by Krejcie and Morgan (1970) used in selecting appropriate sample size. This table was used in determine the sample

size because the maximum error and the standard deviation of the population was not known to permit us to use the calculation method.

Sampling means selecting a given number of subjects from a defined population. The sample should therefore be a smaller group of the population selected in such a way that the information received is representative of the total population under study. The researcher wanted to use teachers in BGS Molyko, GHS Buea Rural, GHS Buea and PCSS Buea, therefore, there was need for sampling. In this light, the sample size of this study comprised of 226 teachers, 84 from BGS Molyko, 40 from GHS Buea Rural, 32 from GHS Buea Town, 42 from GHS Bokwango and 28 from PCSS Buea.

A sampling technique on its part is a plan specifying how elements should be drawn from a population. The stratified sampling technique was used for the selection because it gives each member of the population the equal chance of being selected. Samples resulting from the proper application of this procedure are said to be unbiased.

This exercise also made use of all teachers in such a way that those who were present filled the questionnaires and those who were not present were eliminated. It did not make use of teachers teaching a particular subject.

3.4.1. Distribution of the sample population of the study

Table 3.2: Distribution of sample population.

School	N	S
BGS Molyko	206	84
GHS Buea Rural	98	40
GHS Buea Town	78	32
PCSS Buea	70	28
GHS Bokwango	104	42
Total	556	226

3.5. Description of Research Instruments

Instruments are research tools that enhance the collection, observation, measurement of quantitative data. The instrument may be a test, questionnaire, tally sheet, log, observational checklist, inventory, or assessment instrument (Creswell, 2012). Since most of the information needed for this study was obtained by means of sampling the opinion of respondents, the questionnaire and observation was used. The questionnaire and observation checklists were used because it is time saving and creates room for the researcher to handle many information conveniently. It is also objective and easy to administer.

According to Amin (2005) a questionnaire is a form consisting of interrelated questions prepared by the researcher about the research problem under investigation based on the objectives of the study. The questionnaire is used because it permits the researcher to cover a wide geographical area since researchers approach respondents more easily through questionnaires than any other method. Since most of the information needed for this study was obtained by means of sampling the opinion of respondents, the questionnaire was used. The questionnaire was used because it is time saving and creates room for the researcher to handle many information conveniently. It is also objective and easy to administer. The questionnaire was titled questionnaire for teachers and it was constructed with respect to the objectives, questions, hypothesis and literature of the study which served as guidelines for the construction of the questionnaire. The questionnaire was essentially intended to test the research hypothesis.

The survey employed a Likert scale where participants had to strongly agree, agree, neutral, disagree or strongly disagree with statements about students with learning disabilities. The questionnaire consisted of the following type of questions:

- **Close-ended questions:** These are questions with limited responses. They are accompanied by strongly agree (SA), agree(A), neutral(N), strongly disagree(SD) and disagree (D) answers. This type of questions aimed at limiting the scope of responses by respondents so as to help keep them focused on the subject and also to ease interpretation. The questions requires the respondents to choose the correct answer to the question by placing a cross(x) at the appropriate answer.
- **Open-ended questions:** These are questions in which the respondents are given the opportunity to give their own opinion about the subject. The objective is to permit the respondent to freely say what they think or feel about a particular situation.

This type of questions provides the researcher with a wider scope of knowledge, as concerns the subject of study.

Schensul,& Lecompte (1999) define observation as *"the process of learning through exposure to or involvement in the day-to-day or routine activities of participants in the researcher setting"* (p.91). Observation is a way of gathering data by watching behavior, events, or noting physical characteristics in their natural setting. Observations can be overt (everyone knows they are being observed) or covert (no one knows they are being observed and the observer is concealed). The benefit of covert observation is that people are more likely to behave naturally if they do not know they are being observed. However, you will typically need to conduct overt observations because of ethical problems related to concealing your observation. Observations can also be either direct or indirect. Direct observation is when you watch interactions, processes, or behaviors as they occur; for example, observing a teacher teaching a lesson from a written curriculum to determine whether they are delivering it with fidelity. Indirect observations are when you watch the results of interactions, processes, or behaviors

3.6. Validation of the Instrument

Luma (1999) defines the validity of an instrument as *"the extent to which a research instrument measures what it was designed to measure"*. Therefore, the research instrument is very vital in gathering the data that is relevant to the study. In this study, the instrument was constructed by the researcher under the guidance of the supervisor. The validation was done at two levels; both face and content validity.

3.6.1. Face Validity

In order to measure the validity of the questionnaire, the questionnaires were read by my supervisor, an expert in psychology and science of education and three of my classmates who read through and pointed out mistakes for correction to be made. Before the questionnaires were administered the researcher passed through the principals, vice principals and in government secondary schools the researcher passed through the principal and was aided by the Guidance counselors. Some teachers were ready to fill but had lectures so the researcher had to wait for them to finish and come to the staff room during break. Some were very busy filling students' marks on report sheets but they still created time to fill the questionnaires.

3.6.2. Content Validity

The researcher's supervisor, an expert in psychology and science of education and 3 of her classmates were asked to assess the content validity of the questionnaire. They examined each item on the questionnaire and confirmed that they were relevant to the objectives and variables of the study.

3.6.3. Reliability of Instruments

3.6.3.1. Test- Retest Reliability

An instrument is said to be reliable if it produces the same results whenever it is repeatedly used to measure traits or concept from the same respondents even by other researchers Amin (2005). Reliability means that individual scores from an instrument should be nearly the same or stable on repeated administrations of the same instrument and that they should be free from sources of measurement error and consistent Creswell (2012). The reliability of the questionnaire was assessed through a pilot test. To ensure the reliability, the questionnaire was pretested on 10 teachers who had the same characteristics as the population of the study but were not included in the study. The responses were compared and calculated using the test re-tests technique. At the end, the results of the pilot study revealed a complete understanding of the content of the questionnaire.

3.6.3.2. Internal consistency reliability

To establish the reliability of our instrument, we have chosen the internal consistency approach which is a commonly used reliability that deals with one test at one time and the Cronbach's coefficient alpha was adopted because the items on the instrument are not dichotomously scored. Coefficient alpha according to Creswell (2012) is a measure of the internal consistency of items on an instrument when the items are scored as continuous variables (e.g., strongly agree to strongly disagree). The respondents were given instructions and guided by the researcher where they had difficulties. The respondents responded to the questions precisely showing an understanding of the questions. The questionnaires were later collected and carefully checked. It was discovered that the questions were well understood by the teachers. It is in this regard that the questionnaire was considered ready for administration. This exercise was aimed at finding out whether the instrument was consistent.

3.7. Administration and Return of Questionnaire

The method used to administer the questionnaire was the same for all the teachers. It was done during break in the staffroom as most teachers were bound to be present. The procedure for the administration and return of the questionnaire was as follows;

To ensure an effective and efficient administration of questionnaire, the following persons were being contacted by the researcher in the administration of the questionnaire:

- The principal and chiefs of service for guidance and counseling GHS Buea Rural and BGS Molyko,
- The vice principals of GHS Buea Town and GHS Bokwango
- The Champlain of PCSS Buea

They made known to the teachers the purpose of the researcher and pleaded with them to help fill the questionnaires in order for the researcher to obtain her objectives.

In the process of the administration of the questionnaires by the researcher, she made sure the teachers present took part in the exercise.

- The questionnaires were then distributed to the teachers by the researcher with the aid of the counselors and vice principals of the schools respectively.
- At the end, the questionnaires were collected and counted by the researcher.

3.8. Statistical Technique of Data Analysis

This work applies the correlation research design which describes the extent to which the variables are interrelated. With correlation studies, the data collected is used to verify if there is a relationship between two or more variables. According to Mbua (2003), “a correlational research attempt to determine whether, and to what degree, a relationship exists between two or more quantifiable variable”. The relationship can now be used to make predictions. Given the sample size and the nature of dependent and independent variables, we have chosen the Chi-square. The chi-square test tells whether the frequency obtained or observed are different from the frequencies you might expect based on the chance variation along. The chi-square test enables us to decide whether there is a relationship or deviation between occurrences. This will be done by comparing the observed or obtained frequencies to the expected frequencies, thereby determining the probability of their being different or not.

Both descriptive and inferential statistics areas were used to analyze the responses and verify the hypotheses. For quantitative data, responses will be coded, summarized and reported in

relation to the specific research questions as provided by the different groups of respondents. Tables, percentages, charts, mean, standard deviations will be used to analyze the data. Also the Statistical Package for Social Sciences (SPSS) version 23.0 will be used for data analysis. In this particular study, data analysis consisted of a combined statistical tool to analyze the data obtained from the experiment and the survey. To organize and give meaning to our data, we use various statistical tools: descriptive statistics, mean, standard deviation, the univariate analysis of variances (ANOVA), the Pearson Product Moment Correlation Coefficient and the Stepwise multiple regression analysis. To describe our data analysis techniques, we will follow the steps by explaining what we did and the statistical tools involved. Quantitative data analysis of this study involved two major steps:

1. Data preparation in which data was logged, checked for accuracy, and entered into the computer using SPSS, which is designed to analyze, display, and transform data (Trochim & Donnelly, 2007).
2. Data organization was developed and documented into a database structure that integrates the various measures present in the data (Trochim & Donnelly, 2007).

The survey consisted of questionnaire administration in the various school of our sample. Surveys are the primary source for data collection of this nature. In so doing, the results from the 4-point Likert scale questions of the survey were analyzed using SPSS software. Frequencies of distribution such as frequency tables (Trochim & Donnelly, 2007) were used to describe multiple variables such as standardized test scores and demographic data. The central tendency of a distribution “is an estimate of the center of a distribution of value” (Trochim & Donnelly, 2007, p. 266) used to determine and describe the median of sets of values of the data that require this approach. Ranges, which are measures of dispersion in a frequency distribution (Trochim & Donnelly, 2007) were also used to describe the variability of data values.

In order to do this, researchers summarize the data, so that the readers can construct a mental picture of the relationship between the data and the phenomena under study.

3.8.1. Representing the Data

Trochim & Donnelly (2007, p.83) stated that the use of graphic displays is “*particularly valuable in making the logic of mixed-method design explicit*”. In this perspective, Tufte (2006) affirmed, “*Most techniques for displaying evidence are inherently multimodal, bringing verbal, visual, and quantitative elements together*” (p. 83). The researcher also used

tables to report results related to the research questions. According to Creswell and Plato Clark (2007, p.135), “These visual forms depict the trends and distributions of the data” and allow readers to better understand the quantitative results of the study in a summarized form.

3.8.2. Bivariate Descriptive Statistics

A frequent goal in data analysis is to efficiently describe and measure the strength of relationships between variables (Muijs, 2004). In this regard, bivariate descriptive statistics describes such relationships.

3.8.3. The Student t -test and one way ANOVA

The research was conducted with a sample of teachers who have personal characteristics and the univariate analysis of variances (one way-ANOVA) was used to determine the variability of teachers’ effectiveness by personal characteristics (school, years of experience, highest academic diploma, and gender and age category).

3.8.4. Correlation

The correlation coefficient was used to test our research hypotheses. The purpose was to measure the degree of association between the independent variables in our research hypotheses and professional development of student teachers, symbolize by the correlation coefficient.

The correlation coefficient is a simple descriptive statistic that measures the strength of the linear relationship between two variables (Amin, 2005). The value of the correlation coefficient r ranges from -1 for a perfect negative correlation, to +1 for a perfect positive correlation. The degree of association between two variables is described by the coefficient of correlation, which indicates the strength of this association. In this study, in order to determine existing relationships between two variables, the researcher used the Pearson’s r correlation coefficient because the purpose of this study is to predict the dependent variable from the independent variable (Muijs, 2004). In so doing, the Pearson Product Moment Correlation coefficient was used because the data in this study are parametric, that is, its interpretation does depend on the population fitting a parameterized distribution. This means that the quantitative data in this study numerical interpretation. The researcher also preferred to use parametric statistics because there is generalization of the results of this study to a larger population.

Interpreting the Pearson’s Product Moment Correlation Coefficient: The usefulness of the correlation depends on its size and significance (Muijs, 2004). If r reliably differs from 0.00, the r -value is statistically significant, that is, does not result from a chance occurrence, implying that if the same variables were measured on another set of similar subjects, a similar r -value would result. If r achieves significance, it is possible to conclude that the relationship between the two variables was not due to chance.

According to Muijs (2004), the size of any correlation generally evaluates as follows:

Table 3.3: size of correlation

Correlation value	Interpretation
0.00 to 0.10	Weak
0.11 to 0.29	Low
0.30 to 0.59	Modest
0.60 to 0.79	Moderate
0.80 to 0.89	Strong
0.90 to 1.00	Very strong

On the other hand, it is important to state that correlation does not imply causation. In this regard, just because one variable relates to another variable does not mean that changes in one cause changes in the other. In other words, other variables may be acting on one or both of the related variables and affect them in the same direction. Cause-and-effect may be present, but correlation does not prove cause (Fraenkel & Wallen, 2000). In this study, the researcher was not interested in verifying if the occurrence of one variable caused or increased the occurrence of the other variable. The researcher was only interested in determining the strength of the correlation between the variables.

Coefficient of Determination (r^2): The relationship between two variables can be represented by the overlap of two circles representing each variable as in Figure xx. If the circles do not overlap, no relationship exists. The area of overlap represents the amount of variance in the dependent (y-variable) than can be explained by the independent (x-variable). The area of overlap, called the percent common variance, calculates as $r^2 \times 100$

3.8.5. Multiple regression analysis

In order to gain a full understanding of the nature of professional development of student teachers in Cameroon, it was necessary to proceed with a more refine statistical tool (Stepwise

multiple regression analysis) to see which of our variables emerge as the best predictor for the professional development of student teachers. Multiple regression deals with the use of many predictor variables to predict a criterion variable (Amin, 2005). Correlation and regression analysis are related in the sense that both deal with relationships among variables. Neither regression nor correlation analyses can be interpreted as establishing cause-and-effect relationships. They can indicate only how or to what extent variables are associated with each other. The correlation coefficient measures only the degree of linear association between two variables. Any conclusions about a cause-and-effect relationship must be based on the judgment of the analyst.

CHAPTER FOUR

PRESENTATION AND ANALYSIS OF DATA

Chapter four presents the results of data that were collected through a questionnaire constructed in relation to the variables of study. The technique used in presenting the data is one where data are organized, presented and analysis are made to show their impact on the whole study. It uses tables and charts to give a descriptive representation of results. The first part of this chapter starts with the analysis of background characteristics, and then proceeds with the analysis of different variables, while giving attention to the existence of possible relationship between variables.

4.1. Description of Demographic characteristics

This section deals with the presentation of data and description of the sampled population with respect to the background characteristics of the teachers. The data obtained from the opinions of students are presented through percentages, tables, charts and graphs to draw the trends.

4.1.2. Distribution of teachers according to schools

The distribution of respondents according to schools is displayed in table 4.1 and figure 4.1; and it can be seen that the highest number of respondents (84) in the sample population came from B.G.S Molyko making a percentage of 37.17% teachers. This proportion is followed by G.H.S Bokwango with 42 teachers, making up 18.58% of the sample population. And another proportion came from G.H.S Buea-Town where 40 teachers participated to the study, making up the percentage of 23.67%; and 32 teachers came from G.H.S Buea Rural, with a proportion of 14.16%. The last proportion came from PCSS Buea where 28 teachers participated in our study, making up the percentage of 12.39%.

Table 4.1: Distribution of teachers according to schools

	Frequency	Percentage	Cumulative Percentage
BGS Molyko-Buea	84	37,17	37,17
GHS Buea-Town	40	17,70	54,87
GHS Buea Rural	32	14,16	69,03
PCSS Buea	28	12,39	81,42
GHS Bokwango	42	18,58	100,00
Total	226	100,00	

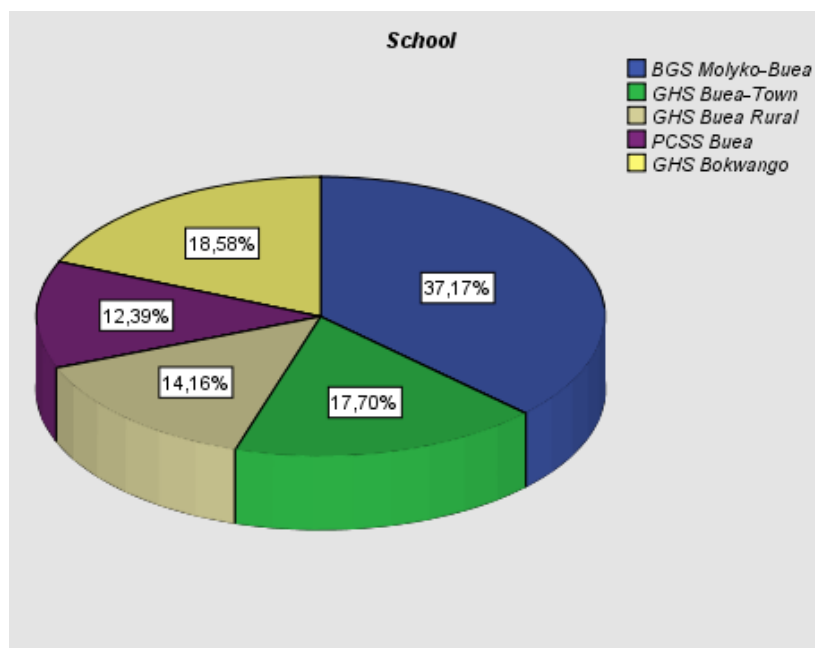


Figure 4.1: Distribution of teachers according to schools

4.1.3. Distribution of teachers according to discipline taught

The disciplines taught by the teachers are presented in table 4.2 and figure 4.2, here we can see all the teachers who participated in our study. The highest number of teachers (57) in the sample population are English teachers, making a percentage of 25.22% and they were followed by Mathematics' teachers (38), making 16.81%. The other groups of teachers in our sample population distribute themselves among History teachers (10.62%) and Biology teachers (10.18%). The rest of teachers in our sample population distribute themselves among the other discipline such as Chemistry, Computer science, geography, French, Geology, Philosophy, Physics, Economics and Physical education.

Table 4.2: Distribution of teachers according to class

	Frequency	Percentage	Cumulative Percentage
Biology	23	10,18	10,18
Chemistry	9	3,98	14,16
Computer Science	4	1,77	15,93
Economics	13	5,75	21,68
English	57	25,22	46,90
French	5	2,21	49,12
Geography	18	7,96	57,08
Geology	9	3,98	61,06
History	24	10,62	71,68
Mathematics	38	16,81	88,50
Philosophy	8	3,54	92,04
Physical Education	5	2,21	94,25
Physics	9	3,98	98,23
Commerce.	4	1,77	100,00
Total	226	100,00	

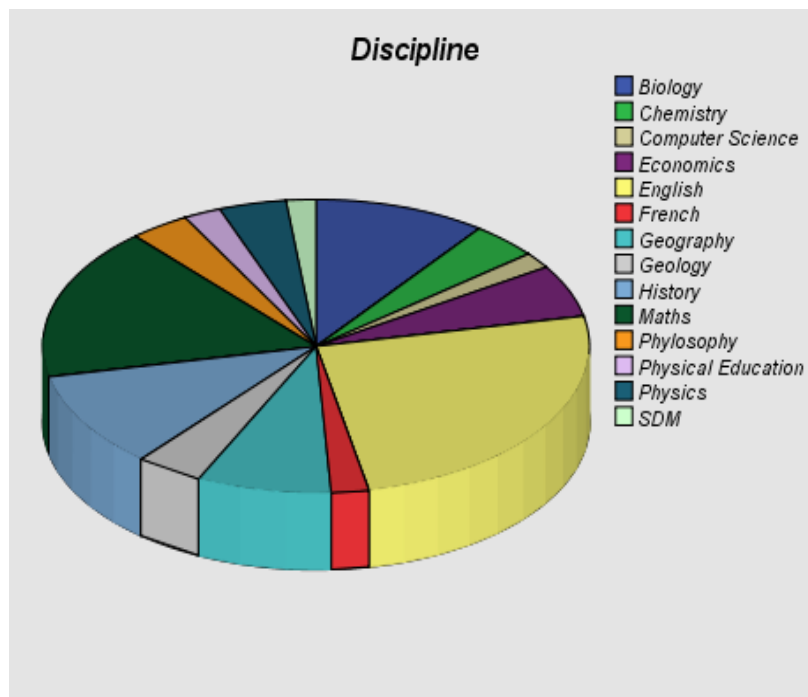


Figure 4.2: Distribution of teachers according to disciplines

4.1.4. Distribution of teachers according to years of experience

Years of experience are considered a very significant factor in reasoning and the professional maturity of individuals differs according to number of years of experience. Distribution of the sampled population according to years of experience would effectively provide a proper respond to the research question. Figure 4.3 below presents the histogram of years of experience of teachers. It reveals that the mean years of experience is ($M = 8.54$) with a standard deviation of ($SD = 7.16$), showing a great dispersion of years of experience among teachers of our sample population.

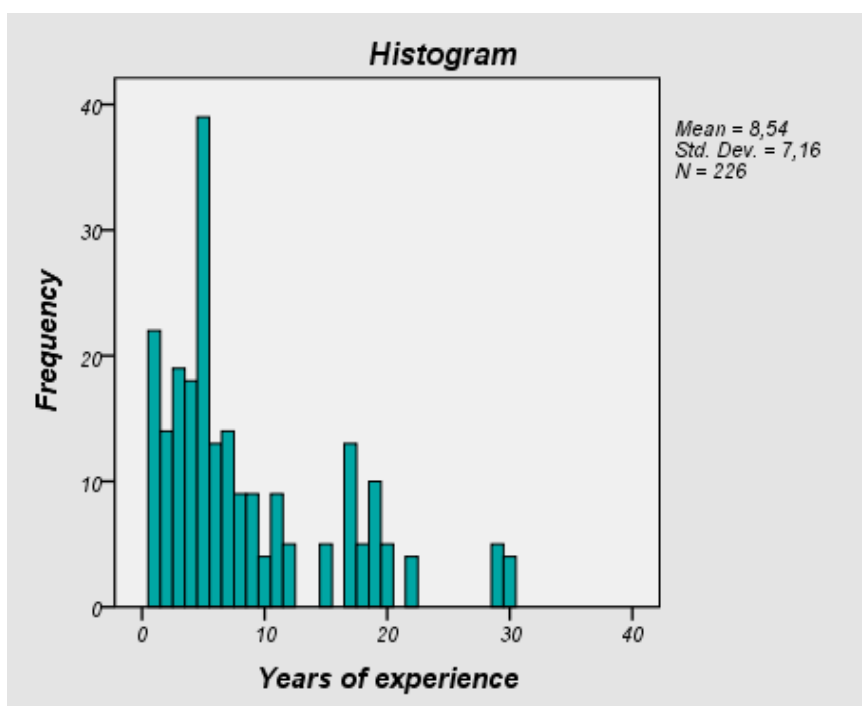


Figure 4.3: histogram of years of experience of teacher

Table 4.3: Distribution of teachers according to years of experience

	Frequency	Percent	Cumulative Percent
1-5 yrs	112	49,56	49,56
6-10 yrs	49	21,68	71,24
11-15 yrs	19	8,41	79,65
16-20 yrs	33	14,60	94,25
> 20 yrs	13	5,75	100,00
Total	226	100,00	

When the years of experience of teachers are categorized, the results obtained, as revealed by table 4.3 shows that the majority of teachers have 1-5 years of experience with the total number of 112 teachers making up 49.56% of the total sampled population. Still from the table above, it can be seen that another important proportion (21.68%) of teachers are between 6

and 10 years' experience, that is, 49 teachers. These proportions show that about 70% of teachers are still in the beginning of their teaching career. About 30% of teachers individuals who have already made more than 10 years in the field; and they distribute themselves as follow, 11-15 years (8.41%); 16-20 years (14.60%); more than 20 years (5.75%).

4.1.5. Distribution of teachers according to highest academic diploma

Highest academic diploma is considered a very important factor in this study because it goes with professional maturity. Distribution of the sampled population according to the highest academic diploma would effectively provide a proper response to the research question. The table 4.4 presents the distribution of teachers according to the highest academic diploma. We observe from the above table that 66.37% the teachers (about 150 teachers) have either Licence/BA/DIPES I level. In the other hand, 33.63% of teachers have either Maitrise/ Master or DIPES II level.

Table 4.4: Distribution of teacher according to highest academic diploma

	Frequency	Percentage	Cumulative Percentage
Licence /BSa/DIPES I	150	66,37	66,37
Maitrise/Masters/DIPES II	76	33,63	100,00
Total	226	100,00	

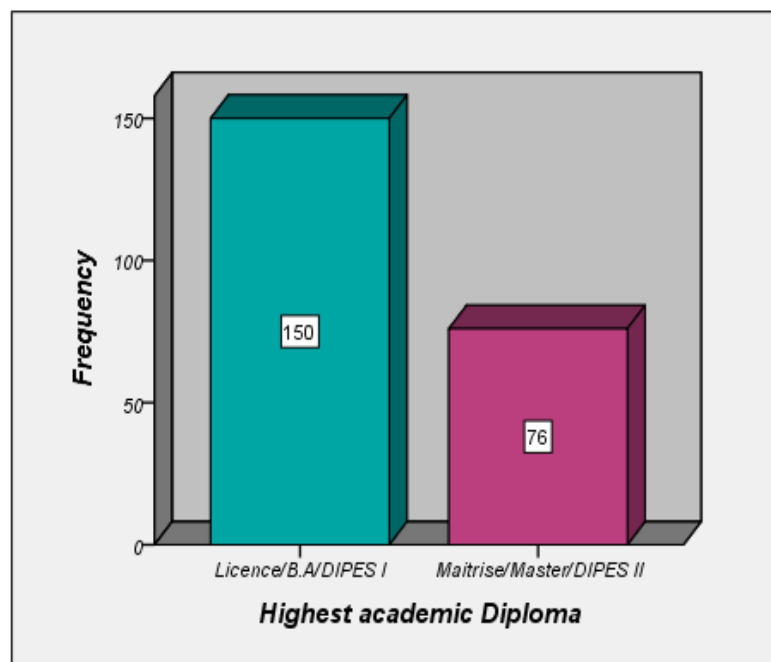


Figure 4.4: Diagram of the distribution of teachers according to highest academic diploma

4.1.6. Distribution of teachers according to their gender

Table 4.5 and figure 4.5 above, shows that the total number of female teachers in the sampled population is greater than that of the male teachers. 123 female teachers responded to the questionnaire making a percentage of 54.42% while 103 male teachers responded to the questionnaire making up 45.58% of the sampled population. These statistics show that the female teachers were more open and collaborate to the study.

Table 4.5: Distribution of teachers according to their gender

	Frequency	Percentage	Cumulative Percentage
Male	103	45,58	45,58
Female	123	54,42	100,00
Total	226	100,00	

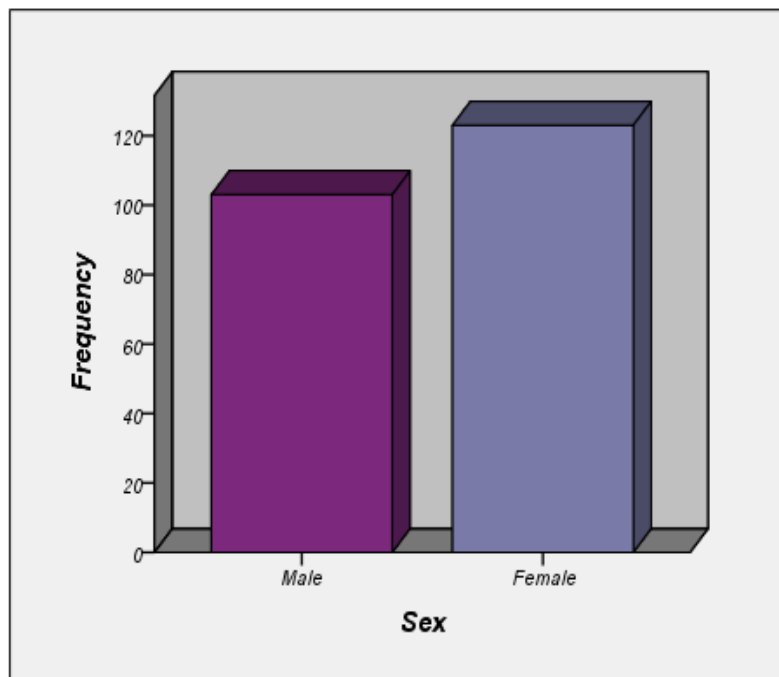


Figure 4.5: Diagram of the distribution of respondent according their sex

4.1.7. Distribution of teachers according to their age

Age is considered a very significant factor in this study because the competence of individuals matures by age. Distribution of the sampled population according to age would effectively provide a proper view to the research question. Figure 4.6 below present the histogram of age of the respondents. It reveals that the mean age of teachers is ($M = 17.62$) with a standard deviation of ($SD = 1.134$), showing a small dispersion of age among teachers of our sample population.

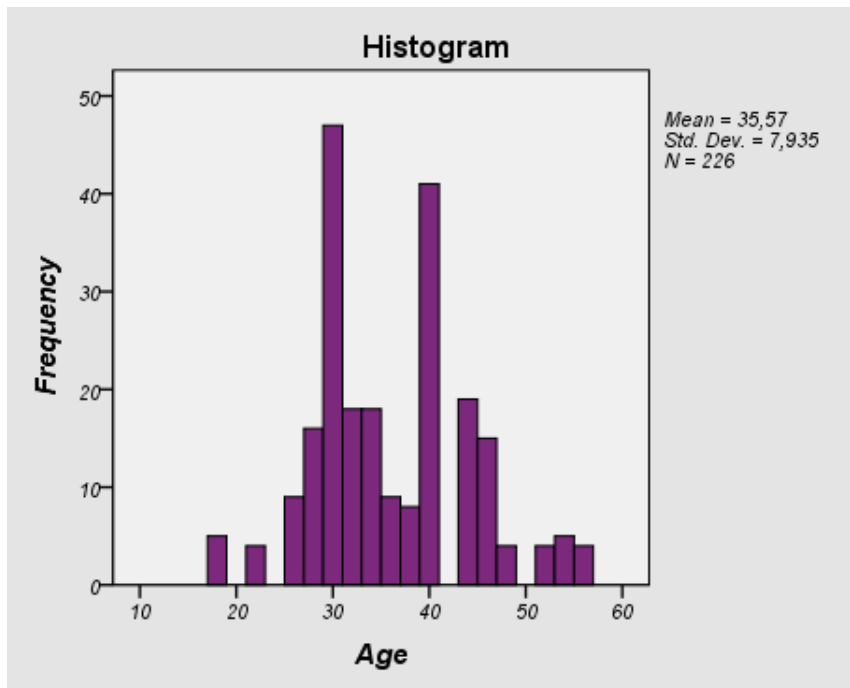


Figure 4.6: histogram of the age of teachers.

Table 4.6: Distribution of teachers according to age category

	Frequency	Percentage	Cumulative Percentage
<= 25 yrs.	13	5,75	5,75
26-30 yrs.	68	30,09	35,84
31-35 yrs.	36	15,93	51,77
36-40 yrs.	58	25,66	77,43
41-45 yrs.	34	15,04	92,48
46-50 yrs.	4	1,77	94,25
> 50 yrs.	13	5,75	100,00
Total	226	100,00	

When the ages of teachers are categorized, the results obtained, as revealed by table 4.6 shows that the majority of teachers were between 26 years old and 45 years old, with the total number of 196 teachers making up 87% of the total sampled population. Still from the table 4.6 above, it can be seen that another important proportion (5.75%) of teachers are of age below 25 years, that is, 13 teachers. About 5.75% of teachers are more than 50 years old.

4.2. Presentation and description of teachers' opinions on our study variables

In this section, we are going to present and analyze the data collected from the sampled population with respect to the personal characteristics of teachers and the data obtained from the opinions of teachers following the order of items in constructed questionnaire.

4.2.1. Distribution of teachers' opinions on training in student's needs assessment

Training in students' needs assessment is very important in the teaching process, for teachers to adequately identify and meet the needs of students in the classroom environment. The school as an organization has to insure that his teachers continuously develop themselves to meet these objectives. The results shown in table 4.7 present the distribution of teachers by their opinions on training in students' needs assessment.

Table 4.7: Distribution of teachers' opinions on training in students' needs assessment

	Frequency	Percentage	Cumulative Percentage
Not Effective	137	60,6	60,6
Effective	89	39,4	100,0
Total	226	100,0	

From table 4.7 above, the training in students' needs assessment is reported by teachers as not effective (about 60.60% of them), and about 39.40% of teachers see it as effective. Some teachers reported during the process of data collection that their training is actually geared towards this particular need which is critical to them.

4.2.2. Distribution of teachers' opinions on training in teaching techniques

Training in teaching techniques is critical to teaching, for teachers to adequately succeed in their pedagogic intervention in the classroom environment. The school must work to insure that its teachers continuously develop themselves to meet these objectives. The results shown in table 4.8 present the distribution of teachers by their opinions on training in teaching techniques.

Table 4.8: Distribution of teachers' opinions on training in teaching techniques

	Frequency	Percentage	Cumulative Percentage
Not Effective	28	12,4	12,4
Effective	198	87,6	100,0
Total	226	100,0	

From table 4.8 above, the training in teaching techniques is reported by teachers as effective (about 87.60% of them), and about 12.40% of teachers see it as not effective. Some teachers reported during the process of data collection that their training is actually gear towards these particular needs which is critical to them.

4.2.3. Distribution of teachers' opinions on training in remedial teaching

Training in remedial teaching is critical to teaching, for teachers to adequately identify and meet the needs of students with special needs in the classroom environment. The school must work to insure that his teachers continuously develop themselves to meet these objectives. The results shown in table 4.9 present the distribution of teachers by their opinions on training in remedial teaching.

Table 4.9: Distribution of teachers' opinions on training in remedial teaching

	Frequency	Percentage	Cumulative Percentage
Not Effective	23	10,2	10,2
Effective	203	89,8	100,0
Total	226	100,0	

From table 4.9 above, the training in remedial teaching is reported by teachers as effective (about 89.80% of them), and about 10.20% of teachers see it as not effective. Some teachers reported during the process of data collection that their training is actually gear towards these particular needs which is critical to them.

4.2.4. Distribution of teachers' opinions on training in collaborative teaching

The school as an organization has to insure collaboration among his teachers. The results shown in table 4.10 present the distribution of teachers by their opinions on training in collaborative teaching.

Table 4.10: Distribution of teachers' opinions on training in collaborative teaching

	Frequency	Percentage	Cumulative Percentage
Not Effective	93	41,2	41,2
Effective	133	58,8	100,0
Total	226	100,0	

From table 4.10 above, the training in collaborative teaching is reported by teachers as effective (about 58.80% of them), and about 41.20% of teachers see it as not effective. Some teachers reported during the process of data collection that their training is actually gear towards these particular needs which is critical to them.

4.2.5. Distribution of teachers' opinions on teachers' effectiveness

Teachers' effectiveness is the goal of every educational system. Teachers are to adequately polish their skills as to succeed in pedagogic intervention in the classroom environment. The results shown in table 4.11 present the distribution of teachers by their opinions on teachers' effectiveness.

Table 4.11: Distribution of teachers' opinions on teachers' effectiveness

	Frequency	Percentage	Cumulative Percentage
Poor	155	68,6	68,6
Average	54	23,9	92,5
Good	17	7,5	100,0
Total	226	100,0	

From table 4.11 above, teachers' effectiveness is reported by teachers as poor (about 68.60% of them), and about 23.90% of teachers see their effectiveness as average. A small proportion (7.50%) sees it as good. So, though teachers' training maybe effective in general, there still much to be done to insure their effectiveness in addressing specific learning needs.

4.3. Variability of students' academic achievement by personal characteristics

The usual goal in data analysis is to efficiently describe and measure the strength of relationships between variables. In this regard, bivariate descriptive statistics describes such relationships. The survey was conducted with sample population of public secondary schools in the Buea municipality with special interest in their background characteristics. So, the one way-ANOVA test and the t-test were used to determine the variability of teachers'

effectiveness by background characteristics (school, years of experience, highest academic diploma, gender and age category).

4.3.1. Variability of teachers' effectiveness by school

We want to look at the variability of teachers' effectiveness across the school. We will be addressing the question: does teachers' effectiveness differ across school? Since this is a case of comparison of many means, we are going to use a univariate analysis of variance to assess the variability of teachers' effectiveness across school as shown in the table 4.12 below.

Table 4.12: Analysis of the effect on school on teachers' effectiveness

	N	Mean	Std. Deviation	Std. Error
BGS Molyko-Buea	84	2,2347	,48718	,05316
GHS Buea-Town	40	2,2607	,48944	,07739
GHS Buea Rural	32	2,1607	,56067	,09911
PCSS Buea	28	2,2194	,44413	,08393
GHS Bokwango	42	2,2279	,50882	,07851
Total	226	2,2257	,49405	,03286

Table 4.12above shows that there were some relative differences in the Means and Standard Deviations of the various schools involved in the study: BGS Molyko (M = 2.234, SD = 0.487), GHS Buea-Town (M = 2.260, SD = 0.489); GHS Buea-Rural (M = 2.160, SD = 0.560); PCCS Buea (M = 2.220, SD = 0.444); GHS Bokwango (M = 2.227, SD = 0.508).The test of the differences between these schools is presented in table 4.13 below.

Table 4.13: Analysis of the effect on teachers' effectiveness by school

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	,192	4	,048	,194	,941
Within Groups	54,727	221	,248		
Total	54,920	225			

The analysis of variance as shown in table 4.13 above reveals that teaching in a particular school, does not significantly affect teachers' effectiveness in this study, $F(4, 221) = 0.194$, $p > 0.05$.

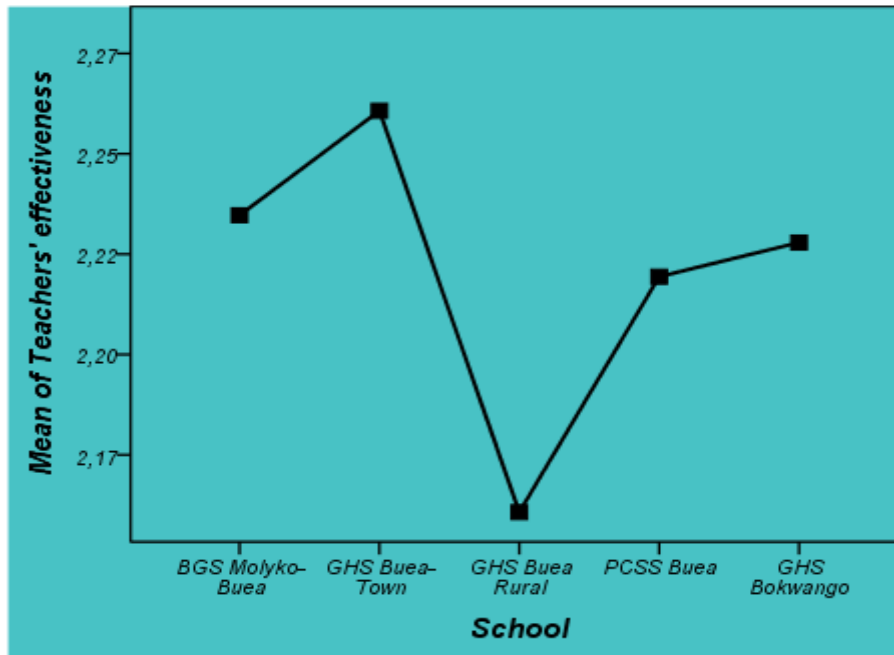


Figure 4.7: Graph of the variability teachers' effectiveness by school

The overall analysis as illustrated in figure 4.8, revealed a non-significant difference in teachers' effectiveness for the different school, $F(4, 221) = 0.194$, $p > 0.05$; meaning that, teachers' effectiveness is not significantly affected by the school.

4.3.2. Variability of teachers' effectiveness by years of experience

We want to look at the variability of teachers' effectiveness by years of experience. We will be addressing the question: does teachers' effectiveness differ by years of experience? Since this is a case of comparison of many means, we are going to use a univariate analysis of variance to assess the variability of teachers' effectiveness by years of experience as shown in the table 4.14 below.

Table 4.14: Analysis of the effect of years of experience on teachers' effectiveness

Years of experience	N	Mean	Std. Deviation	Std. Error
1-5 yrs.	112	2,2347	,48202	,04555
6-10 yrs.	49	2,1603	,43899	,06271
11-15 yrs.	19	2,0977	,35652	,08179
16-20 yrs.	33	2,4459	,63463	,11047
> 20 yrs.	13	2,0220	,41176	,11420
Total	226	2,2257	,49405	,03286

Table 4.14 above shows that there were some relative differences in the Means and Standard Deviations of the various schools involved in the study: 1-5 years (M = 2.234, SD = 0.482), 6-10 years (M = 2.160, SD = 0.438); 11-15 years (M = 2.097, SD = 0.356; 16-20 years (M = 2.446, SD = 0.634); More than 20 years (M = 2.022, SD = 0.411). The test of the differences between these years of experience is presented in table 4.15 below.

Table 4.15: Analysis of the effect on teachers' effectiveness by years of experience

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2,669	4	,667	2,822	,026
Within Groups	52,251	221	,236		
Total	54,920	225			

The analysis of variance as shown in table 4.15 above reveals that years of experience significantly affect teachers' effectiveness in this study, $F(4, 221) = 2.822, p < 0.05$.

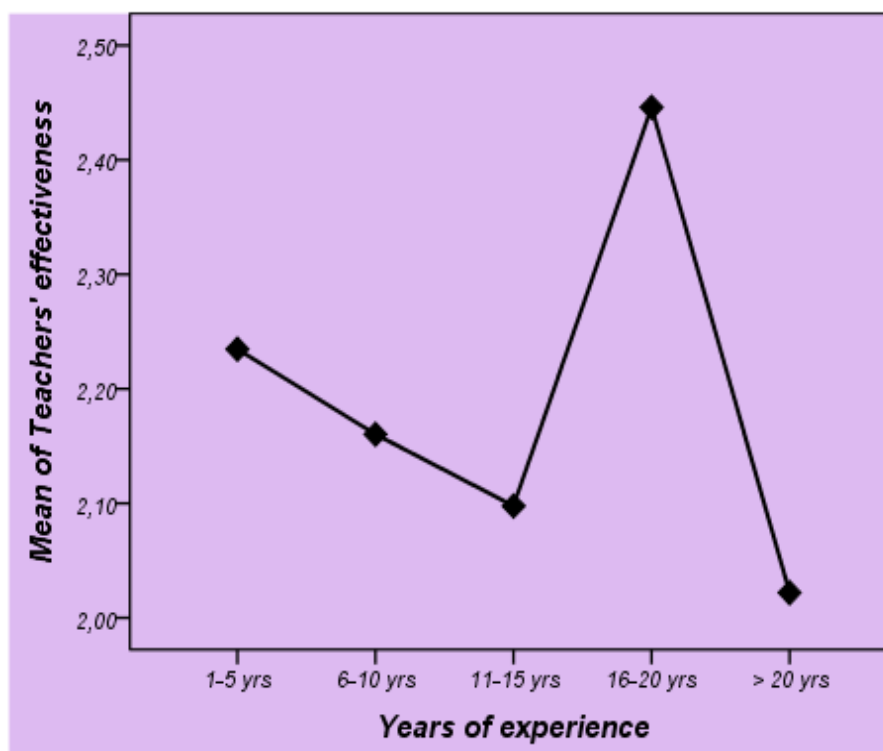


Figure 4.8: Graph of the variability teachers' effectiveness by years of experience

The overall analysis as illustrated in figure 4.8, revealed a significant difference in teachers' effectiveness for the different years of experience, $F(4, 221) = 2.822, p < 0.05$; meaning that, teachers' effectiveness is significantly affected by years of experience.

4.3.3. Variability of teachers' effectiveness by highest academic Diploma

We want to see if teachers' effectiveness varies by the highest academic Diploma. In other terms, does teachers' effectiveness differ between male and female teachers? So we will compare teachers' effectiveness of the two groups by using the t-test as shown in the table 16 below.

Table 4.16: Group Statistics for teachers' effectiveness by highest academic Diploma

	Highest academic Diploma	N	Mean	Std. Deviation	Std. Error Mean
Teachers' effectiveness	Licence/B.A/DIPES I	150	2,1952	,43046	,03515
	Maitrise/Master/DIPES II	76	2,2857	,59887	,06869

The results show that on the average that the variability of teachers' effectiveness in the study was significantly different for teacher with Licence/B.A/DIPES I ($M = 2.195$, $SD = 0.430$) than for teacher with Maitrise/Master/DIPES II ($M = 2.285$, $SD = 0.598$), $t(224) = -1.303$, ($p > 0.05$).

Table 4.17: Independent t-test for teachers' effectiveness by highest academic Diploma

		Levine's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	T	df	Sig. (2-tailed)
Teachers' effectiveness	Equal variances assumed	15,246	,000	-1,303	224	,194
	Equal variances not assumed			-1,173	115,424	,243

The results reveal a significant variability of teachers' effectiveness for teachers with Licence/B.A/DIPES I and teacher with Maitrise/Master/DIPES II in our study.

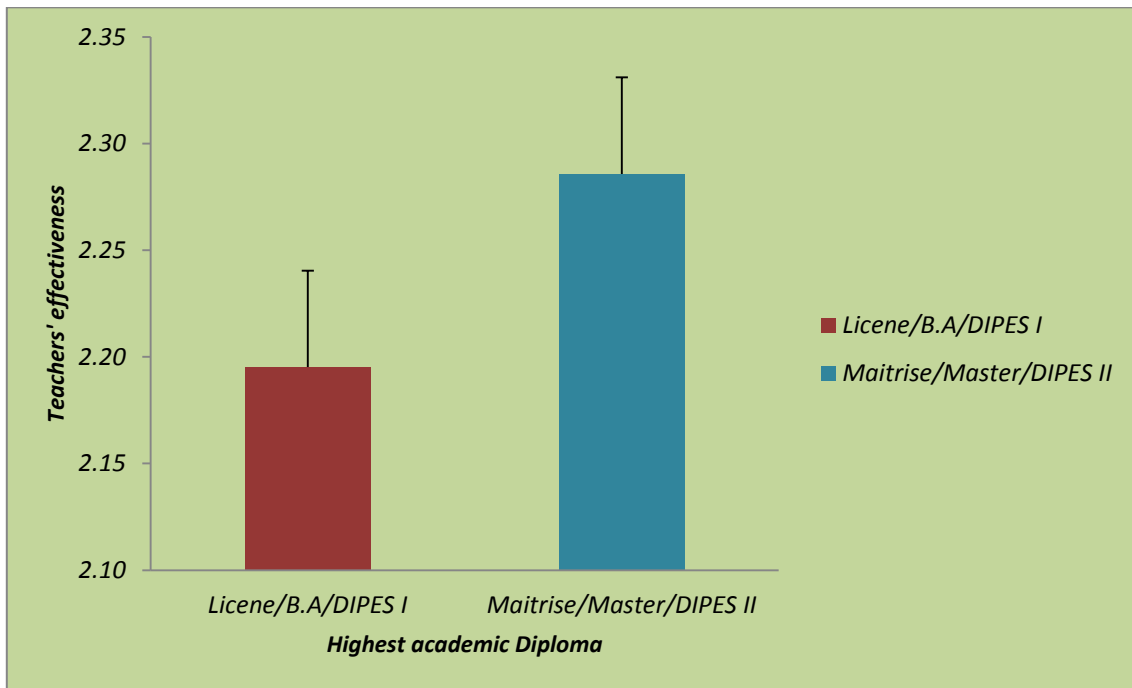


Figure 4.9: Bar chart of the variability teachers' effectiveness by gender

The overall analysis as it is shown in figure 4.9, displayed a significant difference in teachers' effectiveness for teachers with Licence/BA/DIPES I and teachers with Maitrise/Master/DIPES II ($p > 0$); meaning that, teachers' effectiveness are different in the two groups, the difference is significant. So it can be concluded that the highest academic Diploma of teachers does affect teachers' effectiveness.

4.3.4. Variability of teachers' effectiveness by gender

We want to see if teachers' effectiveness varies by the gender. In other terms, does teachers' effectiveness differ between male and female teachers? So we will compare teachers' effectiveness of the two groups by using the t-test as shown in the tables below.

Table 4.18: Group Statistics for teachers' effectiveness by gender

	Sex	N	Mean	Std. Deviation	Std. Error Mean
Teachers' effectiveness	Male	103	2,2954	,52365	,05160
	Female	123	2,1672	,46190	,04165

The results show that on the average that the variability of teachers' effectiveness in the study was significantly different for male teachers ($M = 2.295$, $SD = 0.523$) than for female teachers ($M = 2.070$, $SD = 0.461$), $t(224) = 1.955$, ($p > 0.05$).

Table 4.19: Independent t-test for teachers' effectiveness by gender

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Teachers' effectiveness	Equal variances assumed	,744	,389	1,955	224	,052
	Equal variances not assumed			1,933	205,336	,055

The results reveal a significant variability of teachers' effectiveness for male and female teachers in our study.

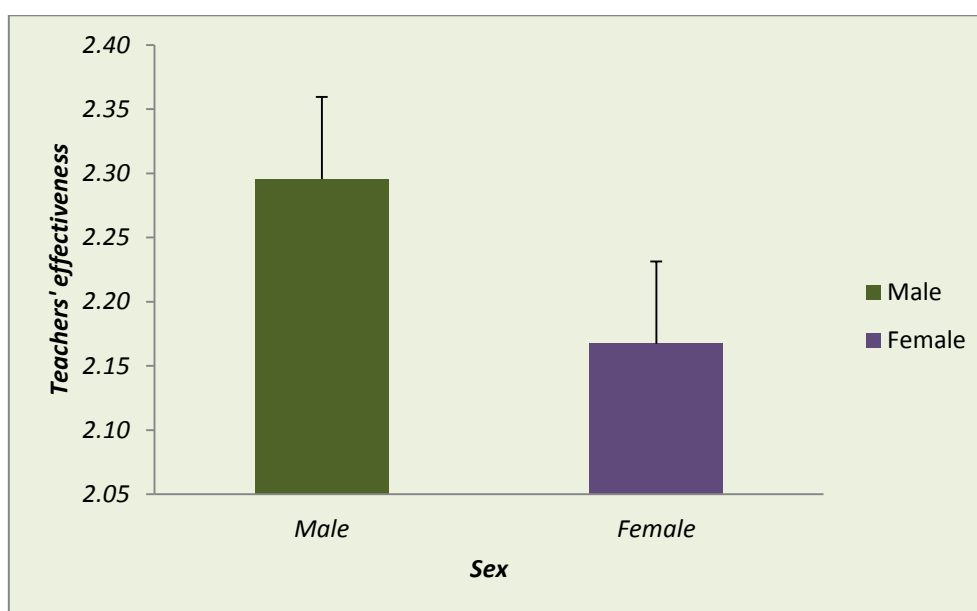


Figure 4.10: Bar chart of the variability teachers' effectiveness by gender

The overall analysis as it is shown in figure 4.10, displayed a significant difference in teachers' effectiveness for male teachers and female teachers ($p > 0$); meaning that, teachers' effectiveness are different in the two groups, the difference is significant. So it can be concluded that the gender of the student does affect teachers' effectiveness.

4.3.5. Variability of teachers' effectiveness by age category

We want to look at the variability of teachers' effectiveness by age category. We will be addressing the question: does teachers' effectiveness differ by age category? Since this is a case of comparison of many means, we are going to use a univariate analysis of variance to assess the variability of teachers' effectiveness by age category as shown in the table 4.20 below.

Table 4.20: Analysis of the effect of age category on teachers' effectiveness

	N	Mean	Std. Deviation	Std. Error
<= 25 yrs.	13	2,6154	,55752	,15463
26-30 yrs.	68	2,2563	,52796	,06402
31-35 yrs.	36	2,1190	,30063	,05011
36-40 yrs.	58	2,1453	,43929	,05768
41-45 yrs.	34	2,3529	,61242	,10503
46-50 yrs.	4	2,1429	,00000	,00000
> 50 yrs.	13	2,0220	,41176	,11420
Total	226	2,2257	,49405	,03286

Table 4.20 above shows that there were some relative differences in the Means and Standard Deviations of the various schools involved in the study. The test of the differences between these age categories is presented in table 4.21 below.

Table 4.21: Analysis of the effect on teachers' effectiveness by age category

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3,939	6	,657	2,821	,012
Within Groups	50,980	219	,233		
Total	54,920	225			

The analysis of variance as shown in table 4.21 above reveals that age category does significantly affect teachers' effectiveness in this study, $F(6, 219) = 2.822, p < 0.05$.

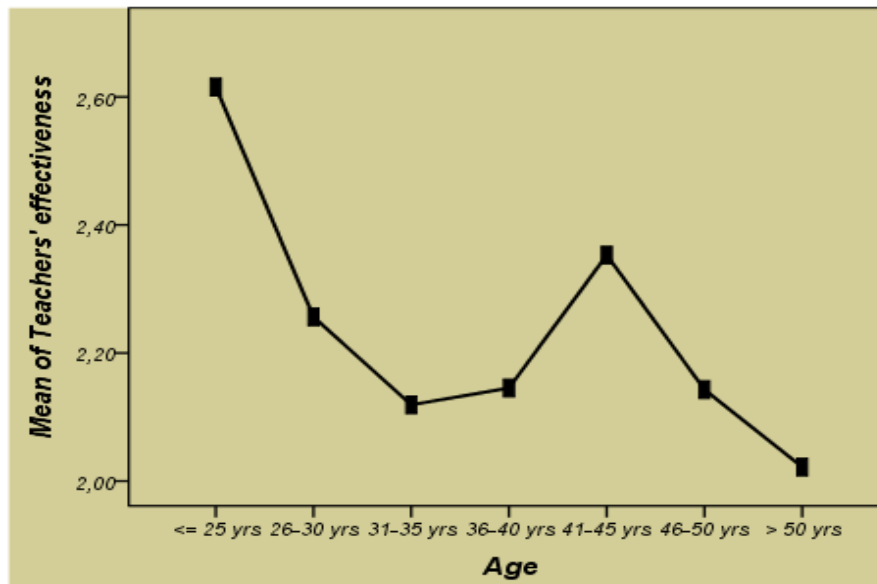


Figure 4.11: Graph of the variability teachers' effectiveness by age category

The overall analysis as illustrated in figure 4.8, revealed a significant difference in teachers' effectiveness for the different years of experience, $F(6, 219) = 2.822, p < 0.05$; meaning that, teachers' effectiveness is significantly affected by age category

4.4. Verification of research hypotheses

We are going to verify our research hypotheses in this section. The Pearson correlation coefficient was used to test our research hypotheses. Also, we will assess the predictive nature of teachers' effectiveness. The statistical processing of the data was done through the SPSS software (SPSS 23.0 for Windows) as shown in table 4.22 below.

Table 4.22: Means, standard deviation and correlations between our study variables

		1	2	3	4	5
1	Training in student's needs assessment	1				
2	Training in teaching techniques	,309***	1			
3	Training in remedial teaching	,406***	,366***	1		
4	Training in collaborative teaching	,341***	,360***	,539***	1	
5	Teachers' effectiveness	,337***	,387***	,365***	,531***	1
	Mean	1,9177	1,7471	2,3510	1,7692	2,2257
	SD	,43261	,36825	,71297	,36810	,49405

Table 4.22 above displays the correlation matrix of our study variables. The results show majors strong correlations between our study variables, namely between the independent variables (Training in student's needs assessment, Training in teaching techniques, Training in remedial teaching and Training in collaborative teaching) and the dependent variable (Teachers' effectiveness).

4.4.1. RH1: Training in students' needs assessment and Teachers' effectiveness

The first research hypothesis (RH1) claims that there is a significant relation between training in students' needs assessment and teachers' effectiveness. The shape of scatter plot in figure 4.12 displays the relationship showing the direction of relationship between training in students' needs assessment and teachers' effectiveness.

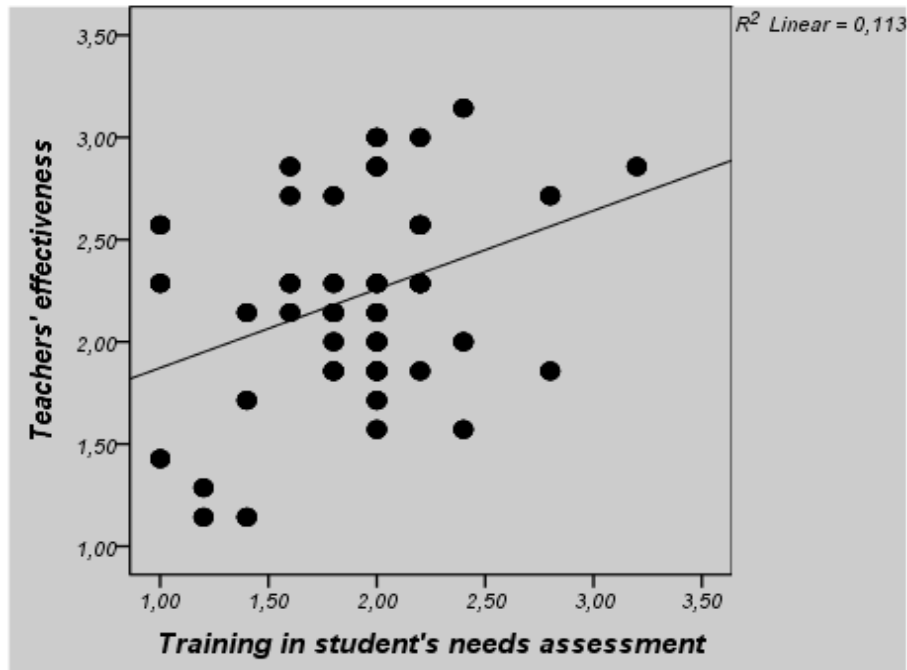


Figure 4.12: Scatter plot showing the correlation between training in students' needs assessment and teachers' effectiveness

The results have shown that there was a significant positive correlation between training in students' needs assessment and teachers' effectiveness, $r(224) = 0.337$, ($p < .001$). From this result we can conclude that training in students' needs assessments significantly correlate teachers' effectiveness. This test-value gives a coefficient of determination of 0.113, meaning that 11.30% of the variability of teachers' effectiveness is explained by training in students' needs assessment.

4.4.2. RH2: Training in teaching techniques and Teachers' effectiveness

The first research hypothesis (RH2) claims that there is a significant relation between Training in teaching techniques and teachers' effectiveness. The shape of scatter plot in figure 4.13 displays the relationship showing the direction of relationship between Training in teaching techniques and teachers' effectiveness

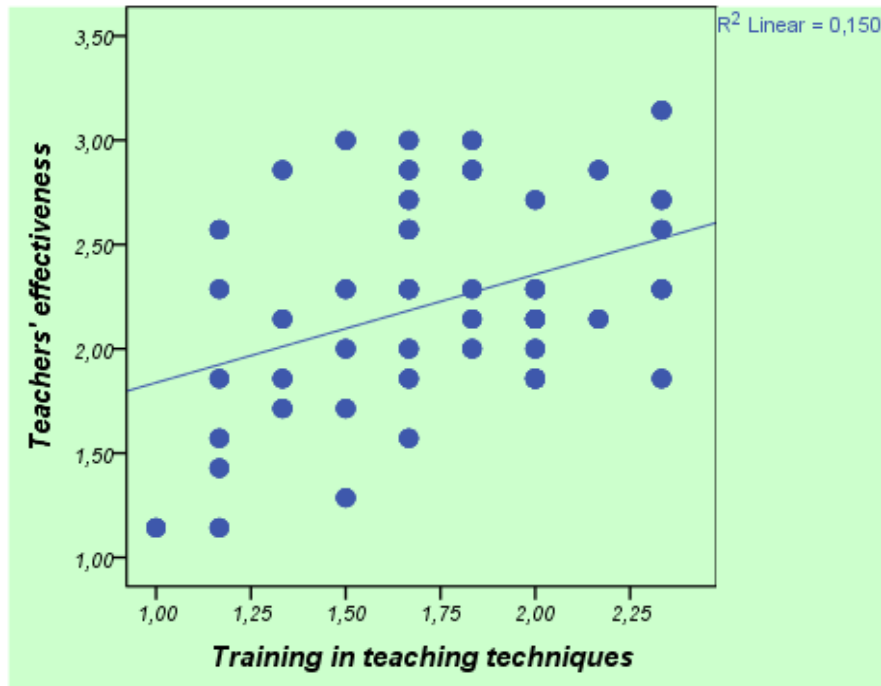


Figure 4.13: Scatter plot showing the correlation between Training in teaching techniques and teachers' effectiveness

The results have shown that there was a significant positive correlation between training in teaching techniques and teachers' effectiveness, $r(224) = 0.387$, ($p < .001$). From this result we can conclude that training in teaching techniques significantly correlate teachers' effectiveness. This test-value gives a coefficient of determination of 0.150, meaning that 15.00% of the variability of teachers' effectiveness is explained by training in teaching techniques.

4.4.3. RH3: Training in remedial teaching and Teachers' effectiveness

The third research hypothesis (RH3) claims that there is a significant relation between training in remedial teaching and teachers' effectiveness. The shape of scatter plot in figure 4.14 displays the relationship showing the direction of relationship between training in remedial teaching and teachers' effectiveness.

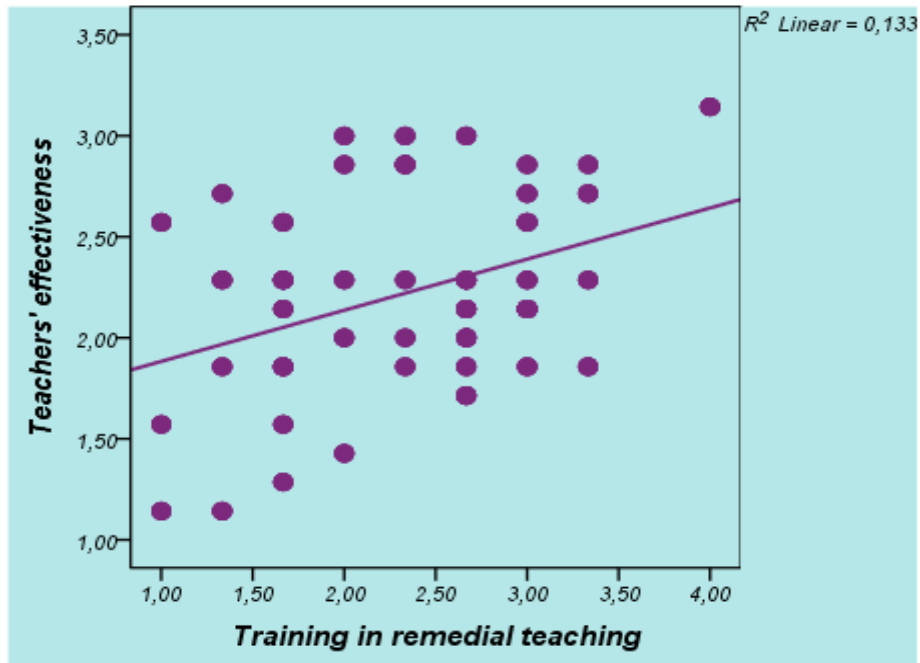


Figure 4.14: Scatter plot showing the correlation between training in remedial teaching and teachers' effectiveness

The results have shown that there was a significant positive correlation between training in remedial teaching and teachers' effectiveness, $r(224) = 0.365$, ($p < .001$). From this result we can conclude that training in remedial teaching significantly correlate teachers' effectiveness. This test-value gives a coefficient of determination of 0.133, meaning that 13.30% of the variability of teachers' effectiveness is explained by training in remedial teaching.

4.4.4. RH4: Training in collaborative teaching and Teachers' effectiveness

The fourth research hypothesis (RH4) claims that there is a significant relation between training in collaborative teaching and teachers' effectiveness. The shape of scatter plot in figure 4.15 displays the relationship showing the direction of relationship between training in collaborative teaching and teachers' effectiveness.

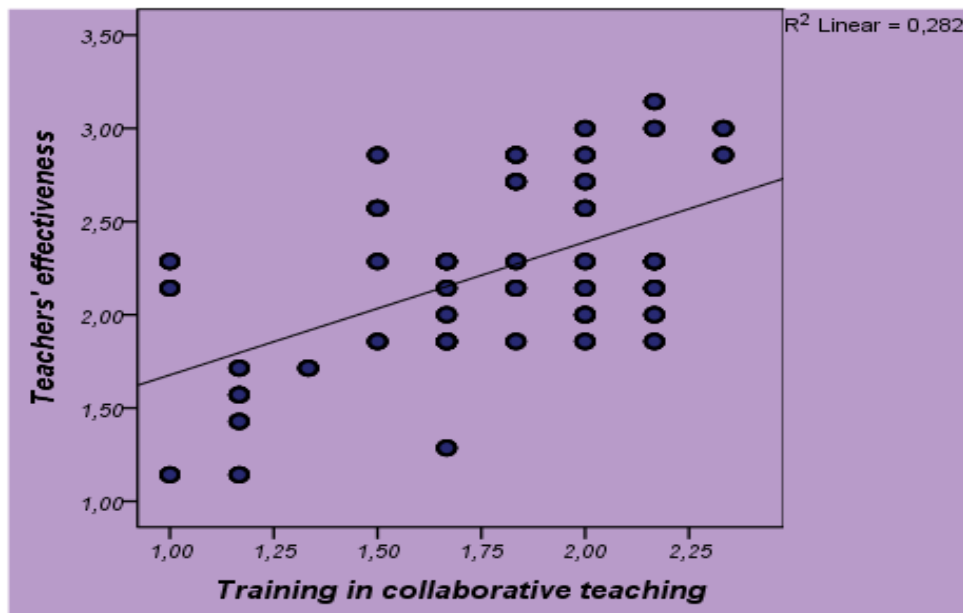


Figure 4.15: Scatter plot showing the correlation between training in collaborative teaching and teachers' effectiveness

The results have shown that there was a significant positive correlation between training in collaborative teaching and teachers' effectiveness, $r(224) = 0.337$, ($p < .001$). From this result we can conclude that training in collaborative teaching significantly correlate teachers' effectiveness. This test-value gives a coefficient of determination of 0.113, meaning that 11.30% of the variability of teachers' effectiveness is explained by the training in collaborative teaching.

4.4.5. Prediction of teachers' effectiveness

In this section, much research has been carried out to predict teachers' effectiveness. After a multiple hierarchical regression analysis, we consider now the parameters of the model for teachers' effectiveness.

In the first model, $R^2=0.2820$. This implies that the predictor variable (training in collaborative teaching) accounts for 28.20% of the variability of teachers' effectiveness. Then, the second model displays, a $\Delta R^2 = .044$. This implies that when added, the predictor variable (training in teaching techniques) account for 4.40% of the variability of teachers' effectiveness. The third model is a better one, because $\Delta R^2 = 0.015$. This implies that, when added, the predictor variable (training in students' needs assessment) raises the strength to 1.50% of the variability of teachers' effectiveness. Thus, the third model is a better predictor (training in collaborative teaching, training in teaching techniques, training in students' needs

assessment) of teachers' effectiveness with 34.10% of the variability. The table 4.23 below presents the b-value estimates. These values indicate the individual contribution of each predictor to the model.

Table 4.23: Coefficients of the regression model for teachers' effectiveness

Model		B	SE	Beta	t	R ²	ΔR ²
1	(Constant)	,965	,137		7,027	,282***	,282***
	Training in collaborative teaching	,713	,076	,531***	9,377		
2	(Constant)	,630	,160		3,947	,326***	,044***
	Training in collaborative teaching	,604	,079	,450***	7,638		
	Training in teaching techniques	,302	,079	,225***	3,815		
3	(Constant)	,486	,170		2,857	,341*	,015*
	Training in collaborative teaching	,556	,081	,414***	6,857		
	Training in teaching techniques	,263	,080	,196***	3,279		
	Training in student's needs assess	,154	,068	,135*	2,280		
Note : N = 226 ; * = p<.05 ; *** = p<.001							
a. Dependent Variable: Teachers' effectiveness							

Training in collaborative teaching significantly predicts teachers' effectiveness, $\beta = .414$, $t(224) = 6.857$, $p < .001$, and training in teaching techniques significantly predicts teachers' effectiveness, $\beta = .196$, $t(224) = 3.279$, $p < .001$. Training in students' needs assessment significantly predicts teachers' effectiveness, $\beta = .135$, $t(224) = 2.280$, $p < .05$. It means that these predictor variables (teaching and training in collaborative, training in teaching techniques, training in student's needs assessment) interact together to relatively and substantively predict teachers' effectiveness.

CHAPTER FIVE

DISCUSSION OF FINDINGS, IMPLICATIONS, RECOMMENDATIONS AND CONCLUSION OF THE STUDY

The main objective of this study was to investigate the influence of professional development and teacher's effectiveness in addressing students with learning disabilities, the case of secondary school teachers in the Buea Municipality South West Region. Four research hypotheses were formulated alongside research questions to guide the investigations. Questionnaires were used as the main research instrument. The data collected was analyzed using the one way analysis of variance (ANOVA), the independent sample student t-tests, the Pearson correlation coefficient and the Stepwise multiple regression analysis. After the verification of hypotheses, all our research hypotheses were confirmed. In this chapter, we shall discuss and analyze the findings in relation to the hypotheses, objectives and the views of some authors. From this interpretation and discussion of findings, the researcher shall make his conclusion and provide some recommendations as well as suggestion for future research on the studied phenomenon. The chapter shall equally enumerate the difficulties encountered in the process of the investigation.

5.1. Summary of Findings

From the analysis and interpretation of data in the preceding chapter, the following findings of the results reveal that;

The demographic characteristics of the teachers, in relation to different age groups ($F(6,219) = 2.822, p < 0.05$), years of teaching experience ($F(4,221) = 2.822, p < 0.05$) have a significant effect on teachers effectiveness. On the other hand different schools ($F(4, 221) = 0.194, p > 0.05$), highest obtained diploma ($t(224) = -1.303, p > 0.05$), and gender ($t(224) = 1.955, p > 0.05$) do not have a significant effect on teachers effectiveness.

Looking at the different research hypotheses involving the independent variable, dependent variable and the intervening variable, the results obtain was as follows

- The results have shown that there was a significant positive correlation between training in students' needs assessment and teachers' effectiveness, $r(224) = 0.337, (p < .001)$.

- The results have shown that there was a significant positive correlation between training in teaching techniques and teachers' effectiveness, $r(224) = 0.387, (p < .001)$.
- The results have shown that there was a significant positive correlation between training in remedial teaching and teachers' effectiveness, $r(224) = 0.365, (p < .001)$.
- The results have shown that there was a significant positive correlation between training in collaborative teaching and teachers' effectiveness, $r(224) = 0.337, (p < .001)$.

Generally, from the result we got and after the verification of the four hypotheses, one can say that there is a significant correlation between professional development and teachers effectiveness in addressing students with specific learning disabilities the case of secondary school teachers in Buea Municipality.

5.2. Discussions or Interpretation of Findings

The discussions of findings will be analyzed in relation to the following:

5.2.1. RH1: Training in students' needs assessment and teachers' effectiveness

Looking at our findings, we notice that there is a significant positive correlation between training in students' needs assessment and teachers effectiveness $r(224) = 0.337, (p < .001)$. It means that the direction of the relationship is positive revealing that training in students need assessment is an indicator of teacher's effectiveness. From this result it shows that training in students need assessment significantly correlates teachers' effectiveness. If the opportunities for training in students need assessment are provided for teachers, it will make the teachers to be confident, motivated and willing to innovate their skills so as to be enhance their self-efficacy in addressing students with specific learning disabilities. The determinant coefficient is $= 0.113$, meaning that 11.30% of the variability of teachers' effectiveness is explained by training in students' needs assessment.

Judging from our result, it ties with the theory of self-efficacy of Albert Bandura which affirms that self-efficacy is the belief an individual has in the level of success they will experience when they act in certain ways in specific contexts. Self-efficacy reflects cognitive

capacities and underlying skills, it also incorporates affective components such as confidence, motivation and willingness to innovate (Bandura, 1997).

The self- efficacy theory which says that teachers who possess high level of efficiency believe that they are able to strongly influence students' achievement. (Rotter, 1966). Self-efficacy has influence over people's ability to learn, their motivation and their performance in order for them to be effective and have the desired outcome. (Lunenburg, 2011).

Previous research has found teachers 'self-efficacy to be related to positive teaching behaviors and student achievement. Teachers with lower levels of efficacy are more pessimistic about student motivation and believe in strict classroom regulation and rely on extrinsic inducements and negative sanctions to get students to study (Woolfolk et al, 1990).Self-efficacy also "refers to beliefs in one's capabilities to organize and execute the courses of action required to manage prospective situations" (Bandura, 1995).

Results from the mediated regression analysis have equally shown that when training in students need assessment is encouraged and implemented in the teacher training curriculum,teachers' effectiveness will be significant. $\beta = .135$, $t(224) = 2.280$, $p < .05$. Thus from the mediation regression analysis, it shows that for teachers to be effective in the classroom, training in collaborative teaching is very important. That is the predictor variable (training in students need assessment) relatively predicts teachers' effectiveness in addressing students' needs. This result supports the findings of Buchberger et al, (2000) which says that it is necessary for teachers to update their skills, especially in context in which the schools situation has changed introduction of new curriculum, new research on teaching, and adaptation to the changes in students' needs due to socio-economic evolutions.

5.2.2. RH2: Training in teaching techniques and teachers' effectiveness

Our second hypothesis sought to look at the influence training in teaching technique influences teacher's effectiveness in addressing students with learning disabilities. After collection and analysis of the data the results show that training in teaching technique is closely related to teachers effectiveness, $r(224) = 0.387$, ($p < .001$). From this result we can conclude that training in teaching technique significantly correlate with teachers' effectiveness. This test-value gives a coefficient of determination of 0.150, meaning that 15.00% of the variability of teachers' effectiveness is explained by training in teaching techniques.

According to the social learning theory of Bandura (1977), people learn from one another, via observation, imitation and modeling. Therefore in the process of training, the teachers do observe how their teachers give them the training and when they go to the fields, they need to imitate and give out what they learnt in school so as to be models in the courses and classes they teach thereby increasing their efficacy. Bandura stated that in social learning, imitation and behavior modeling will occur if a person observes positive, desired outcomes in the first stage.

Results from the mediated regression analysis have equally shown that when training in teaching techniques is encouraged and implemented in the teacher training curriculum, teachers effectiveness becomes significant, $\beta = .196$, $t(224) = 3.279$, $p < .001$). Thus from the mediation regression analysis, it is shows that for teachers to be effective in the classroom, training in teaching techniques is very important. That is training in teaching technique is a predictor of teachers effectiveness in addressing students with specific learning disabilities. This results support the findings of Davis (1997) who suggests that the design and selection of teaching methods must take into account not only the nature of the subject matter but also how students learn. In today's school the trend is that it encourages a lot of creativity in teaching is students centered. In Student-Centered Approach to Learning, while teachers are an authority figure in this model, teachers and students play an equally active role in the learning process. The teacher's primary role is to coach and facilitate student learning and overall comprehension of material. Student learning is measured through both formal and informal forms of assessment, including group projects, student portfolios, and class participation. Teaching and assessments are connected; student learning is continuously measured during teacher instruction. Commonly used teaching methods may include class participation, demonstration, recitation, memorization, or combinations of this approach.

5.2.3. RH3: Training in remedial teaching and teachers' effectiveness

Our third hypothesis sought to assess the influence training in remedial education has over teacher's effectiveness in addressing students with learning disabilities. After collection and analysis of the data the results show that training in remedial teaching is closely related to teachers effectiveness, $r(224) = 0.365$, ($p < .001$). From this result we can conclude that training in remedial teaching significantly correlate teachers' effectiveness. This test-value gives a coefficient of determination of 0.133; meaning that 13.30% of the variability of teachers' effectiveness is explained by training in remedial teaching.

According to Vygotsky (1896-1934, 1962), in his theory of the "Zone of Proximal Development" (ZPD), he defines "Proximal" as simply meaning "next". He observed that when children were tested on tasks on their own, they rarely did as well as when they were working in collaboration with an adult. It was by no means always the case that the adult was teaching them how to perform the task, but that the process of engagement with the adult enabled them to refine their thinking or their performance to make it more effective. Hence, to him, the development of language and articulation of ideas was central to learning and development. The common-sense idea which fits most closely with this model is that of "stretching" learners. The ZPD is about "*can do with help*", not as a permanent state but as a stage towards being able to do something on your own. The key to "stretching" the learner is to know what is in that person's ZPD-what comes next, for them.

This result also supports the criticism made by Sternberg (1999) on the intervention model of identifying students with learning disabilities. Which says that response to intervention model identifying children who have difficulties in school in their first or second year after starting school should receive additional assistance such as offering them remedial lessons or participating in a reading remediation program. The response of the children to this intervention then will determine whether they are designated as having a learning disability. Those few who still have trouble may then receive designation and further assistance. Sternberg (1999) argued that early remediation can greatly reduce the number of children meeting diagnostic criteria for learning disabilities. He has also suggested that the focus on learning disabilities and the provision of accommodations in school fails to acknowledge that people have a range of strengths and weaknesses and places undue emphasis on academics by insisting that students should be supported in this area.

5.2.4. RH 4: Training in collaborative teaching and teachers' effectiveness

Our fourth research hypothesis set out to investigate the influence collaborative teaching has on teachers' effectiveness in addressing students' specific learning needs. Having collected and analyzed the data, the results show that training in collaborative teaching is significantly related to teachers' effectiveness, $r(224) = 0.337, (p < .001)$. It means that the direction of the relationship is positive revealing that training in collaborative teaching and teacher's effectiveness move in the same direction. From this result it shows that training in collaborative teaching significantly correlates teachers' effectiveness. If the opportunities for training in collaborative teaching are provided for teachers, it will enhance their effectiveness

in addressing students with specific learning disabilities. The coefficient determinant is 0.113, meaning that 11.30% of the variability of teachers' effectiveness is explained by the training in collaborative teaching.

According to Bandura (1977), *“People can develop high or low self-efficacy vicariously through other people’s performances. A person can watch another perform and then compare his own competence with the other individual’s competence”*. If a person sees someone similar to them succeed, it can increase their self-efficacy. However, the opposite is also true; seeing someone similar fail can lower self-efficacy. An example of how vicarious experiences can increase self-efficacy in students through group work, where a slow learner is paired with a fast learner to carry out a task will be successful at raising the individual’s self-efficacy beliefs. (Bandura, 1977).

Results from the mediated regression analysis have equally shown that when training in collaborative teaching is encouraged and implemented in the teacher training curriculum, teachers effectiveness becomes significant ($\beta = .414$, $t(224) = 6.857$, $p < .001$). Thus from the mediation regression analysis, it shows that for teachers to be effective in the classroom, training in collaborative teaching is very important. That is training in collaborative teaching is a predictor of teacher’s effectiveness in addressing students with specific learning disabilities. This result supports the findings of Kenndey (2005) who says that, emphasis on collaborative work allows to quickly increasing teachers effectiveness in teaching secondary school subjects and addressing student’s needs. Teachers are educated as experts in their precise field, with a strong critical sense, autonomy and professional problem-solving abilities. This makes them responsible for the improvement of their skills.

Walker (2009) also found out that satisfied teachers will become effective when they perceive that their school of training is encouraging and offering them the opportunities to learn, grow in their respective areas of specialization. This also go in line with view of Talbert & McLaughlin, (1994) who say, Professional development has a positive impact on curriculum, pedagogy, teachers’ effectiveness as well as students outcome. Teacher education is important because of its impact upon teacher quality. To teach is a complex and demanding intellectual work, one that cannot be accomplished without the adequate preparation.

5.3. Theoretical and Professional implications

According to Lev Vygotsky's theory of the Zone of Proximal Development which says "*when children were tested on task on their own, they rarely did as well as they were working in collaboration with adults*". This is an indication that this process with an adult enabled them to refine their performance to make it more effective. Therefore if teachers are trained by experts on students needs assessment, collaborative learning, teaching technique and remedial teaching, they will perform better and be more effective in addressing students with and without disabilities. This is because even if they try to do the task alone, it cannot be effective judging from the huge population we have in our classrooms today. More so, in-service teachers should also understand that they cannot do everything on their own. They are encourage to continue their training either through collaboration with other teachers, who can help them overcome these difficulties. Teachers should also encourage collaborative learning amongst their students by putting them in to small groups. Thereby merging Fast learners with slow learners to increase their performance thereby making the teachers to be effective.

In addition, according to the social learning theory, people learn from one another through observation, imitation and modeling. To Bandura, social learning, imitation and modeling will occur if a person observes positive desired outcome. There in the process of training, the teachers do observe their trainers give them the training and the manner in which it is given, when they go in to the field, they will tend to imitate and thus give out either the positive or negative behavior of what they observed. So teachers in teacher training colleges should also put up a positive attitude so that the pre-service teachers when they get in to the field, they will instill a positive attitude of teaching towards their learners thereby increasing their efficacy and students outcome.

According to Bourke (2001), the inspectional model is typically completed by an administrator who comes in to the classroom either take or check notes according to a list of criteria whether the teacher is achieving all the necessary requirements and given no immediate feedback to the teacher. Today professional development program practice classroom evaluation as an element of the program but not exclusively. This is to help give feedback and possible suggestions to improve a particular aspect of one's teaching, but its not the case with our secondary schools today. It will be advisable if inspectors like counselors for example are assigned to monitor teachers in the classroom, so that they will help them in

identifying these weaknesses and thus proposing possible solutions to render this difficulty thereby by increasing students' outcome and teachers' effectiveness.

5.4. Recommendations for further research

This study is in no way exhaustive. Therefore, we very much encourage further research to be carried out in this domain considering it's important to the educational family, students with specific learning needs, parents with children who have specific learning disabilities and the society at large.

Despite the fact that teachers are being trained in Cameroon in ENIEG, HTTC, ENSET, they are not effective in their teaching. This is evident with the fact that teachers in secondary schools both trained and those who are not trained, cannot identify and handle students with primary or secondary learning difficulties in a mainstream educational milieu. It is in this light that it is necessary to make some propositions stemming from the results of the research which will be important to the government, (educational authorities), teachers, parents and students with special educational needs.

To Educational Authorities

The Ministry of Secondary Education should include special educational needs course into the curriculum of higher teacher training institutions and also government teacher's training colleges (GTTC) necessary for accommodating students with learning disabilities in the classroom. Since some teachers complained that these problems re-surface in secondary school because they were not addressed at the primary school level (secondary school teachers from BGS Molyko, GHS Bokwango and PCSS Buea).

- The government should revise the curriculum of teacher training colleges by training teachers on how to identify and handle specific learning disabilities in a normal classroom setting by so doing it will enhance teachers effectiveness in their profession and it will increase students' academic outcome.

- Also, government and school administration should organize workshops and seminars where teachers can exchange ideas on how to handle different types of learners in the classroom thereby increasing teachers' effectiveness on how to handle all types of learners in a normal classroom setting.

- Administrative heads should encourage teachers to carry out remedial teaching to students who perform poorly in their subjects and even to those who pass in their subjects. This will help to curb the gap between slow learners and fast learners in the class room and the teaching objectives will be realized.
- The government should also assign counselors to schools that do not have counselors because in a case where the teachers cannot identify these specific learning disabilities, the counselors will help the teachers and students to identify these problems and propose solutions to solve them.
- The Ministry of Secondary Education should employ delegates who will carefully supervise teacher's performance through student's outcome in a regular classroom setting in secondary schools in Cameroon.

To Parents

Parents should understand that they are also important in their children's education. While teachers can change from year to year, parents are the constant connection between children and learning both at home and in school. Parents should always follow up their children academic performance in each subject at home and also should not always depend on the teachers for their children academic outcome or performance. If they notice that their children have one or more learning difficulties, they should call the attention of the teachers or counselors to seek advice on how they can remedy these difficulties in order to increase student's outcome. They can even bring out the point during PTA meetings in order to alert the school authorities of the problems their children face.

To Teachers

Teachers as educators should understand the implications of not being able to identify students with specific learning needs. Teachers are advised to improve their teaching techniques without focusing only on what is stated in the curriculum. They should work closely with the students through the inspection of their note books to see if they copy notes correctly, give oral examinations, encourage group work or collaborative learning by merging those who can read well with those who cannot, those who can spell well with those who cannot and so on. Teachers should also carry out remedial teaching or corrections with their students after an assignment or an exam. By so doing it will be very easy for them to identify

and address these learning difficulties. This will make their teaching more effective and it will enhance student's outcome thereby making them to arrive at their teaching objectives.

Finally, teachers will also understand that certification is not enough in the teaching profession but more new ideas are brought in and implemented every day to satisfy the needs of learners, this can be through collaborative learning. When we talk of collaborative learning, I will recommend that teachers already in the field to work in close collaboration with the school guidance counselors if they want to be more effective in their teaching and have the desired student out-come. So they are encouraged to always feel free and discuss their students' academic difficulties with the guidance counselors and other teacher so that they can give help through advice wherever necessary, thereby increasing their effectiveness.

To students

Students are advised to always make sure they inform their teachers on the difficulties they face in their subjects and also visit the guidance and counseling unit of their schools to seek advice on how they can remedy these problems so that they can improve in their academic performance.

They should also make sure they ask questions to their classmates who are more advanced in the area where they are facing difficulties and seek for assistance. For those who are more advanced in particular subjects, they should always assist their mates wherever necessary.

5.5. Limitations and Suggestions for Further Study

This study was limited to in-service secondary school teachers in the Buea municipality. Therefore we will advise that further research should be carried out on in- service teachers in the primary school since some of these specific learning disabilities should be addressed at this level so that they will not emerge at the secondary level.

The study was also limited to public general education and denominational secondary schools in Buea, so further research could be carried out on public technical schools and lay-private secondary schools in the Buea municipality.

GENERAL CONCLUSION

The principal objective of this study was to find out the influence professional development has on teachers' effectiveness in addressing student's with specific learning disabilities. The scales used to assess this perception were: students' need assessment, teaching techniques, remedial teaching and collaborative teaching. The instrument used in this study was questionnaire, made up of 31 questions; based on the four scales mentioned above. Apart from the close- ended questions asked from the four scales, open- ended questions were also asked with regards to the background of the teachers.

The area of study was the Buea municipality whereby four secondary schools were chosen. Teachers of all fields were used as the sample population of the total population and out of the total number of 556 teachers, 226 of them filled the questionnaire. Their opinions were then analyzed using the one-way analysis variance (ANOVA), the independent Sample Student t-tests, Pearson Correlation Coefficient and the Stepwise Regression analysis. The results reveal that, there is a significant relationship between professional development and teachers' effectiveness in addressing students with specific learning disabilities.

Looking at the findings, we realized that teachers are of the opinion that if they are trained in students' needs assessments, teaching technique, remedial teaching and collaborative teaching, it will help them to address all types of learners thereby increasing their efficacy.

The study will be of benefit to the educational authorities in that through this work, the educational authorities will understand that in order for teachers to be effective in the classroom and have a positive influence on student's academic achievement, there is need for them to be trained on students, needs assessment, teaching techniques, remedial teaching and collaborative teaching. This will therefore influence the educational authorities to revive their training curriculum and also encourage in-service teachers to go in for continuing professional training in order to meet the needs of learners thereby making them to be effective.

The study will also be beneficial to in-service teachers in that they will know that they need to be working in close collaboration with the school guidance counselors, if they want to improve on their effectiveness and increase students' outcome, thereby achieving the teaching goals. They should also be opened to continuing (on the job) professional development or training so as to increase their effectiveness in their field.

Parents will also understand that they are also very important in the academic achievement of their children so if their children perform poorly in a test or exam, they should not push all the blame on the teacher or say their children are dull. They should understand that their children have one or more learning disabilities. As such they should employ a home teacher to help their children overcome this difficulty thereby improving on their performance.

We conclude this study by saying that professional development is a very important component on teachers' effectiveness to address all types of learners. This study is beneficial to a lot of people but not withstanding, we only worked with in- service teachers in secondary schools. However, another study can be carried out on in-service teachers in primary school which is the base of education.

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APPENDIX

APPENDIX 1: QUESTIONNAIRE TO TEACHERS

Dear teachers, we are carrying out an investigation for my end of training research project - 'DIPCO' in the Department of Sciences of Education- Ecole Normale Supérieur (E.N.S) Yaounde. Please, you are required to kindly and entirely fill this questionnaire. It is meant only for academic purpose and the researcher promise to keep your identity anonymous. Please answer the questions as honest as possible.

Instructions. For each of the following statements, please place a tick in one box ONLY on the scale that best describes how the statement applies to you using the 5 point scale below. There is no right or wrong answer; we are looking for your overall impression on each statement.

SA = Strongly Agree (2) **A** = Agree (3) **N**= Neutral (4) **D** = Disagree (5) **SD** = Strongly Disagree.

I. BACKGROUND INFORMATION

1. School:

2. Discipline:

3. Years of experience:

. Highest academic Diploma:

5. Sex:

1. Male

2. Female

6. Age:

II. TRAINING IN STUDENTS' NEEDS ASSESSMENT

	SA	A	N	D	SD
7. I have been trained to identify gifted students					
8. I have been trained to make inventory of students strengths and weaknesses					
9. I have been trained on how to help students bring out their best.					
10. I apply the strategies learned to evaluate students' needs					
11. During evaluation, I usually identify students who need special attention					

III. TRAINING IN TEACHING TECHNIQUE

	SA	A	N	D	SD
12. I have learned to engage students' attention in learning during classes					
13. I have been trained to make students gained a deeper understanding of the subject I teach					
14. During class, I have been trained to make students participate in the construction of knowledge					
15. I have been trained to use various strategies to make learning easy for the students					
16. I usually give my students take home assignments to encourage their research skills					

IV. TRAINING IN REMEDIAL TEACHING

	SA	A	N	D	SD
17. I have been trained to carry out remedial classes for students					
18. After assessment, I give remedial lessons to students in need for them to improve					
19. Remedial classes are important for both students who have passed the sequence lessons and for those who have not passed					

V. TRAINING IN COLLABORATIVE TEACHING

	SA	A	N	D	SD
20. I feel confident talking to my colleagues about the level of work and support I need					
21. Sharing our teaching experiences contribute to our development					
22. Interacting and sharing ideas with colleagues help in assessing our teaching practices					
23. Group activities between colleagues encourage collaborative learning					
24. The school administration organizes workshops for teachers to exchange ideas on how to handle students with learning disabilities.					

VI. TEACHERS' EFFECTIVENESS

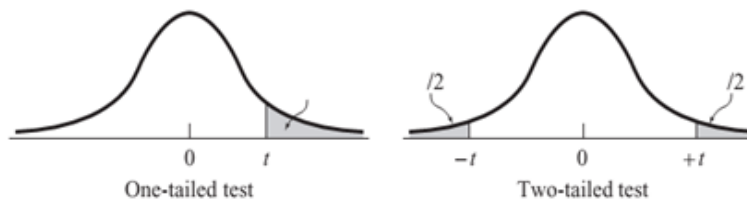
	SA	A	N	D	SD
25. I am absolutely confident that I have a good knowledge of my subject and the content of the lessons I teach my students.					
26. When students perform better, most often it is because I have put in extra efforts.					
27. I really enjoy teaching students with or without learning disabilities.					
28. I have skills in teaching students with learning disabilities					
29. I adapt my lessons to meet the unique needs of students with learning disabilities					
30. I put in extra efforts in my teaching					
31. Identifying students with specific learning needs requires a different technique					

APPENDIX 2: Table for Determining Sample Size from a Given Population

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	346
25	25	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	354
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	191	1200	291	6000	361
45	40	170	118	400	196	1300	297	7000	364
50	44	180	123	420	201	1400	302	8000	367
55	48	190	127	440	205	1500	306	9000	368
60	52	200	132	460	210	1600	310	10000	370
65	56	210	136	480	214	1700	313	15000	375
70	59	220	140	500	217	1800	317	20000	377
75	63	230	144	550	226	1900	320	30000	379
80	66	240	148	600	234	2000	322	40000	380
85	70	250	152	650	242	2200	327	50000	381
90	73	260	155	700	248	2400	331	75000	382
95	76	270	159	750	254	2600	335	10000	384

Source: From R.V. Krejcie and D.W. Morgan (1970), Determining sample size for research activities, Educational activities, Educational and psychological measurement, 30,608, sage publications.

Appendix t: Percentage Points of the t Distribution



		Level of Significance for One-Tailed Test								
		0.25	0.20	0.15	0.10	0.05	0.025	0.01	0.005	0.0005
		Level of Significance for Two-Tailed Test								
df		0.50	0.40	0.30	0.20	0.10	0.05	0.02	0.01	0.001
1		1.000	1.376	1.963	3.078	6.314	12.706	31.821	63.657	636.620
2		0.816	1.061	1.386	1.886	2.920	4.303	6.965	9.925	31.599
3		0.765	0.978	1.250	1.638	2.353	3.182	4.541	5.841	12.924
4		0.741	0.941	1.190	1.533	2.132	2.776	3.747	4.604	8.610
5		0.727	0.920	1.156	1.476	2.015	2.571	3.365	4.032	6.869
6		0.718	0.906	1.134	1.440	1.943	2.447	3.143	3.707	5.959
7		0.711	0.896	1.119	1.415	1.895	2.365	2.998	3.499	5.408
8		0.706	0.889	1.108	1.397	1.860	2.306	2.896	3.355	5.041
9		0.703	0.883	1.100	1.383	1.833	2.262	2.821	3.250	4.781
10		0.700	0.879	1.093	1.372	1.812	2.228	2.764	3.169	4.587
11		0.697	0.876	1.088	1.363	1.796	2.201	2.718	3.106	4.437
12		0.695	0.873	1.083	1.356	1.782	2.179	2.681	3.055	4.318
13		0.694	0.870	1.079	1.350	1.771	2.160	2.650	3.012	4.221
14		0.692	0.868	1.076	1.345	1.761	2.145	2.624	2.977	4.140
15		0.691	0.866	1.074	1.341	1.753	2.131	2.602	2.947	4.073
16		0.690	0.865	1.071	1.337	1.746	2.120	2.583	2.921	4.015
17		0.689	0.863	1.069	1.333	1.740	2.110	2.567	2.898	3.965
18		0.688	0.862	1.067	1.330	1.734	2.101	2.552	2.878	3.922
19		0.688	0.861	1.066	1.328	1.729	2.093	2.539	2.861	3.883
20		0.687	0.860	1.064	1.325	1.725	2.086	2.528	2.845	3.850
21		0.686	0.859	1.063	1.323	1.721	2.080	2.518	2.831	3.819
22		0.686	0.858	1.061	1.321	1.717	2.074	2.508	2.819	3.792
23		0.685	0.858	1.060	1.319	1.714	2.069	2.500	2.807	3.768
24		0.685	0.857	1.059	1.318	1.711	2.064	2.492	2.797	3.745
25		0.684	0.856	1.058	1.316	1.708	2.060	2.485	2.787	3.725
26		0.684	0.856	1.058	1.315	1.706	2.056	2.479	2.779	3.707
27		0.684	0.855	1.057	1.314	1.703	2.052	2.473	2.771	3.690
28		0.683	0.855	1.056	1.313	1.701	2.048	2.467	2.763	3.674
29		0.683	0.854	1.055	1.311	1.699	2.045	2.462	2.756	3.659
30		0.683	0.854	1.055	1.310	1.697	2.042	2.457	2.750	3.646
40		0.681	0.851	1.050	1.303	1.684	2.021	2.423	2.704	3.551
50		0.679	0.849	1.047	1.299	1.676	2.009	2.403	2.678	3.496
100		0.677	0.845	1.042	1.290	1.660	1.984	2.364	2.626	3.390
∞		0.674	0.842	1.036	1.282	1.645	1.960	2.326	2.576	3.291

Source: The entries in this table were computed by the author.

Appendix F: Critical Values of the F Distribution

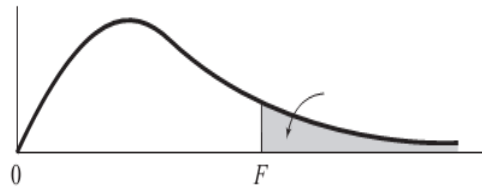


Table 1 $\alpha = 0.05$

		Degrees of Freedom for Numerator															
		1	2	3	4	5	6	7	8	9	10	15	20	25	30	40	50
Degrees of Freedom for Denominator	1	161.4	199.5	215.8	224.8	230.0	233.8	236.5	238.6	240.1	242.1	245.2	248.4	248.9	250.5	250.8	252.6
	2	18.51	19.00	19.16	19.25	19.30	19.33	19.35	19.37	19.38	19.40	19.43	19.44	19.46	19.47	19.48	19.48
	3	10.13	9.55	9.28	9.12	9.01	8.94	8.89	8.85	8.81	8.79	8.70	8.66	8.63	8.62	8.59	8.58
	4	7.71	6.94	6.59	6.39	6.26	6.16	6.09	6.04	6.00	5.96	5.86	5.80	5.77	5.75	5.72	5.70
	5	6.61	5.79	5.41	5.19	5.05	4.95	4.88	4.82	4.77	4.74	4.62	4.56	4.52	4.50	4.46	4.44
	6	5.99	5.14	4.76	4.53	4.39	4.28	4.21	4.15	4.10	4.06	3.94	3.87	3.83	3.81	3.77	3.75
	7	5.59	4.74	4.35	4.12	3.97	3.87	3.79	3.73	3.68	3.64	3.51	3.44	3.40	3.38	3.34	3.32
	8	5.32	4.46	4.07	3.84	3.69	3.58	3.50	3.44	3.39	3.35	3.22	3.15	3.11	3.08	3.04	3.02
	9	5.12	4.26	3.86	3.63	3.48	3.37	3.29	3.23	3.18	3.14	3.01	2.94	2.89	2.86	2.83	2.80
	10	4.96	4.10	3.71	3.48	3.33	3.22	3.14	3.07	3.02	2.98	2.85	2.77	2.73	2.70	2.66	2.64
	11	4.84	3.98	3.59	3.36	3.20	3.09	3.01	2.95	2.90	2.85	2.72	2.65	2.60	2.57	2.53	2.51
	12	4.75	3.89	3.49	3.26	3.11	3.00	2.91	2.85	2.80	2.75	2.62	2.54	2.50	2.47	2.43	2.40
	13	4.67	3.81	3.41	3.18	3.03	2.92	2.83	2.77	2.71	2.67	2.53	2.46	2.41	2.38	2.34	2.31
	14	4.60	3.74	3.34	3.11	2.96	2.85	2.76	2.70	2.65	2.60	2.46	2.39	2.34	2.31	2.27	2.24
	15	4.54	3.68	3.29	3.06	2.90	2.79	2.71	2.64	2.59	2.54	2.40	2.33	2.28	2.25	2.20	2.18
	16	4.49	3.63	3.24	3.01	2.85	2.74	2.66	2.59	2.54	2.49	2.35	2.28	2.23	2.19	2.15	2.12
	17	4.45	3.59	3.20	2.96	2.81	2.70	2.61	2.55	2.49	2.45	2.31	2.23	2.18	2.15	2.10	2.08
	18	4.41	3.55	3.16	2.93	2.77	2.66	2.58	2.51	2.46	2.41	2.27	2.19	2.14	2.11	2.06	2.04
	19	4.38	3.52	3.13	2.90	2.74	2.63	2.54	2.48	2.42	2.38	2.23	2.16	2.11	2.07	2.03	2.00
	20	4.35	3.49	3.10	2.87	2.71	2.60	2.51	2.45	2.39	2.35	2.20	2.12	2.07	2.04	1.99	1.97
22	4.30	3.44	3.05	2.82	2.66	2.55	2.46	2.40	2.34	2.30	2.15	2.07	2.02	1.98	1.94	1.91	
24	4.26	3.40	3.01	2.78	2.62	2.51	2.42	2.36	2.30	2.25	2.11	2.03	1.97	1.94	1.89	1.86	
26	4.23	3.37	2.98	2.74	2.59	2.47	2.39	2.32	2.27	2.22	2.07	1.99	1.94	1.90	1.85	1.82	
28	4.20	3.34	2.95	2.71	2.56	2.45	2.36	2.29	2.24	2.19	2.04	1.96	1.91	1.87	1.82	1.79	
30	4.17	3.32	2.92	2.69	2.53	2.42	2.33	2.27	2.21	2.16	2.01	1.93	1.88	1.84	1.79	1.76	
40	4.08	3.23	2.84	2.61	2.45	2.34	2.25	2.18	2.12	2.08	1.92	1.84	1.78	1.74	1.69	1.66	
50	4.03	3.18	2.79	2.56	2.40	2.29	2.20	2.13	2.07	2.03	1.87	1.78	1.73	1.69	1.63	1.60	
60	4.00	3.15	2.76	2.53	2.37	2.25	2.17	2.10	2.04	1.99	1.84	1.75	1.69	1.65	1.59	1.56	
120	3.92	3.07	2.68	2.45	2.29	2.18	2.09	2.02	1.96	1.91	1.75	1.66	1.60	1.55	1.50	1.46	
200	3.89	3.04	2.65	2.42	2.26	2.14	2.06	1.98	1.93	1.88	1.72	1.62	1.56	1.52	1.46	1.41	
500	3.86	3.01	2.62	2.39	2.23	2.12	2.03	1.96	1.90	1.85	1.69	1.59	1.53	1.48	1.42	1.38	
1000	3.85	3.01	2.61	2.38	2.22	2.11	2.02	1.95	1.89	1.84	1.68	1.58	1.52	1.47	1.41	1.36	

Source: The entries in this table were computed by the author.

Table V

Loi du r de Bravais-Pearson (Probabilités bilatérales)

ddl \ Seuil	0.20	0.10	0.05	0.02	0.01	0.001	0.0001	0.00001
1	0.9512	0.9878	0.9971	0.9997	1.0000	1.0000	1.0000	1.0000
2	0.8002	0.9002	0.9502	0.9802	0.9902	0.9992	1.0000	1.0000
3	0.6872	0.8055	0.8785	0.9345	0.9589	0.9913	0.9982	0.9997
4	0.6085	0.7294	0.8116	0.8823	0.9173	0.9742	0.9920	0.9976
5	0.5510	0.6696	0.7546	0.8330	0.8747	0.9510	0.9807	0.9924
6	0.5069	0.6216	0.7069	0.7889	0.8345	0.9251	0.9657	0.9842
7	0.4717	0.5824	0.6665	0.7499	0.7978	0.8984	0.9482	0.9734
8	0.4429	0.5495	0.6320	0.7156	0.7647	0.8723	0.9295	0.9608
9	0.4188	0.5216	0.6022	0.6852	0.7349	0.8472	0.9104	0.9470
10	0.3982	0.4974	0.5761	0.6582	0.7080	0.8235	0.8913	0.9324
11	0.3804	0.4763	0.5531	0.6340	0.6837	0.8011	0.8726	0.9176
12	0.3647	0.4577	0.5326	0.6122	0.6615	0.7801	0.8545	0.9027
13	0.3508	0.4410	0.5141	0.5924	0.6413	0.7605	0.8370	0.8879
14	0.3384	0.4261	0.4975	0.5744	0.6227	0.7421	0.8203	0.8734
15	0.3273	0.4125	0.4823	0.5579	0.6057	0.7248	0.8043	0.8593
16	0.3171	0.4002	0.4684	0.5427	0.5899	0.7086	0.7890	0.8455
17	0.3079	0.3889	0.4557	0.5287	0.5752	0.6933	0.7744	0.8322
18	0.2994	0.3785	0.4439	0.5157	0.5616	0.6789	0.7604	0.8193
19	0.2915	0.3689	0.4330	0.5035	0.5489	0.6654	0.7471	0.8068
20	0.2843	0.3600	0.4229	0.4922	0.5369	0.6525	0.7344	0.7948
21	0.2776	0.3517	0.4134	0.4817	0.5258	0.6404	0.7223	0.7832
22	0.2713	0.3439	0.4045	0.4717	0.5153	0.6289	0.7107	0.7720
23	0.2654	0.3367	0.3962	0.4624	0.5053	0.6179	0.6996	0.7612
24	0.2599	0.3299	0.3884	0.4536	0.4960	0.6075	0.6889	0.7508
25	0.2547	0.3234	0.3810	0.4452	0.4871	0.5976	0.6787	0.7408
26	0.2499	0.3174	0.3740	0.4373	0.4787	0.5881	0.6689	0.7311
27	0.2453	0.3116	0.3674	0.4298	0.4707	0.5791	0.6596	0.7217
28	0.2409	0.3062	0.3612	0.4227	0.4630	0.5705	0.6505	0.7127
29	0.2368	0.3010	0.3552	0.4159	0.4558	0.5622	0.6418	0.7040
30	0.2328	0.2961	0.3495	0.4095	0.4488	0.5543	0.6335	0.6955
31	0.2291	0.2915	0.3441	0.4033	0.4422	0.5467	0.6254	0.6874
32	0.2255	0.2870	0.3389	0.3974	0.4359	0.5394	0.6177	0.6795
33	0.2221	0.2827	0.3340	0.3917	0.4298	0.5323	0.6102	0.6718
34	0.2189	0.2787	0.3293	0.3863	0.4240	0.5256	0.6029	0.6644
35	0.2157	0.2748	0.3247	0.3811	0.4184	0.5190	0.5960	0.6572
36	0.2128	0.2710	0.3204	0.3761	0.4130	0.5128	0.5892	0.6502
37	0.2099	0.2674	0.3162	0.3713	0.4078	0.5067	0.5827	0.6435
38	0.2071	0.2640	0.3122	0.3667	0.4028	0.5009	0.5763	0.6369
39	0.2045	0.2606	0.3083	0.3622	0.3980	0.4952	0.5702	0.6306
40	0.2019	0.2574	0.3045	0.3579	0.3933	0.4897	0.5642	0.6244
50	0.1808	0.2308	0.2734	0.3219	0.3543	0.4434	0.5134	0.5708
60	0.1651	0.2110	0.2502	0.2950	0.3250	0.4080	0.4740	0.5289
70	0.1530	0.1955	0.2320	0.2738	0.3019	0.3799	0.4425	0.4949
80	0.1431	0.1831	0.2173	0.2567	0.2831	0.3570	0.4165	0.4666
90	0.1350	0.1727	0.2051	0.2424	0.2674	0.3377	0.3946	0.4427
100	0.1281	0.1639	0.1948	0.2302	0.2541	0.3212	0.3758	0.4221
200	0.0907	0.1162	0.1382	0.1637	0.1810	0.2300	0.2705	0.3054
300	0.0741	0.0950	0.1130	0.1340	0.1482	0.1886	0.2222	0.2513
400	0.0642	0.0823	0.0980	0.1161	0.1285	0.1637	0.1930	0.2185
500	0.0574	0.0736	0.0877	0.1040	0.1150	0.1466	0.1729	0.1959
1000	0.0407	0.0521	0.0621	0.0736	0.0815	0.1040	0.1227	0.1392