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THE IMPACT OF TEACHERS' PEDAGOGIC COMPETENCIES ON PUPILS' OUTCOME OF VOCATIONAL SKILLS IN SOME PRIMARY SCHOOLS IN THE, AKONOLINGA SUBDIVISION

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The undersigned certify that they have read and hereby recommend for acceptance by the University of Yaoundé 1**, A dissertation entitled: "THE IMPACT OF TEACHERS' PEDAGOGIC COMPETENCIES ON PUPILS' OUTCOME OF VOCATIONAL SKILLS IN SOME PRIMARY SCHOOLS IN AKONOLINGA SUBDIVISION",** in partial fulfilment of the requirements for the award of a master's degree in Curriculum and Evaluation from the University of Yaoundé 1

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DEDICATION

This work is dedicated to: my husband, Anyengoveng Syril Roger and my mother ; Ndifon Cecilia Nyoh, who pray for my good health every day.

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LIST OF ACRONYMS

ANOVA	Analysis of Variance
CRM	Classroom Management
CBP	Competence-Based Pedagogy
CBA	Competency Based Approach
CBE	Competency-Based Education
CLIL	Content and Language Integrated Learning
EP	Ecole Publique
FSLC	First School Leaving Certificate
GPA	Grade Point Average
ICT	Information and Communication Technology
ICTES	International Conference on Technological and Educational Science
ILO	International Labour Organisation
JHS	Junior High School
MI	Mathematical Knowledge for Teaching
MINEDUB	Medium of Instruction
MKT	Ministère de l'Education de Base
MOE	Ministry Of Education
NTS	National Training Service
OECD	Organisation for Economic Co-operation and Development
PPMC	Pearson Product-Moment Correlation Coefficient
SPSS	Statistical Package Service Solution
TVET	Technical and Vocational Education and Training
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organisation
VET	Vocational Education and Training

ABSTRACT

This study seeks to investigate the impact of teachers' pedagogic competencies on pupils' outcomes of vocational skills in some primary schools in Akonolinga subdivision. The problem stems from the inadequate pedagogic competencies of teachers in transmitting vocational skills to primary school pupils. Many pupils graduate from primary school with out acquiring necessary vocational skills. They lack life long learning skills and are not self reliance. This has raise the problem to what extend dose teachers pedagogic competencies influence pupils out come in vocational skill in the primary school in Akonolinga. The population of this study is made up of 170 participants, including pupils and teachers, randomly selected from schools in Akonolinga subdivision. The survey design methodology was used with closed-ended Likert scale questionnaires and observation guide to collect data to answer the research question. The data collected were analysed using SPSS version 20 using descriptive statistics such as percentages, frequencies, standard deviation and mean. The hypotheses were tested using the Pearson Product-Moment Correlation Coefficient, and the finding reveals that: teaching methods shows a moderate, statistically significant relationship with pupils' outcome in vocational skills, with r = 0.443 at a 0.05 level of significance. The use of pedqgogic resources show a moderate statistical relationship with pupils out come in vocational skills¨with r=o.475 at a o.o5 level. Teachers knowledge in content mastery has a strong positive statistically significant relationship with pupils' outcome in vocational skills, with r = 0.773 at a 0.05 level. Assessment strategies have a strong positive statistically significant relationship with pupils' outcomes in vocational skills, with r = 0.7233 at a 0.05 level of significance. The researcher recommend in service training to update teacher knowledge in the teaching of vocational skills so that they can transmite these skills to the learners. Teachers pedagogic competencies have a significant relationship on pupils outcome in vocational skills.

RESUME

Cette étude vise à examiner l'impact des compétences pédagogiques des enseignants sur les résultats des élèves en matière de compétences professionnelles dans certaines écoles primaires de la Arrondissement d'Akonolinga. Le problème provient des compétences pédagogiques inadéquates des enseignants dans la transmission des compétences professionnelles aux individus. L'échantillon était composé de 170 participants, dont des élèves et des enseignants, sélectionnés aléatoirement dans les écoles de la subdivision. L'enquête a utilisé un questionnaire à échelle de Likert fermée et un guide d'observation pour recueillir des données afin de répondre à la question de recherche suivante : Dans quelle mesure la méthode d'enseignement affecte-t-elle les résultats des élèves en compétences professionnelles à l'école primaire ? Quel est l'effet des ressources utilisées dans l'enseignement des études professionnelles sur les résultats des apprenants en compétences professionnelles à l'école primaire ? Dans quelle mesure la connaissance du contenu par les enseignants influence-t-elle les résultats des apprenants en compétences professionnelles à l'école primaire ? Dans quelle mesure l'évaluation et les stratégies d'évaluation influencent-elles les résultats des élèves en compétences professionnelles à l'école primaire ? Les données collectées ont été analysées à l'aide de SPSS version 20 à l'aide de statistiques descriptives telles que les pourcentages, les fréquences, l'écart type et la moyenne. Français Les hypothèses ont été testées à l'aide du coefficient de corrélation produit-moment de Pearson, et les conclusions suivantes ont été tirées : les méthodes d'enseignement ont une relation modérée et statistiquement significative avec les résultats des élèves en compétences professionnelles, avec r = 0,443 à un niveau de signification de 0,05. Les méthodes d'enseignement ont une relation modérée et statistiquement significative avec les résultats des élèves en compétences professionnelles, avec r = 0,475 à un niveau de signification de 0,05. Les connaissances en maîtrise du contenu ont une forte relation positive et statistiquement significative avec les résultats des élèves en compétences professionnelles, avec r = 0,773 à un niveau de signification de 0,05. Les stratégies d'évaluation ont une forte relation positive et statistiquement significative avec les résultats des élèves en compétences professionnelles, avec r = 0,7233 à un niveau de signification de 0,05. Dans l'ensemble, les compétences pédagogiques des enseignants influencent les résultats des élèves en compétences professionnelles dans les écoles primaires d'Akonolinga.

CHAPTER ONE
INTRODUCTION

Vocational education has gained increasing importance world wide in recent time including in Cameroon as a path way to equipped young learners with employable skills and reduces dependency on formal employment. Vocational education in the primary school focuss on the teaching of home economics; arts and craft and agro pastorial farming. The skills learners will acquire from studing vocational education include: cooking and food preparation skill to prepare a balance meals; sewing and cloth construction, making, mending, and maintaining cloths, children care and family living skill, maintaining personal and environmental cleanliness, vocational studies at the primary school will enable learners to acquire creative and design skills, hand craft skills, cultural appreciation.

At the foundation of every educational system lies the teacher whose pedagogic competence determines the quality of knowledge, skills and value tranfers to learners. In the primary school teachers are not suppose to transmitte only the basic literacy and numeracy skills but also lay the ground work for practical and vocational skills that enables pupils to become self reliance and productive in the society. Teacher ability to plan lessons, deliver, evaluate, use appropriate teaching methods, effective production and use of teaching resources, classroom management and effective assessment all make up teachers pedagogic competencies.

In basic education vocational studies at the primary school level is expected to prepare pupils for practical skills, by fostering creativity ,proble solving and hands on abilities. Despite the importance of vocational education, concern have been raise reguarding the adequacy of teachers pedagogic competencies in effective transmission of these skills to primary school pupils. Issues such as poor mastery of teaching methods, limited use of instructional resources and inadequate teachers professional knowledge hinders pupils performance and outcome in vocational studies. UNESCO (2015), Education 2030: Incheon declaration and frame work for action emphasis teachers competencies and vocational skills development as part of quality education goals.

Background of the study

The background of this study encompasses historical, contextual, conceptual, and theoretical foundations.

Historical backgroundof the study

This study is carried out in Akonolinga sub Division, situated in the central south of the central region of Cameroon precisely in Nyong et Mfoumou Division. In the north Akonolinga share boundary with Lembeyezoum and Ayos, in the south with Edom, in the east with Messamena and in the west with Mengang and having a total of 15092 inhabitance.

Vocational stunddies have been in existence since the beginning of humankind, when gatherers and hunters attempted to instruct their offspring in the use of weapons and cultivate their natural skills to survive. In Akonolinga vocational studies is practiced through the farming of food crops and fishing mostly kanga and cap fish. Vocational education have not been a historical priority in Cameroonian primary schools which instead focused on producing administrators during the colonial period. Following independence, vocational education was offen seen as a secondary option and was separated from general education. Through latter policy like the 2006 to 2012 education sector strategy began to emphasize the importance of professionalizing the work force. Current reforms like the 2019 and 2020 curriculum reforms focus on integrating core skills including interpreneurship and technology into the primary school curriculum to prepare pupils for various post primary paths. Mac Ojong (2008) presented the content of the Indigenous Vocational Studies curriculum, which draws from the economic, social, cultural, environmental, physical, and religious aspects of the Cameroonian indigenous population. Agriculture, trade, and craft are some of the skills that have been passed down from generation to generation and are emphasizes in the primary school (2018) curriculum. Recently, the Cameroonian government initiated a project to enhance vocational education by introducing a competence-based curriculum and fostering close collaboration with companies to develop a national qualification framework. This initiative ensures that training aligns with the market’s needs and workforce requirements. Vocational study in the primary school curriculum covers 30 percent of the entire work to develop a generation that will be able to meet its future needs.

Conceptual background

Pedagogical competence is the ability to manage students' learning, understand the learner, design and implement learning outcomes, and develop learners to actualize their

potential (Novianti,2019). According to Wali (2022), pedagogic competencies are generally referred to as the minimum professional standards required for a person to undertake specific educational roles, including the ability to manage student learning, which involves understanding the learner. Some teachers possess high levels of teaching ability and are regarded as having pedagogical competence, while others have low levels of teaching ability and are recognized as being unskilled. When a teacher possesses good pedagogical skills and can effectively manage the class, students become more engaged in the learning process Graham (2020). A competent teacher attends seminars, conferences, and workshops, possesses a good mastery of the curriculum, a solid understanding of the subject matter, and employs a variety of teaching methods and strategies in the teaching-learning process. Pedagogic competency components include an understanding of the curriculum development plan and a good understanding of the subject matter to be taught, as well as theoretical and practical applications. Competent teachers should be able to create and manage learning programs, plan lessons, design activities that cater to different learning styles, and prepare teaching aids that will engage learners and foster a deeper understanding of the lesson. Classroom management is also a component of pedagogical competency. Interacting with students and managing the learning process, maintaining classroom discipline, and creating an effective learning environment. Evaluate student learning to meet gaps and scaffold learners to higher levels, meet the needs of diverse learners, and achieve learning objectives. Hightower (2011) state that quality teachers are a crucial factor in determining the quality of the education system, as their competencies affect students' performance. The effectiveness of a teacher's pedagogic competencies should be seen in the learner's knowledge and understanding of concepts, skills, and attitudes. Zamzanis (2023) state that pedagogic competence encompasses all the methods teachers use to actualize the teaching-learning process, namely, the knowledge, skills, and attitudes that teachers effectively employ to facilitate learning.

The teaching profile encompasses three fundamental knowledge areas: ample knowledge in a given field of studies (technical knowledge), on relevant theories, concepts and information; skills on how to develop competent professional action (methodological knowledge), and attitudes, values, and norms that are inherent to the teaching profession (personal and participatory knowledge) in a critically reflexive and politically committed manner Bustillos Morales (2021).

Teaching competences should be viewed as a dynamic integration of cognitive and metacognitive skills that necessitate the development of learning how to think like a

teacher. They also require learning how to learn to become a teacher, that is, acquiring a teaching identity that will utilise these competences in professional practice (European Commission, 2013). A sound personal and professional experience that informs the decisions made to deal with everyday problematic situations also characterises the teaching profession Mas Torrelló & Olmos-Rueda, (2016), as well as resilience, interest, effort, cultural inclusiveness, and self-efficacy Almeida, 2021; Gibbs et al., (2022)

Vocational studies is education given to an individual for self-employment or gainful employment with the requisite skills. UNESCO (2015) refers to vocational education as all forms and levels of education that provide knowledge and skills related to occupations in various sectors of the economic and social life, through formal, informal, and non-formal learning contexts, both in school-based and work-based settings. The second International Conference on Technological and Educational Science ICTES(2020) describe vocational education in the 20th century as education that aims at attainable survival with an emphasis on the growth of life skills, learning skills and job skills that require students and teachers to be persuasive and constructive to improve themselves and their community productively, efficiently and with integrity. Vocational teachers play a significant role in producing learners who are not only knowledgeable in theory but also possess special skills acquired through vocational studies that can permit pupils to perform different tasks in the community. In primary school, vocational studies encompass agriculture and agro-pastoral farming, home economics, and arts and crafts. These studies will equip learners with knowledge and practical skills that can be applied in various careers, professions, and trades. It will lead to the development of skills in learners at an early age that will be necessary for various future occupations. Introducing vocational studies in primary school will foster a sense of career awareness, enabling pupils to become aware of the various occupations available and make informed decisions about their future. With 21st-century education that centres on critical thinking, problem-solving, and creativity, vocational education will develop these competencies in the learners while boosting their confidence and self-esteem. With the competence gained from vocational studies, pupils are expected to undertake a small project independently, utilizing the knowledge they have acquired in school, and to care for their animals at home, reviving a traditional practice. This will also enable the teacher to identify children's talents and hobbies, guiding and directing them to make informed choices.

Pedagogical competence has been defined by Walli (2022) as the minimum professional standard required for a person to undertake certain educational roles, the ability to

manage students' learning and understand their learners. It is the ability to use and coordinate a synergistic combination of tangible and intangible resources by an individual to enhance pedagogical efficiency and efficacy. A range of materials, both tangible and intangible, is required. These include books, articles, and cases, as well as technology, such as software and hardware. Teaching can only be considered a successful career path if a person possesses a minimum set of professional skills known as pedagogical competence (Abidin, 2021). Focusing on integrated aspects of educational challenges and typical tasks in real-world circumstances is the best way to understand pedagogical competency and create acceptable and successful outcomes for students. Personality traits relevant to their professional job that are not inborn but acquired via consistent instruction have been categorized by Wijaya et al. (2021) into four groups. (a) Important for teaching pedagogical talents, knowledge, and skills are things a teacher must learn before using a variety of teaching methods. (c) a specific body of knowledge about pedagogy and teaching methods that can assist the teacher in being more productive. (d) Teachers' attitudes and ideas about teaching, learning, and their job influence not just their choices, evaluations, and comprehension, but also their behaviours.

Learner outcomes

Student outcomes in education refer to what students know, can do, and demonstrate upon completing a course or program of study, which should be measurable and assessable. Bloom et al. (1956) introduced the concept of educational objectives, which are categorized into three domains of learning: cognitive, affective, and psychomotor enabling educators to design teaching content aimed at achieving desired outcomes. Alexadron (2020) and Weit (2021) state that assessing learning outcomes is essential for evaluating learners' actual accomplishments and the effectiveness of the teaching and learning process. Teachers are facilitators who direct pupils’ engagement in learning to achieve learning objectives. Skills are learning abilities and aptitudes that enable someone to perform specific tasks or activities effectively acquired through training, practice, and experience.

Rick (2024) defines skills as the individual's ability to perform specific tasks or solve problems at a higher level of proficiency, which is acquired through education, training, and practice (experience). Vocational skills are specialised knowledge and abilities that prepare students for specific careers, trades, and crafts, which are often more practical and hands-on, distinct from theoretical or academic education. When discussing learners' outcomes in vocational skills, we examine the levels of technical skill development, workplace readiness, and problem-solving abilities.

Theoretical background of the study

The study adopts three theories: Experiential theory by Kolb (1984), Constructivist theory by Jean Piaget and Lev Vygotsky, and Human Capital theory by Gary Becker.

Constructivism is a learning theory that posits that individuals actively construct knowledge and meaning from their experiences. It emphasises the role of learners as active participants in the learning process rather than passive recipients of information. Constructivism suggests that learners build their understanding and knowledge by interpreting new information and experiences through their existing mental frameworks, beliefs, and previous knowledge. Jean Piaget and Lev Vygotsky are proponents of constructivist theory. Piaget and cognitive constructivism identify four mental stages of learning, which are arranged hierarchically from simple to complex behavior, indicating that knowledge is created at the lower level before progressing to the next level.

The sensory-motor stage spans from birth to 2 years. At this stage, the child is focused on developing motor skills and becoming familiar with their environment through the use of their senses and muscles. The next is the preoperational stage from 2 to 7 years. The child can carry out operations that involve physical space, measurement, classification, and counting of objects, and reason intuitively. In the concert operational stage, from 7 to 11 years, the child begins to deal with abstract knowledge. They can perform operations with concrete things, and the final stage is the formal operational stage, which spans from 11 years to adolescence. Children can perform concrete and abstract operations, and learners reason systematically and logically. The final stage of the theory focuses on level 3 pupils in primary school, whose ages correspond to the formal operational stage. At this age, the pupils can perform formal operations on ideas and concrete operations on things. Pupils are capable of following concrete examples and modifications with several outcomes. This stage allows the emergence of vocational reasoning and the formulation of a hypothesis.

The social Constructivist part of Vygotsky's (1978) theory posits that individuals are active participants in the creation of their knowledge. He emphasizes the idea that humans generate knowledge and meaning from their experiences, mental structures, and beliefs that are used to interpret events and objects. Vygotsky states that learning occurs when learners construct meaning by interpreting information within the context of their own experiences, thereby constructing their understanding of the world. The zone of proximal development was best used to explain this theory, which is that a good teacher or more knowledgeable other (MKO)

identifies what the learners know and helps them cross the level of what they do not know (giving them support). The teacher should act as a facilitator to help learners bridge the gap between what they can learn independently and what they need assistance with. Swati (2023) highlighted that Vygotsky's theory of constructivism informs the current interest in collaborative learning, suggesting that members should have different levels of abilities so that more advanced peers can assist less advanced members in operating within their zone of proximal development. The knowledge of this theory creates awareness of the teaching methods teachers should use in teaching vocational studies and how to structure their work at the different developmental stages to achieve competencies in learner outcomes.

Another theory adopted for this work is the experiential learning theory by Kolb (1984), which posits that knowledge is gained through transformation and experience. He highlighted that concert experience, reflective observation, abstract conceptualization, and active experimentation form a four-stage process that transforms into effective learning. David Kolb analyzes four distinct stages: the concrete experience, which is the starting point where students engage in participating in workshops and hands-on activities, meeting new issues. The second stage is reflexive observation, where learners take the time to analyze and evaluate different perspectives. Abstract conceptualization is where student formulate concepts and ideas based on their reflection. The fourth stage is active experimentation, where learners apply what they have learned and test their concept. Experiential learning can be implemented in vocational studies, such as arts and crafts, home economics, and pastoral agriculture. It will bridge the connection between knowledge and skills such that direct experience will impact learners' outcomes.

Human capital theory, as proposed by Becker (1962), also explains the need for adequate vocational studies in schools. The theory posits that individuals possess a set of skills and abilities that can be enhanced through training and education. It emphasizes that investment in education and training enhances individual productivity, which in turn leads to higher earnings and economic growth as workforce capabilities and skills increase. The theory highlights the importance of investing in vocational studies with specialized skills, leading to a more productive and employable workforce. This theory should be an eye-opener for educators to implement vocational studies effectively.

Contextual background

Cameroon, like other countries in Africa, introduced the competence-based curriculum in 2018, leading to changes in instructional approaches and the assessment of competencies. To meet the country's educational aims, which include holistic development, quality education, economic development, social equity, cultural preservation, sustainable development, civic responsibility, and global competitiveness. These aims reflect Cameroon's commitment to creating a well-rounded educational framework that supports individual growth and national progress, in line with the nation's vision, as outlined in SDG4, to become an emerging state by 2035. This has highlighted the importance of equipping pupils with vocational skills at the primary school level, which has gained significant attention. Vocational skills encompass a wide range of practical abilities and competencies that enable individuals to navigate the complexity of the modern workforce, foster critical and creative thinking, and contribute to a move toward sustainable development goals. Central to this endeavour are teachers' pedagogic competencies, which must facilitate the effective transmission and acquisition of vocational skills. The researcher aims to determine whether the objectives of this curriculum are being achieved in the vocational studies domain of Akonolinga Sub-Division.

The United Nations agreed on the Sustainable Development Goals in 2015, aligning with the 2030 Agenda for Sustainable Development. These goals are urgent calls for action for all nations, developed and developing countries, to work toward peace and prosperity for all people, from the present to the future. Among the 17 Sustainable Development Goals was 'No Poverty', with a projected poverty rate of 7 percent by 2030; this goal aims to end extreme poverty. The second Sustainable Development Goal is to end hunger and all forms of malnutrition, double agricultural productivity, and promote sustainable agriculture. Sustainable Development Goal 8 emphasizes decent work and economic growth, particularly in light of the global pandemic's prevalence of unemployment and joblessness, which has been particularly prevalent in Africa, including Cameroon. This goal aims to promote sustainable economic growth, productivity, employment, and decent work. This goal aims to increase economic growth and productivity, achieve full and productive employment, expand the working youth population, and protect labour rights. Since 2015, most countries in Africa have revised their curricula in favor of new ones that align with the objectives of the SDGs and the rapidly changing economy. To achieve the emergency by 2035, the Cameroonian government developed the Growth and Employment Strategy Paper, which was updated and supplemented by 2020 with the National Development Strategy 30, guiding government action in terms of

development for the next decade. This national development strategy document provides major guidelines to various ministries in charge of education and vocational training, empowering them to train human resources that will enable the country to achieve its development vision. The 2018 curriculum for nursery and primary schools, which is currently in place, aligns with this vision. The curriculum aims to instill in learners responsible behaviour, knowledge, skills, and competencies necessary to meet the challenges of a rapidly changing world and promote development. It is also expected to enable learners to focus on what they can do after they leave school, becoming job creators rather than job seekers, thereby helping to eradicate the problem of rampant unemployment in Africa, and Cameroon in particular. Home economics, arts and crafts, and agriculture were regrouped in the curriculum as vocational studies to create a holistic foundation, orienting, identifying, and developing talents toward the professional life of the pupils. Schools in the Akonolinga sub-division, which have large spaces and many natural resources, are expected to utilize them more effectively in the teaching and learning of vocational studies for the benefit of the learners. Theories learned in class should be accompanied by practical activities carried out in the classroom, enabling pupils to acquire knowledge, skills, and attitudes. Pupils are expected to be seen carrying out small practical activities that demonstrate the skills learned from vocational practices taught in school.

However, observations have shown that teaching and learning in the Akonolinga sub-division still follow the old pattern of instruction. There is more classroom teaching and little or no practical work in vocational studies, which are supposed to involve more hands-on activities. The intermediary assessment, which still follows the old format, could have been an eye-opener to show that the objectives have not yet been met. The format for the FSLC examination, following the competence-based approach, has not been made known to teachers since 2018, indicating a lack of assessment and policy guides to lead teachers on what needs to be done and ensure that the objectives have been attained. The question is when teachers and learners will become acquainted with the change from the old system of teaching and assessment to the new one, following the principles of the competence-based approach. Many refreshable courses and seminars are taking place around the country, led by pedagogic animators and Parec agents, which focus on curriculum implementation. However, more needs to be done to teach and assess the domain of vocational studies, as it involves more hands-on activities than many teachers typically teach in a theoretical manner. Many teachers design their assessments, which, in most situations, lack the technical competence to design valid instruments to check the objective of the lesson effectively, and their assessments lack validity. So, teachers claim to teach following a competence-based approach, while their assessments

remain traditional, and at times, even the teaching methods used do not facilitate the acquisition of competencies. In most cases, competence is not acquired, as the level of acquisition cannot be judged, and most of these skills are unknown to the pupils. After evaluation and assessment, teachers record excellent performance for their learners. However, examining the learners' behavior at this present time of competence acquisition reveals no significant difference compared to their past behavior. This has led the researcher to investigate teachers' pedagogic competence in relation to pupils' acquisition of vocational skills in primary school, with the aim of enhancing the acquisition of skills in the domain of vocational studies.

Justification of the study

In order to improve education in the primary school requires an understanding of the factors that affect learning outcomes. Teachers and how they teach directly influence how pupils learn and acquire vocational skills. This study will help assess if teachers' training and teaching methods align with the goals of vocational education at the primary school level. Also, findings from the study will help inform policymakers and educational stakeholders of the gap in teachers' competencies in Akonolinga, which can help to orient target training programs and seminars and workshops on vocational pedagogy. The study will help to improve pupils' outcomes since the goal of education is to improve pupils' learning and development. By identifying the link and effectiveness between teachers' competencies and pupils' outcomes, this research supports efforts to enhance learners' practical capabilities and readiness for real-life tasks. Vocational skills at the primary school level contribute to local development by equipping pupils with skills for arts and crafts, agriculture and home economics, entrepreneurship and other trades. Ensuring that teachers can effectively teach this skills is important for the social and economic development of the society UNESCO (2015), Education 2030 frame work for action, highlight the need for integrating life skills and vocational education in basic schooling to meet sustainable developmentgoal 4 justify the need to verify teachers pedagogic competencies and pupils outcome on vocational skills in the primary school in Akonolinga.

Problem statement

In Cameroon, the quality of education, particularly in vocational studies at the primary school level, is significantly influenced by teachers' pedagogic competencies. These competencies encompass a teacher's knowledge, skills, and attitudes essential for effective teaching and learning processes. The Akonolinga Subdivision, like many regions in Cameroon, faces challenges that may impede the effective delivery of vocational education, thereby affecting pupils' outcomes. Many pupils graduates from primary school with out acquiring the necessary

skills; they lack hands on practical skills that may enables them to be self reliance in the society. For instance, a study conducted in the Buea Municipality revealed a significant positive relationship between these competencies and students' academic performance (Nadia, 2020). This underscores the critical role that teachers' competencies play in facilitating effective learning.

The problems of inadequate pedagogical competence among teachers and the lack of maximum mastery of the subject matter are fundamental in vocational education. This research is supported by previous studies that analyzed the decline in teacher competency standards in Indonesia Estriyanto, (2017). The competence of teachers in Indonesia tends to be low, both in teaching theory and practice (Astuti, 2021). The results of the study reveal that the professional competence of teachers in teaching is still not optimal, especially for teachers in vocational education, where the results of teacher professional competence obtained are in a low category Estriyanto (2017); Fakhrutdinova (2020). Likewise, other studies reveal that the pedagogical competence of teachers, in the perspective of 21st-century skills and the era of Industry 4.0, is still very low Ana (2020).

Despite the recognised importance of teachers' competencies, several challenges hinder the effective teaching of vocational subjects in primary schools in Cameroon. Inadequate infrastructure and resources are among the primary obstacles to progress. Many schools lack the necessary facilities and materials to support practical vocational training, limiting teachers' ability to provide hands-on learning experiences (Broken Chalk, n.d.).

Additionally, there is a notable mismatch between vocational training programs and the actual needs of the job market. This discrepancy results in the delivery of outdated or irrelevant skills, which diminishes the effectiveness of vocational education (Broken Chalk, n.d.). Consequently, teachers may struggle to impart skills that are applicable and valuable in the current economic landscape.

Teacher training programs in Cameroon often do not adequately prepare educators for the specific demands of vocational education. A study on pedagogic content knowledge in Cameroon's teacher education highlighted that the deployment of such knowledge was only slightly above average, indicating room for improvement in teacher preparation (Nkwetisama, 2024).

One of the most fundamental problems of vocational training today is how to respond to the development of science and technology in the 21st century (Salleh & Puteh, 2017). Teachers’ competence needs to meet the standard of global education.

The implementation of Competency-Based Education (CBE) in Cameroon aims to enhance educational outcomes by focusing on the development of specific competencies. However, the success of CBE heavily relies on teachers' understanding and application of competency-based approaches. Inadequate training and support for teachers in this area can hinder the effectiveness of CBE Nkwetisama (2024).

Furthermore, socio-economic factors, such as poverty and cultural attitudes, can influence pupils' engagement and performance in vocational studies. Teachers need to be equipped with socio-emotional competencies to address these challenges effectively and create an inclusive learning environment Nadia, (2020).

The lack of continuous professional development opportunities for teachers exacerbates these challenges. Ongoing training is essential for teachers to stay updated with current pedagogical strategies and vocational practices. Without such opportunities, teachers may struggle to adapt to evolving educational demands. (Nkwetisama,2024).

The immaturity of the pedagogical and professional competencies of teachers will of Course be increasingly problematic in implementing 21st-century competency-based learning. Learning that is currently oriented towards soft skill competencies with a critical mindset of Course requires the role of pedagogical and professional teacher competencies that are truly mature Caena & Redecker, (2019). This problem certainly cannot be allowed to drag on Without a clear solution. Strengthening the pedagogical and professional competencies of teachers need to be more mature through more intensive education and training Sasmoko (2020). However, providing the right level of training requires an in-depth analysis of the maturity level of teachers' pedagogical and professional competencies from the perspective of 21st-century skills

In rural areas like the Akonolinga Subdivision, these challenges are often more pronounced due to limited access to resources and training. This disparity can lead to significant differences in educational quality between urban and rural schools, affecting pupils' learning outcomes in vocational studies (ILO,2020).

Addressing these issues requires a comprehensive approach that includes improving infrastructure, aligning vocational programs with market needs, enhancing teacher training, and providing continuous professional development. By strengthening teachers' pedagogic competencies, it is possible to improve pupils' outcomes in vocational studies, thereby contributing to the overall development of the region.

The effectiveness of vocational education in Cameroon's primary schools, particularly the Akonolinga Subdivision, is closely linked to teachers' pedagogical competencies. Overcoming

the existing challenges necessitates targeted interventions aimed at empowering teachers, which in turn can lead to improved educational outcomes for pupils.

Purpose of the study

The purpose of this study is to investigate the impact of teachers' pedagogic competencies on pupils' outcomes of vocational skills in some primary schools.

Specific research objective

- Examine the relationship between teaching methods and pupils' outcomes in vocational studies.
- Examine the relationship between teachers use of pedagogic resources in the teaching of vocational studies and learner outcomes of vocational skills in primary school.
- Explore teacher's knowledge in the content of teaching vocational studies and pupils outcome of vocational skills in the primary school.
- To investigate the impact of assessment strategies used to assess vocational studies and pupils' learning outcomes in vocational studies.

Research questions

To what extent is the impact of teachers' pedagogic competencies influences pupils' outcome of vocational skills in primary school?

Specific research questions

- To what extent does the teaching method affect pupils' outcomes in vocational studies?
- To what extent does pedagogic resources used in teaching vocational studies influence learners' outcomes of vocational studies?
- To what extent dose teachers' mastery of vocational studies content influence learners' outcomes of vocational studies?
- To what extent do assessment strategies used to assess vocational studies have an impact on pupils' outcomes in vocational studies?

General research hypothesis

Ha: There is a significant relationship between teachers' pedagogic competencies and pupils' outcomes in vocational skills in some selected primary schools.

Secondary Hypotheses

- **Ha1:** The is a significant relationship between teaching methods and pupils' outcomes in vocational skills in primary school

- **Ha2:** The is a significant relationship between teachers use of pedagogic resources/materials in the teaching of vocational studies and pupils' outcomes of vocational skills in primary school.
- **Ha3:** The is a significant relationship between teacher knowledge of content matter in the teaching of vocational studies and pupil outcomes of vocational skills in the primary school.
- **Ha4**: There is a significant relationship between assessment strategies of vocational studies and pupils' outcomes in vocational skills in primary school.

Scope of the study

Thematic scope of the study

The main themes and focus area the study will address: teachers pedagogic competencies, teaching methods, assessment strategy, teachers content knowledge, vocational skills outcome which are the skills learners acquire in vocational studies in the primary school, learning resources which are the materials learners will use, practice and demonstrate in order to manipulate skills, pupils outcome is what learners are expected to acquire and end result in vocational studies, vocational studies and the subjects involve in the domain which are agro pastoralism, home economics and arts and craft. Skills acquisition looks at learners' ability to perform tasks, lesson planning and how teachers prepare their lessons, classroom management and lastly how teachers' competencies influence learners' outcome in skills acquisition in the primary school.

Theoretical scope of the studies

This is about the theories and conceptual framework that underpin the study. Constructivist learning theory by Vygotsky and Jean Piaget suggests that learners build knowledge actively and that teachers should be facilitators of learning, especially in skill-based vocational studies.

Also, competence-based education (CBE), which focuses on outcomes on measurable skills acquisition, aligns with vocational training outcomes. It is also base on the cognitive load theory by John sweller 1988 which focus on how the human brain process and store information. He proposes that human brain has a limited capacity and that instruction must be tailor in order to avoid over loading this capacity to promote effective learning.

Geographical scope of the study

Geographical scope defines the physical or spatial boundaries of the study.

This research is carried out in the Akonolinga sub-division, Nyong et Mfoumou Division in the Centre Region of Cameroon. It is limited to the primary school and particularly level 3 pupils. The sub-division is made up of 90 primary schools both government and private schools (Regional Delegation of Primary Education Mfoundi, 2025). The target population of the study is the class 6 pupils and the primary school teachers. The study focuses on the impact of teachers' pedagogic competencies on pupils' outcome of vocational skills in some selected primary schools. This study is delimited to class 6 pupils in the selected schools and primary school teachers in some selected government and private primary schools in the sub-division.

Significance of the study

The orientation law (1998) aimed at producing, organising and disseminating scientific and professional knowledge for development purposes. In line with the 2015 UN sustainable development goal 4which calls for free and quality education for all in primary and secondary education in order to meet the country's mission of being an emergent state by 2035, this research will help to ameliorate the quality of vocational education offered in the primary school. The findings will help in reviewing the effective and relevant application of teaching methods needed in the acquisition of vocational competencies.

The findings of this study will be useful in improving the policy governing school pedagogic inspections and control in the vocational studies domain to ensure that effective teaching methods and assessment strategies are used to achieve curriculum objectives and move toward the country's vision.

The findings of the study will help in the orientation of seminar and in-service training programs to throw more light on the teaching of vocational studies and improve teacher competence.

The study will also be beneficial to learners who will receive productive, practical and functional learning experiences and the acquisition of knowledge, skills, and attitudes that will prepare them for future challenges, career choices and lifelong learning.

The study will be of immense benefit to the government, the Ministry of Basic Education, educational administrators and educational policymakers as emphasis will be made on the effective implementation of vocational studies.

Furthermore, the data collected from this study will add more knowledge and information to the existing literature about pedagogic competencies and learners out come on vocational skills which other educationists can benefit from. The researcher may also identify gaps in this research that could be filled.

Operational definition of terms

Vocational education: a formal learning process focused on developing practical occupational skills based on specific jobs or occupations. (Carruthers & Jepsen, 2022)

According to UNESCO (2015) vocational education is formal learning devoted to the development of occupational skills, usually limited to several jobs.

Pedagogic competence: According to Channa and Sahito (2022) It is the professional ability for teachers to design , deliver and evaluate instructions. This is all about teachers' mastery of subject matter, knowledge to select teaching materials and how to carried effective assessment.

Skills: Individual capability to perform tasks and solve problems, which can be technical, cognitive and interpersonal skills. (Varela,2024)

Vocation education: An Occupation where individuals have specific technical training. (Cadefop,2020)

Pedagogy: It is the act and discourse of teaching. It is the skills one needs to know and command in order to make and justify decisions about the shape and the content of what is taught and how it is taught (Robin Alexander, 2020). It includes a knowledge base, reflective decision making and justification behind teaching practices.

Pedagogic resources: According to Mejia (2020), pedagogic resources are instructional materials integral to training and supporting teachers in pedagogy implementation or teaching.

Learning outcomes: The skills or knowledge students are expected to have after completing a course, focusing on what learners can demonstrate rather than what the instructor will teach (Fiza Rafique, 2023).

Assessment: According to Brown (1990), assessment is a related series of measures used to determine a complex attribute of an individual or group of persons.

Assessment strategy. Refers to the methods and approaches used to observe and gather information about how children complete tasks during a planning subset. Handbook of psycho educational assessment, (2001).

Subject matter or content: According to Vollmer (2024) is the science of subject-specific teaching and learning within and outside of the school.

CHAPTER TWO
REVIEW OF RELATED LITERATURE

In this chapter, we are going to review related literature that aligns with our research.The literature is discussed under the following sub-titles that is conceptual framework, theoretical framework, and empirical studies.

Conceptual framework

Vocational studies

According to the Cameroon curriculum for primary school (2018), Vocational studies is a practical subject which enables learner to showcase their talents and enhance their holistic development. Vocational studies is domain 3 of the curriculum, which prepares learners for the social and professional realities that they would face in life. It equips them with the capacity to adapt and transform their environment, which is done by providing relevant and contextual technical and vocational training starter. It provides learners with the opportunity to showcase talents, initiative, creativity, with a judicious use of knowledge, skills and attitudes in order to develop a generation that will be fully equipped to offer meaningful employment for themselves and at the same time possess the skills required for full participation in everyday life.

Vocational education is a form of education that prepares pupils and students for a specific job, bridging the gap between education and the world of work (Pavola, 2007).

Vocational education and training is the building of knowledge, skills and professional attitudes of individuals in various fields to make them self–reliant, self-sufficient and independent(Vysotsky, 2015). Most times, vocational education is further understood to be an integral part of general education, a means of preparing for occupational fields and effective participation in the world of work, an aspect of lifelong learning and preparation for responsible citizenship, and an instrument of promoting environmentally sound and sustainable development.

Pedagogic competence

The concept of competency implies more than just the acquisition of knowledge and skills; it involves the mobilisation of knowledge, skills, attitudes, and values to meet complex demands. Future-ready pupils will need both broad and specialised knowledge. Disciplinary knowledge will continue to be important, as the raw material from which new knowledge is developed, together with the capacity to think across the boundaries of disciplines and "connect the dots". Epistemic knowledge, or knowledge about the disciplines, such as knowing how to think like a mathematician, historian, technologist or scientist, will also be significant, enabling students to extend their disciplinary knowledge. Procedural knowledge is acquired by understanding how something is done or made – the series of steps or actions taken to accomplish a goal. Some procedural knowledge is domain-specific, and some is transferable across domains. It typically develops through practical problem-solving, such as through design thinking and systems thinking (OECD,2018).

According to Abd. Madjid et al. (2020) teachers' competence is a combination of knowledge, skills, and abilities, emphasizing the importance of these aspects in the context of teacher competence. Whereas Dayangku Suraya Awang Jafar et al. (2020) provided a more general definition, applying elements of a professional teacher's ability to realize oneself in a particular task, adapt to changes in the profession, as well as manage professional mobility and self-regulation.

Verloop, Van Driel and Meijer (2001) define the pedagogical "knowledge base" of teachers as all the pedagogical-related knowledge that is relevant to teachers' activities in a teaching-learning situation. This would include both theoretical or scientific knowledge (e.g. theories of learning and teaching-learning processes, as described above) and practical or practice-based knowledge (e.g. situated knowledge), but it is not meant to refer to guidelines or prescriptions for practice. Essentially, this knowledge base would comprise all the required cognitive knowledge for creating effective teaching and learning environments**.**

According to Mulyasa (2007), competence is skills, knowledge and abilities or capabilities that a person achieves, which become part of his or her being to the extent he or she can satisfactorily perform particular cognitive, affective, and psychomotor behaviours. So, competence is knowledge, skills and behaviour that enable someone to do something well.

Slavík (2008) states that teacher competence is a set of knowledge, skills and teachers' personal qualities. Teaching competency is associated with the complex combination of knowledge, skills, and abilities to have professional performance in the classroom as an educator.

Teacher competence is the teacher's ability to educate pupils in the teaching and learning process in order to create outstanding learners based on the four competencies they have, namely: pedagogical, personal, professional, and social competence (Nnisa,2020). Teachers' competence development should result in improvements in teachers' actions and pupils' achievement of learning goals. To support this, expertise should be used both on effective teachers' competence development and pupils' learning goals (Garet et al., (2001); Kuijpers, Houtveen, & Wubbels, (2010); Timperley, Wilson, Barrar, & Fung, (2007). Consensus is growing that for teacher professional development activities to be effective, the following features are important: content focus, active learning, coherence, duration and collective participation (Desimone, 2009; Garet et al., 2001; Penuel et al., 2007).

Irwanto and Yusuf (2016) state that the pedagogic competence of teachers has several indicators, namely: (a) teachers' understanding of the characteristics of students, (b) teachers' understanding of learning theories and the principles of educational learning, (c) curriculum development, (d) educational learning activities, (e) developing potential students, (f) communication with students, and (g) assessment and evaluation.

Pedagogic competence is the primary competence that teachers must possess in order to facilitate learning. Development of pedagogical competence is done by providing opportunities for teachers to improve their knowledge and skills to develop teaching materials and use various methods of learning in the learning process, providing the opportunity for teachers to take the initiative and creativity in working to develop insight knowledge (Payu, 2011).

Pedagogical Competence is one type of competency that teachers need to master. Essentially, pedagogical competence refers to a teacher's ability to effectively manage the education of students. Pedagogical competence refers to the skills of teachers to deal with three aspects of teaching skills, namely lesson planning, implementing the teaching and learning process, and assessing students' learning. According to Awandia (2021), pedagogical competence is the ability of teachers to manage the education of pupils, including setting up the learning environment, implementing learning activities, and evaluating student progress.

The concept of pedagogic competence also tends to be used with the meaning of the minimum professional standard, often specified by law, which should raise a person to fulfil a particular role in the teaching profession (Gliga, 2002). The emphasis on understanding pedagogical competence should focus on the integrated features that outline the ability to solve educational problems. Therefore, typical tasks should occur in situations of real pedagogical activities, applying knowledge, professional and life experience, values, and talents creatively to obtain appropriate and effective results. Sampson and Fyrtos (2008) argue that competence is regarded

from the perspective of human resource management of vocational training and education, in an attempt to observe the importance of the interdependence between personal characteristics, proficiency level, and context. Richard (2015) asserted that excellent pedagogic competence is an aspect of teachers' knowledge and skills. It encompasses teachers' awareness, classroom management, interaction, teaching language skills such as reading, listening, speaking, writing, grammar, and vocabulary, assessing language skills, and utilizing appropriate approaches, methodologies, techniques, and strategies. If the teacher can master those criteria and can also apply them in the classroom, then it means that the teacher has excellent pedagogic competence. Another definition, by Ryegård (2010), states that an important thing for all teachers to understand is students' needs in the classroom.

He disputes that learners dislike teachers who spend most of their time lecturing in the classroom. Lecturing time can demotivate students because they dislike being passive in class. Consequently, learners have limited input to the learning process. If it happens, the learning process will not run as well as the teacher expected.

Slavík (2008) categorized the teacher's professional competence into five items, which are as follows: a) Mastery of a systematic body of knowledge. b) Ability to apply practical experience in the specialization according to the subject of the study. c) Ability to transform the knowledge based on the subject of study. d) Ability to integrate interdisciplinary knowledge and create subject links. e) Ability to use information and communication
technology effectively.

Teaching competencies are the dynamic integration of cognitive and metacognitive skills that require developing the ability to think critically as a teacher. They also require learning how to learn to become a teacher, that is, acquiring a teaching identity that will utilize these competencies in professional practice (European Commission, 2013). A sound personal and professional experience that informs the decisions made to deal with everyday problematic situations also characterizes the teaching profession (Mas Torrelló & Olmos-Rueda, 2016), as well as resilience, interest, effort, cultural inclusiveness, and self-efficacy (Almeida et al., 2021; Gibbs et al., 2022).

Notwithstanding the vast amount of literature describing teaching competencies, recent foci have shifted to ‘new’ requirements for being a competent teacher at the beginning of the 21st century, following rapid technological advances, the social needs of increasingly globalized, multicultural, and economically unjust societies, and updated technologies in teaching resources. Appropriate pedagogical application of digital technologies (including online teaching and the evaluation of teaching practice) along with the ability to further the students'

digital competencies to choose the right environment and the appropriate tools (Esteve-Mon, Nebot, & Adell-Segura, 2020) have been recently highlighted as necessary to define an updated profile for professional development (BasilottaGómez-Pablos et al., 2021). In addition, culturally and linguistically relevant pedagogies (including the adoption of English as a Medium of Instruction (EMI) or Content and Language Integrated Learning (CLIL) and intercultural competence) (Boon-Nanai et al., 2022) and inclusive teaching that caters for special needs (Collins, Azmat, & Rentschler, 2019) have also been redesigning the teaching profile in education.

According to Jerez, Orsini, and Hasbún (2016), there are three key competencies of an 'excellent teacher' in primary education: generic competencies (personal,
attitudinal and communicational characteristics) that constitute the set of characteristics, attitudes and cross-curricular knowledge required in any professional area and that are transferable to different fields; pedagogical competencies (teaching and learning strategies, and planning and management) and that constitute the set of skills, capabilities and aptitudes that are developed exclusively in a pedagogical setting, and mainly involve the methods used to facilitate learning, as well as planning and management practices; and disciplinary competences, less valued by pupils than by teachers and that constitute the minimum required knowledge, skills, and attitudes in a given disciplinary field to teach.

Uktamova and Ubaydullaeva (2021) assert that teachers' professional competency affects pupils' academic progress. In the education sector, there is a direct correlation between a teacher's professional competency and a pupil's achievement. Furthermore, a competent teacher engages pupils in discourse and facilitates authentic learning through dialogue (Howe et al., 2019). When pupils and teachers participate in collaborative critical thinking, they build and construct information together rather than passively convey it. They reflect on, review, and share their experiences (Duonget al., 2019).

According to Kurnia-Irmawati et al. (2017), Pedagogical Competence refers to a teacher's ability to manage learning, which includes the ability to develop a learning system, interact with or manage the learning process, and conduct assessments. To achieve this goal, Merkt (2017) concentrated on four elements of pedagogical competence: personal development, institutional-based development programmes, rules and laws for the teaching profession, and
competency-based national standards. According to Daminov et al. (2020), effective classroom control, improving efficiency, maintaining discipline and morale, promoting teamwork, planning, communicating, focusing on results, analyzing progress, and making regular changes are all skills that a teacher should display. The active and equal engagement of students in

productive work should be ensured by organizing, assigning, and regulating time, space, and activities. Effective teaching strategies, encompassing various opinions, philosophies, and methods of investigation, are also important in the teaching of subject areas and concepts. Numerous teaching and learning techniques should be used to involve students in active learning. An experienced teacher builds up the critical thinking and problem-solving skills of students and uses learning materials in the classroom efficiently. Practical assessment, which includes formal examinations, responses, evaluation of classroom assignments, projects, student performances and achievement tests, also essential for understanding what students have learned. Learners should be involved in self-evaluation activities as part of assessment strategies to help them become aware of their strengths and needs, as well as to motivate them to set personal learning goals. Also, the type and amount of technology, as well as the necessary technology skills, are most appropriate for student learning (Murphy & Broadfoot, 2017).

Singh et al. (2022) defined teachers' competencies in nine distinct dimensions: field competencies, socio-cultural competencies, emotional competencies, communication competencies, information and communication technologies competencies, and environmental competencies. The abilities of teachers affect their classroom methods, professional careers, and personal behaviour. To accomplish this, many debates, discussions, and dialogues are necessary to strengthen the teaching faculty.

Teachers make a significant contribution to developing students' positive behaviour. It considers that teachers are the primary educational actors, playing a crucial role in shaping the learning activities of their students. Thus, pedagogical competence is an important skill for teachers to achieve educational outcomes optimally.

Pedagogic competence is the ability of teachers to manage learning, design and implement learning, evaluate learning outcomes, and develop students to actualize their various potentials (Yulianti, 2012; Jumiati Nur, 2021), especially in educational activities for students who have difficulties in the learning process. Teachers who have pedagogic competence would have the ability to manage the learning process effectively and achieve the expected goals (Ismail, 2015)

The importance of pedagogical competence relates to the ability of educators to understand the character of students, to find effective learning strategies, and to develop learning materials, media and learning resources and to assess the achievement of educational outcomes according to the expected goals. Teacher quality is the key to achieving learning goals optimally (Siregar, 2020; Sri Wahyu et al., 2021).

Pedagogic Competence is one type of competency that needs to be mastered by teachers. Pedagogic Competence is the ability of teachers to manage student learning. Pedagogic

Competence is a distinctive competence which will differentiate teachers from other professions and will determine the level of success of the process and learning outcomes of their students. This competence is not obtained suddenly but through continuous and systematic learning efforts, both in the pre-service period (education for prospective teachers) and during their tenure, supported by the talents, interests and other potential of each teacher (Yuli & Agus,2020).

Pedagogical competence refers to a set of teacher abilities related to the science and art of teaching students (Abosi & Alhassan, 2017).

Content knowledge

Pedagogic content knowledge refers to a wide range of aspects of subject matter knowledge and the teaching of subject matter (Shulman,1986). It is also the teacher's interpretations and transformations of subject-matter knowledge in the context of facilitating student learning (Shulman,1986). The distinctive bodies of knowledge for teaching are identified by pedagogic content knowledge, representing the blending of the content and the pedagogy, which leads to an understanding of how particular topics, problems or issues are organized, represented and adapted to the diverse interests and abilities of learners, and presented for instruction. Pedagogical content knowledge is the category most likely to distinguish the understanding of the content specialist from that of the pedagogue (Shulman,1987). Successful teachers wrestle simultaneously with issues of pedagogical content or knowledge, as well as general pedagogy (Ornstein et al,2000). A good teacher completes several activities of pedagogic reasoning: comprehension, transformation, instruction, evaluation, reflection and new comprehension (Ornstein et al,2000). Pedagogical content knowledge identifies the distinctive bodies of knowledge for teaching. It represents the blending of content and pedagogy into an understanding of how particular topics, problems or issues are organized, represented, and adapted to the diverse interests and abilities of learners, and presented for instruction. There is, however, much debate as to what these links are, and how Pedagogical content knowledge is formed.

Teaching Method

A teaching method is when the instructor shows the learner how to execute a task using a tool or observation before practical activites in vocational context. The learner demonstrates what he has aquired from the teachers demonstration method, project based-learning, cooperative learning, task based learning, problem solving, apprenticeship and simulation. (Okoro 1993).

According to Thomas (2000), a teaching method is a way of gaining knowledge and skill by working on practical activities using hands-on skills to solve complex problems through project-based learning in vocational studies.

Teaching Resources

Osuala (2005) describes teaching resources in vocational education as tools, materials and facilities used by teachers to facilitate content delivery. This include sewing machines, carpentry kits and ICT tools. In the context of primary education, these resources must be adapted to suit the skills development of pupils while facilitating hands-on learning.

Teaching resources can equally be defined as tools, materials and facilities used to make teaching effective and engaging. (Olaitan et al, 1999).

Assessment strategies

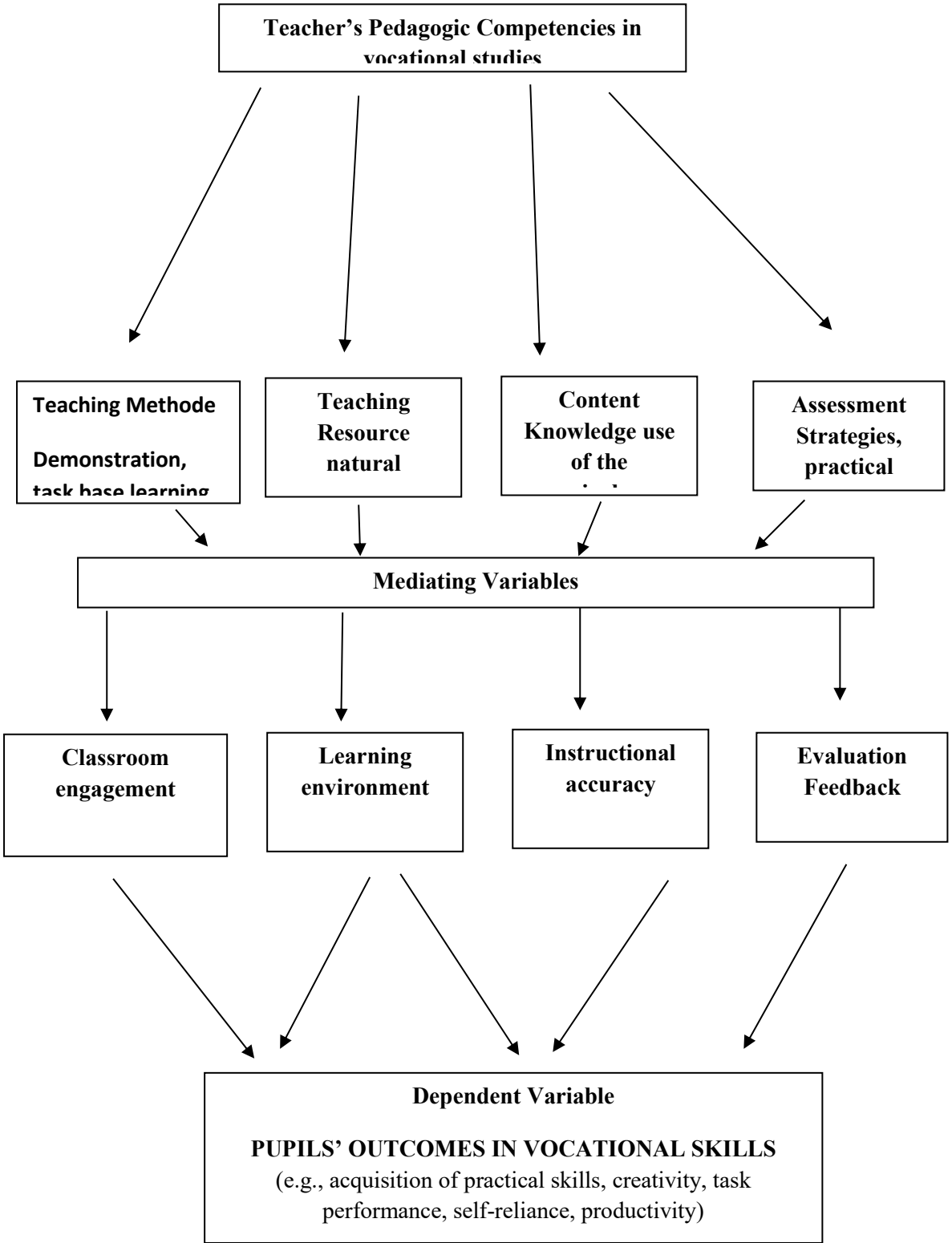
According to McDonald (2001), assessment strategies in vocational education is a set of procedures aimed at evaluating learners competence and performance in practical tasks. Equally, Tuxwort (1989) defines assessment strategies as a backbone framework used in vocational education to measure pupils performance through skills acquisition and practical knowledge.

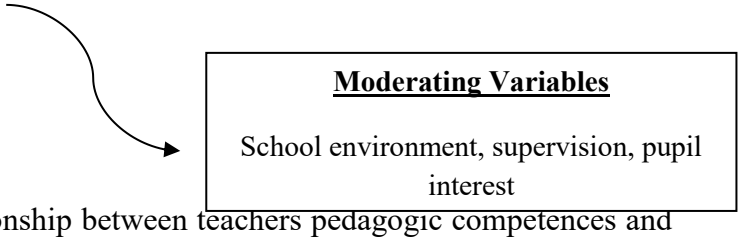
Black et al (1998) describe assessment strategies as providing continuous feedback for formative assessment while guiding learning and summative assessment to measure learners' final performance during vocational practical activities.

Pupils Outcome

According to the European Qualification Framework (2025), pupils' outcomes describe what a learner is supposed to know, understand and be able to do after completing a learning process in a vocational context.

Figure 1:Conceptual diagram





Source: fieldwork,2025

The conceptual diagram shows the relationship between teachers pedagogic competences and pupils outcome in vocational skills within selected primary schools for this study. The diagram provides a framework to understanding teachers competence in the classroom that impacts how people gain and demonstrate vocational skills. This pedagogic competence includes teaching methods used, resources, a mastery of content knowledge in vocational studies and the assessment strategies adopted.

Teaching methods determine how content is delivered and how people are engaged during lessons. When teachers use learnercentered approach like handson activities, demonstrations, amongst others to help pupils develop practical skills. The appropriate use of teaching resources facilitate the understanding of pupils.

Teachers mastery of the subject matter is essential as it provides adequate information for practical activities. Teachers assess learners through practical evaluation, observation or project based assessment to reinforce learning.

These pedagogic competences, through mediating processes like classroom engagement, learning environment, instructional accuracy and evaluation feedback, impact assessment outcomes.

The diagram also shows the role of moderating factors such as school environment, supervison, pupils interests. These factors may impact the effect of pedagogic competences on learning outcomes positively or negatively. This implies that poor infrastructure, inadequate skills and low pupils motivation limits effective teaching.

Theoretical framework.

Constructivist Learning Theory: Jean Piaget 1952

The constructive learning theory of Jean Piaget is based on the idea that learners actively construct their knowledge through experience and interaction. According to this theory, education should focus on problem-solving and critical thinking, encouraging learners to connect new information with prior knowledge. It is a student-centred learning approach, where teachers guide rather than direct, fostering deep understanding and application (Saul, 2025,

March 31). This theory is base on key fundamental principles of Learners are not passive recipients of information; instead, they construct knowledge by relating new ideas to prior experiences and interactions with their society,Knowledge is not simply transmitted; it is interpreted and understood in the context of each learner's ;The learner's perspective, interests, and cultural background play a significant role in shaping the learning process.

Piaget's theory of constructivism impacts learning curriculum because teachers have to make a curriculum plan which enhances their pupils' logical and conceptual growth.

Piaget's theory of constructivism argues that people produce knowledge and form meaning based upon their experiences. Piaget's theory covered learning theories, teaching methods, and education reform. Two of the key components which create the construction of an individual's new knowledge are accommodation and assimilation. Assimilating causes an individual to incorporate new experiences into old experiences. This causes the individual to develop new outlooks, rethink what was once misunderstandings, and evaluate what is important, ultimately altering their perceptions. Accommodation, on the other hand, is reframing the world and new experiences into the mental capacity already present. Individuals conceive a particular fashion in which the world operates. When things do not operate within that context, they must accommodate and reframe the expectations with the outcomes.

The role of teachers is very important. Instead of giving a lecture, the teachers in this theory function as facilitators whose role is to aid the student when it comes to their understanding. This takes away focus from the teacher and lecture and puts it upon the student and their learning. The resources and lesson plans that must be initiated for this learning theory take a very different approach toward traditional learning as well. Instead of telling, the teacher must begin asking. Instead of answering questions that only align with their curriculum, the facilitator in this case must make it so that the student comes to the conclusions on their own instead of being told. Also, teachers are continually in conversation with the students, creating the learning experience that is open to new directions depending upon the needs of the student as the learning progresses. Teachers following Piaget's theory of constructivism must challenge the student by making them effective critical thinkers and not being merely a "teacher" but also a mentor, a consultant, and a coach (https://www.teach-nology.com/currenttrends/constructivism/piaget/).

Some strategies for teacher include having students working together and aiding to answer one another's questions. Another strategy includes designating one student as the "expert" on a subject and having them teach the class. Finally, allowing students to work in groups or pairs and research controversial topics which they must then present to the class.

In the context of our study Piaget theory of constructivism provides teachers with a better of teaching methodes such as problem solving task, group work which are essential to help pupils develop vocational skills through practical activities in subject such agricultures, arts and craft and so on.Teachers need to engage learners through experimentation activities this permit them develop needs skills while transferring vocational skills to real life.

Cognitive Load Theory by John Sweller (1988)

This theory suggests that learners working memory is only able to hold a small amount of information at a time, instructional methods should avoid cognitive overload for better understanding during learning (Sweller, 1988).

According Baddeley and Hitch (1974), Cognitive Load Theory views human cognitive architecture as the working memory and long-term memory. , the working memory has a limited capacity and consists of multiple components that are responsible for directing attention and coordinating cognitive processes. Long-term memory, on the other hand, has an endless capacity for storage and works with working memory to retrieve information (Baddeley, 2003) Recalling prior knowledge before sharing new information with pupils will organized long term memory pattern of knowledge (schema). Each schema acts as a single item in working memory, so can be handled easier than having lots of new, isolated information. Through retrieving information from the long-term memory via quizzes, visual aids and discussions, pupils can bring essential information to working memory and assimilate new information to build upon what they already know (Baddeley, 2003).

Teachers need to have a mastery of vocational tool, teaching and learning aid to help learners easily understand abstract concepts in vocational education.For instance teaching dress making to pupil, teachers need real needles , fabric, and picture respresentation designs to better understanding of pupils.

David Kolb's Experiential Learning Theory, (1984)

Another theory adopted for this work is the experiential learning theory by David Kolb (1984), which posits that knowledge is gained through transformation and experience. He highlighted that concert experience, reflective observation, abstract conceptualization, and active experimentation form a four-stage process that transforms into effective learning. David Kolb analyses four distinct stages: the concrete experience, which is the starting point where students engage in participating in workshops and hands-on activities, meeting new issues. The second stage is reflexive observation, where learners take the time to analyse and evaluate different perspectives. Abstract conceptualisation is where student formulate concepts and ideas based on their reflection. The fourth stage is active experimentation, where learners apply what they

have learned and test their concept. Experiential learning can be implemented in vocational studies, such as arts and crafts, home economics, and pastoral agriculture. It will bridge the connection between knowledge and skills such that direct experience will impact learners' outcomes. Vocational training programs should integrate work, simulation activities and apprenticeships to provide pupils with concrete skills for the job market.

Human Capital theory of Gary Becker, (1950)

The classical authors of this theory include: Gary Becker, who is the founding father of the Human Development Index, which was developed in the 1950s by trying to determine the difference in income among college graduates in the United States. He proposed that; schooling, training courses, medical care and even lectures on personal improvements are capital that can increase earnings. Another founding father of the theory is Schultz 1961 who defines human capital as the knowledge and skills that people acquire through education and training, which is an investment that yields returns. His main proposition is that investment in people should produce returns. Education and training are viewed as the most important investments in human capital. This is because education provides benefits to the economy, which include: the cultivation and discovery of talent, the increased capability of people to adjust to changes, the preparation of teachers and the provision of manpower to achieve sustainable growth (Schultz, 1963). Another classical author is Mincer (1962) who proposed that the theory of human capital is education and schooling to prepare the workforce.

The Basic Concepts or Principles of the Theory are as follows;

The fundamental principle is that people's learning capacities are of comparable value to other resources involved in the production of goods and services(Lucas,1988). Therefore, to reduce income inequalities, one needs to reduce inequality in investments people make in human capital (education, health and on-the-job training other vocational training and so forth). These investments in education and training will lead to private and social returns in the form of greater productivity. In fact, this led to the ‘knowledge economy’ where individuals invest in education up to the point where the returns in extra income are equal to the cost of participating in education (Becker,1964).

The second principle proposed indicates that human capital includes investment in both informal education and training to enhance individual productivity (Psacharopolous & Woodhall, 1985). This can be accomplished through the provision of knowledge, skills and attitudes and motivation necessary for economic and social development. This principle was

further extended by Romer, 1987 who views human capital as a continuation of the new growth theory where increasing returns to organisations are due to investments in human capital through specialization

As a result of variations in human capital investments, could lead to variations in labour productivity and income in a free market which is mostly due to differences in labour quality (Cohn & Geske, 1990)

Therefore the framework of this study is better explained using the Human Capital theory. This theory according to Schultz (1963) emphasizes the role of investment in education to boost economic and social achievement. Human capital theory equally suggests that education or training raised the productivity of workers by imparting useful life skills to the individuals. In line with the above, Becker (1962; 1964) believed that the height of workforce production has a positive relationship with the educational and training form in which, the higher the educational and training form a person gets, the higher the productivity/achievement of an individual. According to Lange and Topel (2004), a person with great skills will be able to increase employers or workplace productivity. It is believed that by virtue of this theoretical framework, trainees need to possess new and employable skills that will enable them to function effectively and efficiently in the world of work. The theory can be summarized in the following model;

Empirical framework

Vocational education in Cameroon

In Cameroon vocational training is teaching meant to give the initial levels of qualifications necessary for the practice of trades or a group of trades. It allows for developing the necessary skills for a trade or a group of trades through theoretical technical studies on such a trade or group of trades. Vocational training culminates in a certificate. Vocational training is a subset of informal education in Cameroon (DDSEF, 2013). Vocational training guarantees the professional integration of graduates from the education system and thereby contributes to streamlining their flow. It comprises SAR/SMs and intensive vocational training centres. The duration of training varies from 6 to 24 months depending on the background of certificates. Vocational training in Cameroon intervenes at different levels from; the primary, and secondary to the higher education levels (structure of the Cameroon education systems.

According to Mvogo (2022), In the 2018/2019 academic year, Cameroon's Ministry of Basic Education (MINEDUB) adopted an immediate implementation of Competence-Based Pedagogy (CBP), teachers were forced to develop competencies in children after mastering the

new teaching method which will include The particular skills teachers were supposed to have according to these standards, there were (i) choosing and developing assessment methods, (ii) using assessment results for decision-making and grading, (iii) communicating assessment results, Moreover, (iv) recognizing unethical assessment practices.

Vocational studies are taught through agro-pastoral farming, home economics and arts and crafts. Arts and crafts will enable learner to acquire techniques to produce objects using natural found and recycled materials from their environment. Agro-pastoral farming will initiate learners' agricultural techniques and animal farming. Home economics will enable learners to have an interest in house management, such as laundry, house craft, food and nutrition, mothercraft and needlework.

The following teaching strategies and methods are recommended in the vocational studies and arts teaching Manual for primary school: flip classroom approach where pupils are assign to go back home and fine out the procedure to fabricate something, demonstration, practical session, project, simulation, individual and collaborative learning, explanation, experiment, guided tour and field trips, assignments. Resources teachers use to effectively deliver the instructions: home economics needle work equipment, samples of styles, magazines, catalogues, textiles, table mat, cloth, buttons, thread, books, fruits, grater, blender, mother, pestle, laundry materials and equipment, illustrative charts, bathing kits, kitchen utensils and magazines.

Resources used for the teaching of art and craft are: stones, mould, waving loom, painting brush, knife, harmer nails, scissors, stick, leaves, paper, pith, grass, feather, shells, scales, grain, beads, strings, threat, cloth, clay, soil, dough rounded needle, corks frame, newspapers, ropes, balls, broom and blind use clothes. Resources and materials used for the teaching of agro-pastoral farming: cutlass, diggers, hoe, rake, flowers, crops, tree seed, seedlings, gloves, watering can, dung, compost manure, used buckets and tires, food left over, fish, soya beans, snails and chick. Vocational studies and arts teaching Manual (2018)

Terminal learning outcome of vocational studies: use equipment to produce objects following a spelt out procedure, acquire knowledge, skills and attitudes for a productive workshop, home and effective home management, acquire knowledge, skills and attitudes to manipulate local materials through given processes and procedures to produce objects. Demonstrate a spirit of collaboration, high self-esteem, initiative, creativity, resourcefulness and good value judgement (curriculum 2018).

Expected learning outcomes of vocational studies (home economics) include stitching torn uniforms and cloth, cutting out patterns out of cloth, sewing stitches on different types of cloth,

sewing zips, buttons and hooks on cloth, sewing dusters, bibs and so on. Expected learning outcome for Arts and craft, constitutes a toolbox, fold different materials to produce different designs, shapes, figures, objects, use materials from the environment to produce different objects, moulding past, wave mat, cap, net and dress and so on. Expected learning outcome for agriculture: maintain agricultural equipment, till the soil, plant crops and flowers, weed gardens and farms, enrich the soil using different kinds of manure, plant seeds in the environment, run a nursery for local plant, produce animal feed, grow animals, match various livestock to disease, identify medicine for various animal infection and so on curriculum (2018).

According to Yaro (2024), CBA in vocational training of pupils in Cameroonian primary schools should develop critical thinking, problem-solving, cooperation, effective communication, motivation, persistence, learning to learn, IT literacy, and social and emotional skills. However, the results expected are inadequate, as teachers still face difficulties implementing vocational courses in their daily curriculum.

Content knowledge in Vocational Education

According to Alemnge (2024) teachers' content knowledge must comprise the following :

- Knowledge about instructional strategies and representations.
- Knowledge about students' subject-specific preconceptions and misconceptions.
- Teachers need to be dynamic in teaching methods to help people acquire vocational skills.

The potential of teachers to create their own Pedagogical content knowledge raises further debate on the relationship between experiential knowledge and the theoretical knowledge of teachers. Shulman (1986) suggests that while education has developed a great body of Pedagogical content knowledge, too little has resulted from careful and thorough research. Too great a proportion of the literature on education is based on opinion, beliefs and slogans. Alemnge and Oben (2024),suggests that in much of the Spontaneous behaviour of skilled practice, we reveal a kind of knowing, which does not stem from a prior intellectual operation (p. 51) Alemnge et al (2024), points out that this "kind of knowing" or tacit knowledge alone is not necessarily a good thing, since tacit stupidity exists, as well as tacit wisdom. There is need for other ways of perceiving theory and practice, while theory is about saying, practice is about doing, and theory and practice represent two different ways of knowing. Bromme (1995) states that it is important for teachers to differentiate in their own minds between "wisdom of practice", and the wider body of knowledge which exists. Goodson and Hargreaves (1996) suggest that teachers derive their skills from mediation between experience and theory. So, the

issue of solely theoretical knowledge requirements to define teachers' Pedagogical content knowledge is disputed, with a consensus view supported.

Kankam, Bordoh, Eshun, Bassaw, and Andoh-Mensah (2014) revealed that teachers utilize the acquired content knowledge to influence their teaching, thereby developing students' attitudes, skills, values, and knowledge. Danielson (2013) revealed that effective teachers possess in-depth knowledge of the curriculum, pedagogy, and essential content knowledge. This means that teachers with high levels of mastery of the content are competent in questioning as an instructional procedure.

Kyomuhendo and Kasule (2017) also revealed that there exists a significant relationship between a tutor's content knowledge and the primary teacher trainee's academic achievement. These studies, therefore, appeared to be in line with the current study methodologically, but their designs and instrumentation differed significantly from the current study. It is stated that Classroom Management (CRM) is linked to discipline or control, which predicts curbing undesirable student behavior, but does not involve only responding meritoriously when problems occur in the classroom (Little & Akin-Little, 2008). Fenstermacher (2015) opined that a teacher's classroom managerial competence positively influences students' behaviour and achievement.

Teachers' Pedagogic Competence as a tool for effective teaching and learning in Vocational Education.

Nellitawati. (2019 posits how the teacher's pedagogical competencies in the vocational high school of Padang City, with 86 research subjects, using the Teacher's Pedagogical Competencies Inventory. The study's results revealed that the teacher's pedagogical competencies in the vocational high school of Padang City are in a good category, and this needs to be maintained and further improved.

Teachers who have pedagogical competence are teachers who can understand students, teachers who understand learning materials both in theory and practice, compile learning devices using media or not, can evaluate learning activities, and can also motivate to develop student abilities (Katarzyna, Anna, Paulina, Anna, & Kinga, 2018; Raju, 2017). According to Government Regulation of the Republic of Indonesia No. 19 of 2005, Article 28, paragraph (a), concerning national education standards, pedagogical competence is defined as the ability to manage learning, which includes understanding students, designing and implementing learning, evaluating learning outcomes, and developing students to actualize their various potentials.

Teachers require significant effort to improve their pedagogical competency, which involves engaging in professional development programs such as training, workshops, and mentorship

(Sergeeva, 2019). Pedagogical competence encompasses the ability of educators to proficiently incorporate, devise, and execute instructional and learning methodologies that incorporate proficiency in educational technology within pedagogical approaches, while effectively addressing the diverse learning styles of students (Marisca et al., 2023). According to Flores (2017), educators must possess a strong foundation in pedagogical competence across multiple domains, including, but not limited to, classroom management, understanding of student attributes, curriculum design, lesson preparation, and effective teacher communication. According to Emiliasari (2018), it is common for young educators to demonstrate exceptional proficiency in particular domains, such as information and
communication technology (ICT) and the utilization of media in instructional practices. The significance of evaluating teachers' pedagogical ability to enhance teacher performance has been emphasized in several studies (Witari,2020).

According to Azizah et al. (2023), pedagogic competence encompasses various indicators that must be satisfied, demonstrated through the execution of the learning process, and customized to align with the demands and criteria of performance evaluation.

Setiawan et al. (2025) researched "Assessing the pedagogical competence of productive teachers in vocational secondary schools," adopting a mixed-methods approach. The participants in this study consisted of 55 highly effective educators employed in vocational secondary schools. The research data were acquired using effective teacher questionnaires, peer evaluations, observations, and comprehensive interviews. The findings indicated that a majority of highly effective educators possess a strong comprehension of the practical application of pedagogical competence. Nevertheless, a marginal disparity exists between academic knowledge and its practical application in the respective domain. The facilitation and support of teachers in the development of their pedagogic competencies is a crucial responsibility of school principals. Practical and well-structured ongoing training is essential
to bridge the divide between theoretical concepts and practical application, and to guarantee that educators possess the requisite expertise and understanding to tackle the demands of the current and future educational landscape. Hence, it is imperative to allocate resources towards teacher professional development and ensure the availability of sufficient assets in vocational secondary schools in order to attain educational excellence in Indonesia.

Vocational education has emerged as a global agenda, together with the advancements of the Fourth Industrial Revolution, enhancing teachers' professional development. While adapting teachers’ training to the needs of pupils to improve their skills. (Diao & Hu, 2022). The Ministry of Education in Malaysia emphasizes TVET programs to produce skilled pupils and students

who meet the demands of the job market (MOE, 2023). Vocational education, which begins at the secondary school level and has now spread to the primary level, has opened opportunities for pupils to explore various skill areas encompassing aspects such as Arts and Crafts, information technology, entrepreneurship, engineering, and services (UNESCO, 2013). Programs are designed to provide early exposure to industry practices by integrating theoretical and practical learning within the curriculum (Mohd Noor, Wan Ismail, Wan Mahmud, & Salleh, 2024). In Cameroon, today, primary school curricula have been revised to help learners develop competencies in vocational education. In this context, teachers play a crucial role in providing quality and relevant education (Tee et al., 2020; Yunos et al., 2019). However, questions arise regarding the extent to which teachers possess sufficient competencies to apply concepts and understandings in vocational education, especially in regular secondary schools (Mohd Noor et al., 2024). According to Kert (2020), teachers' deep understanding of the subject matter can prevent misconceptions among pupils. Putra et al. (2021) stress that teachers' mastery of subject content can enhance creativity and pedagogical diversity, thereby attracting students' interest and active participation in the teaching and learning process. Therefore, developing teachers' professionalism, especially in improving pedagogical knowledge and content, becomes a priority to ensure effective teaching and learning (L. Liu et al., 2022).

The primary challenge of vocational education is the need for teachers to possess a comprehensive mastery of the subject matter they teach. This capability is crucial to ensure that concepts and understandings are effectively communicated to students (Kert,2020). However, it has been recognized that many teachers are still to master the relevant curriculum, partly due to the absence of a specific curriculum for TVET teachers and a gap in the academic qualifications required for these educators (Nkwadipo & Rabaza, 2021; Von Christopher, 2020). This situation also influences the development of their pedagogical skills, subsequently leading to constraints in adapting suitable teaching approaches. According to Nopriyeni et al. (2019), due to a lack of professional development training or limited resources, teachers have difficulties implementing curriculum linked to the development of vocational skills in pupils. Through Seminars and workshops, teachers can learn from each other and implement more effective teaching techniques in their classrooms (Thi & Huyen, 2022).

Vocational teachers must possess competence in managing learning that is oriented towards the development of 21st-century student competencies (Wagiran et al., 2019). Being able to facilitate students' learning in an interactive, collaborative, communicative, and innovative manner is the primary requirement for vocational teachers (Chai & Kong, 2017).

In the process of working, the competence of vocational teachers must be developed, monitored, and evaluated within a specific period. This activity is crucial for enhancing the quality of vocational learning (Šafránková & Zátopková, 2017). Teacher competencies that must be developed, monitored, and evaluated are contained in the standards of educators (Almeida, 2017). Teacher competency standards are a crucial aspect, serving as a standard reference for the quality control of teacher performance (Halász & Looney, 2019). However, teacher competency standards must adapt to the context of changing competency needs (Caena & Redecker, 2019). Therefore, it is crucial to assess teacher competence in light of the characteristics of 21st-century competency needs.

The complexity of vocational learning requires teachers who have a high acceptance of these two competencies in managing to learn, both theory and practice (Mutohhari et al., 2021).

However, the reality is that most primary school teachers still have a low acceptance of pedagogical and professional competencies in vocational training (Leonard & Wibawa, 2020). The low quality of vocational learning, both in theory and practice, is primarily attributed to the teachers' low pedagogical and professional competence (Rachmawati & Suyatno, 2021). In addition, low student learning outcomes are also attributed to the lack of maturity in the two competencies (Istiqomah et al., 2019).

Rahmawati et al (2021), on the Impact of Pedagogy and Teachers' Professionalism Competencies Towards Teachers' Performance of State Vocational School in Sekayu. This research employs a quantitative methodology, distributing a questionnaire to 110 teachers from state vocational schools in Sekayu. Furthermore, the gathered data is analysed using the Statistical Package Service Solution (SPSS). The research findings show that there is an impact of pedagogy competencies toward teachers' performance of state vocational schools in Sekayu with the number of 50%, equal to 10.314 and T-tabel equal to 19.822, There is an impact of professionalism competencies toward teachers' performance of state vocational schools in Sekayu with the number of 53% with T-value equal to 10.977 and T-table equal to 19.822, and 3. There is an impact of pedagogy and professionalism competencies on teachers' professionalism in state vocational schools in Sekayu, with a percentage of 58% and an F-value of 74.919, corresponding to an F-table value of 3.08. This research concludes that improving teachers' performance at state vocational schools in Sekayu requires pedagogical and professional competencies.

Yuli et al (2020) study the effect of pedagogic competence on student learning outcomes. The population in this study consisted of 41 students from a physics class at a high school in Pati. Collecting data by observation, interviews, and distributing questionnaires. The questionnaire

method was used to collect data on the independent variables of Pedagogic Competence and the dependent variable of Learning Outcomes. Test the research instrument by testing its validity and reliability. The data analysis technique employed is multiple regression analysis, with the coefficient of determination, T-test, and F-test used at a significance level of 0.05. Before analyzing the data, a prerequisite analysis was conducted, including normality tests, multicollinearity tests, and heteroscedasticity tests. The results of this study indicate a significant influence of pedagogical competence on student learning outcomes in the learning evaluation course.

Komaro et al (2022) analyze the pedagogical competence needs of vocational lecturers. Identifying learning development problems and needs related to the preparation of vocational lecturers can help produce skilled vocational lecturers. The research method employed is a quantitative approach, utilizing surveys through the distribution of questionnaires to vocational lecturers at Polytechnics in West Java, Indonesia. The findings indicate that lecturers have a 76% understanding of students' backgrounds. 82% of lecturers have compiled a complete Lesson Plan, both for activities in the classroom and outside the classroom. The mastery of vocational lecturers in applying learning materials, media, methods, and laboratory equipment is very high, exceeding 83%. This aligns with the characteristics of vocational education, which must prepare students or graduates to quickly adapt to the workplace environment. However, the activity of quiz-making through online media is classified as moderate at 68%, whereas online learning and evaluation methods are beneficial, as these methods are pretty effective. The ability of vocational lecturers to conduct pretests before learning activities has a low score of 76%. This finding suggests that several difficulties exist, one of which is a lack of awareness about the urgency of the assessment. The pedagogical competence of vocational lecturers plays a crucial role in the success of learning, both in the classroom and during practical training.

According to Tuah et al. (2021), the pedagogical and professional competence of vocational teachers remains a fundamental question in the education and learning system. In the 21st century, teachers are required to have high pedagogical and professional competencies. This study aims to analyze the extent of the pedagogical and professional competencies of vocational teachers. This research is a descriptive study using a quantitative approach. A total of 232 vocational teachers became respondents in this study. Data were collected through a questionnaire method with an instrument in the form of a 4-Likert scale questionnaire. The data collected were analyzed using descriptive statistics and inferential Tests, which included a one-way ANOVA test and an independent-sample t-test. The results showed that the pedagogical competence of vocational teachers was in a low category. Meanwhile, the professional

competence of vocational teachers is in the high category; however, in some indicators, it remains in the low category. Various forms of retraining are needed to enhance the pedagogical competence of vocational teachers; meanwhile, psychological approaches must also be employed to improve the professional competence of vocational teachers.

Kporyi et al. (2021) investigated the pedagogical competence of teachers and its influence on students' academic achievement. The descriptive survey research design was adopted, and the census (all) sampling technique was used to sample 250 Junior High School (JHS) teachers in Ashaiman Municipality. The collected data from the closed-ended questionnaire was analysed with mean and standard deviation on a scale of 1-4, and Pearson's Product-Moment Correlation was used to test the hypothesis. The study revealed that, as a pedagogical competence, the teachers provided appropriate feedback, adapted to changing conditions, explained content to students, and communicated learning goals effectively. It was also found that there was a weak positive relationship between the classroom management competence of teachers and students' academic achievement. The study, therefore, concluded that the pedagogical competence of teachers could help promote deep knowledge, understanding, and expectation among students if teachers' pedagogical competencies are practical. Additionally, when teachers enhance their knowledge and competence in classroom management, they can foster high expectations for students' social support, guidance, and independent thought in learning. Recommendations were made to the municipal education directorate, the Ghana Education Service, and the Ministry of Education, Ghana, based on the findings.

According to Khoeriah (2021), the pedagogical competence of teachers in vocational skills for students with intellectual disabilities. Vocational skills teachers at Special Education Schools are required to master the types and characteristics of students with special needs and the basic principles of special education. The research subjects were 37 special school teachers in West Java Province. The research employed a quantitative approach, utilizing a survey method as a tool for evaluation. The research aimed to validate the effectiveness of the life skills training program model in developing social independence and productive work skills among students with mild intellectual disabilities. The data was analysed with percentages and the result showed: that pedagogical competence in planning was quite good (88,5 %); the understanding educators believe in the importance of identifying individual programs (90%); educators conditioning the initial learning activities well (90%); the understanding of educators in competence to carrying out skills education well (90,5%), including: mastery material component development of systematic training strategies; e)reflection of educators by involving participants (87%), follow up by paying attention to completion of the participant's

assignments and by giving directions for enrichment activities or tasks (89). The results of this study have significant implications for the development of the quality of educational services for students with disabilities in schools.

Teaching and learning at vocational schools through the teachers', pupils', and administrators' perceptions. The research design was employed, and data were collected from eight vocational schools in Nevşehir, Turkey, from 8 administrators, 16 teachers, and 16 focus groups through semi-structured interviews and non-participant observation. Data analysis, conducted through an inductive content analysis approach, revealed that effective vocational teaching and learning were defined from two perspectives: product-oriented teaching versus process-oriented teaching, and product-oriented learning versus process-oriented learning. Additionally, the data revealed the aims of higher vocational education, as well as the characteristics of effective vocational teachers, learners, and programs. The challenges faced were found to be related to teachers, pupils, curriculum, context, system, employers, and parents. Finally, the findings related to strategies for coping with these challenges were categorized into teacher-led, student-led, and administrator-led practices, along with recommendations for improving effectiveness (Sarıkaya & Yıldırım, 2019).

Awandia (2021) examined the Influence of teachers' Competence on Students' Learning in Some Selected Secondary Schools in Buea Municipality. Four research questions were formulated to guide his study. The study adopted a survey research design. The target population of the study consisted of 5,992 students, drawn from six secondary schools that were selected using a stratified sampling technique. The accessible population consisted of 703 form four students drawn from the six schools. The sample consisted of 300 students. This sample size was obtained using a simple random sampling technique. A closed-ended four-point Likert scale questionnaire was used for data collection. To ensure the reliability of the questionnaire, the instrument was pilot-tested in a school not included in the study. Their responses were subjected to Cronbach's Alpha Coefficient reliability test, which yielded a value of 0.713. The data was analysed using the Pearson product-moment correlation coefficient.

The findings revealed that there exists a significant positive relationship between teachers professional, pedagogic, socio-emotional, and personality competence and students' learning in secondary schools in Buea Municipality. Based on the findings, the following recommendations were proffered; teachers should partake in seminars/workshops if possible because this will improve their teaching competence; educational administrators should equip the regional pedagogic inspectors with sufficient pedagogic didactic materials that they can use to train or carry out in-service training for the teachers doing seminars/workshops, principals

should encourage mentor-mentee relationship among teachers of the same department because this will help train the novice teachers on all the aspects of competence and this will intend to booze their self-esteem. Moreover, lastly, the decision-makers should recruit more trained teachers to reduce the teacher-student ratio. This is very important because teacher competence can only be effective in a classroom that meets international standards of the teacher-student ratio.Asbari (2020) posits that teachers are professional educators of scientists with the main task of transforming, developing, and disseminating science, technology and arts through education, research, and community service. The teacher plays a major role in education development, in particular, formal education on campus. Teachers greatly determine the success of students, especially concerning the learning process. The teacher is the most important component that influences the creation of processes and results in quality education. Pedagogic competence is often not understood by some teachers, with a few teachers who only teach without wanting to know that Pedagogic ability is the ability in learning or education, which contains an understanding of things related to the nature of students, characteristics of students, and their development.

Teachers are expected to understand the characteristics, character, level of thought, and physical and psychological development of students. By understanding these things, the teacher will easily understand the difficulties and the ease with which students learn and develop themselves, so that the teacher will easily help students developAccording to Mulyasa (2007) cited in Yali (2020),

The importance of a teacher having pedagogical competence is that teachers can develop their students' abilities maximally because teachers who master several theories about education by understanding various educational theories can choose which one is the best to help the development of students. In addition, the teacher is also expected to understand various learning models. By increasingly understanding the many learning models, it will be easier for him to teach children according to their needs. Increasing the pedagogic competence of teachers will prevent monotonous learning activities. Teachers are required to be able to present material optimally; in other words, a teacher must really have good competence in educating, especially the competence of teachers in learning. According to Rahmawati and Happy (2021), Technical competence is the capacity of teachers to thoroughly and profoundly master learning content, structure, principles, and scientific patterns of thinking that help the topic being taught, mastering the principles of integrity and basic knowledge of the subjects discussed, developing innovative learning materials, sustainably developing professionalism through reflective intervention, leveraging information and communication technologies to improve oneself.

Pedagogical competence is the ability to understand students and manage educational and dialogical learning (Hakim, 2015; Lauermann & König, 2016; Mirzagitova & Akhmetov, 2015; Nellitawati & Boon, 2018).

According to Law No. 14 of 2005 concerning Teachers and Lecturers, pedagogical competence is the ability to manage student learning (Indonesia, 2005). Another opinion states that pedagogical competence involves understanding students, planning and implementing learning activities, evaluating learning outcomes, and developing students to actualize their various potentials (Andryukhina et al., 2016). It can be concluded that pedagogical competence is the ability to manage learning, which encompasses planning, implementing learning activities, evaluating learning outcomes, and developing students' potential while facilitating their learning to achieve the expected learning objectives.

The indicators of teacher pedagogic competence utilized in this study are based on the guidelines outlined in the Minister of Education regulations in Indonesia. These indicators encompass the following: i) proficiency in understanding learner characteristics, ii) mastery of learning theory and principles, iii) curriculum development, iv) implementation of educational learning activities, v) cultivation of learner potential, vi) effective communication with learners, and vii) assessment and evaluation. This study thoroughly examines the evaluation of effective teachers in vocational secondary schools, focusing on pedagogic competence assessed through various indicators. These indicators include the teacher's mastery of learner characteristics, their understanding of educational learning principles and theories, and the curriculum development, educational learning activities, the development of learner potential, communication between the teacher and learners, and the ability to conduct evaluations and assessments.

Teacher competency standards are an important aspect as a standard reference for quality control of teacher performance (Halász & Looney, 2019). However, teacher competency standards must adapt to the context of changing competency needs (Caena & Redecker, 2019). Therefore, it is crucial to assess teacher competence in light of the characteristics of 21st-century competency needs.

Teaching Resources

Teaching resources are essential in vocational training in primary schools, as they serve as the connection between theoretical and practical knowledge. Some teaching resources include instructional materials (visual aids, textbooks, tools, equipment), human and material resources(teachers, workshops and ICT facilities),

Instructional Materials

According to Agun et al (1988), instructional materials are tools that facilitate the teaching and learning process in school. This may include; visual aids, textbooks, tools, equipments to make abstract concepts easily understood by pupils in vocational education. This motivates learners and encourages engagement during lessons.

Human and Material Resources

Amoore (2009) explains that vocational education relies on human resources such as qualified teachers and experts to support skill development in pupils, while material resources include the physical infrastructure that facilitates teaching and learning in vocational education, such as sewing machines, carpentry workshops and computer laboratories.

Teaching Methods in Vocational Education in Primary Schools

There are several teaching methods in vocational training, amongst which, project-based learning, demonstration methods, experimental learning, cooperative learning, task-based learning, problem-solving methods and apprenticeship or simulation methods (Okoro 2000).

Project-based Learning Method

According to Thomas (2000), project-based learning helps people acquire skills and practical knowledge through working on projects that require critical thinking, innovation and creativity. In vocational education in primary schools, pupils are trained on growing crops, preparing dishes, and sewing clothes. All of these help learners to transfer classroom-acquired skills to real life and job contexts.

Demonstration Method

Okoro (1993) emphasizes that, demonstration methods allows the teacher to show the learner how to perform a task within a precise context. The pupil is expected to reproduce what was demonstrated effectively. The teacher might show how to weave sew, and even how to cook a local dish.

Experimental Learning Method

Kolby (1984) states that learning through experience can help people gain deep understanding of vocational activities. During practical activities, such as gardening, pupils learn by doing, which helps them retain practical skills in agriculture.

Cooperative Learning Method

According to Alemnge (2004), cooperative learning promotes group work amongst pupils as they work on tasks assigned by their teacher. This encourages peer-to-peer learning through confrontation of ideas to come out with effective solutions for mini school-based projects in line with vocational training.

Task-based Learning Method

According to Wills (1996) task task-based learning is an approach that requires the learner to complete a task, stimulating learning learning by doing and completion of tasks, helping learners gain critical thinking skills in a vocational domain such as carpentry, sewing, cooking and drawing.

Problem-solving Method

Hmelo (2004) describe this method as learner-centred, inquiry based, resolving practical problems, where pupils are asked to develop a solution to a practical problem within their context. Using locally found resources to solve complex problems like pollution.

Apprenticeship Method

Here, the learner is trained in a vocational activity for a longer period, where he gains the opportunity to practice and perfect his art. (Lave&Wenger,1991)

In this globalized world, teachers and educators must rethink the methods and strategies they use to teach technical and vocational education lessons. As Wieckenberg (2014) argued, the world outside of school is changing, necessitating the use of modern methods for several reasons: changing job requirements, the existing gap between the world of work and the world of education, the need to align learning objectives with social needs, and new demands in education due to globalisation. Additionally, there is the emergence of a knowledge society, the overall trend toward lifelong learning, and the growing importance of generic skills. It is important to note that there is no lesson that employs only one single method of teaching; rather, multiple methods must be employed. For instance, in teaching technical drawing, teachers often adopt wall maps, blackboards and chalk, and demonstrate the meanings of drawings through model demonstrations (Akpan, 2001). A study by Fletcher, Djajalaksana, and Eison (2012) found that in teaching career and technical education, interactive lectures, questioning, whole-group discussions, and guided practice were the most commonly used methods. Online lectures, video creation, and student-generated examinations and quizzes were infrequently used. Other studies by Ahmad (2012) and Ahmad et al. (2017) provided evidence suggesting that while teaching electric, diesel, and automotive diesel, teachers do not rely on a single teaching method; instead, they employ a variety of methods. Regardless of the teaching methods used, Bannister (2007) cautioned that they must align with the aims the teacher attaches to their work. The author summarised two aims of teaching technical subjects: to present technical information so that it can be understood and acquired, and to develop students' abilities for rational reasoning. Furthermore, the choice of a particular teaching method needs to consider students' learning. Here, learning refers to the change in students' behavior that occurs as a

result of teaching. Brown (2004) viewed learning as acquiring facts or procedures that are to be used.

Guardino (2015) testified that teacher classroom management is one of the most important responsibilities of a teacher, as it significantly determines the success of instruction. During the instructional process, efficient teachers appear to be professionals when they can manage and control the affairs of the class, regardless of the students' achievement levels and the class's heterogeneity. This notion is such that curriculum developers consider the level and achievement of students in a class before developing a curriculum. For the developed curriculum to be effectively implemented, it has been agreed that teachers should be able to develop the knowledge, values, and competence necessary to understand the heterogeneity of the students. For this reason, Jones (2000) hypothesized that a good classroom seating arrangement is the easiest yet crucial competence for the teacher in classroom management (Jones, 2000).

In the National Training Service (NTS) (2017), classroom management is an intricate task that requires time to be ensured by the teacher. That is to say, before the teaching and learning process begins, the classroom teacher often feels overburdened and uncomfortable with the task of instruction. It is reported that students' academic achievement did not significantly differ by the instructional management style of teachers. In contrast, interactionist behaviour management classrooms showed significant effects on student achievement in standardised reading tests (Navarro, Zervas, Gesa, & Sampson, 2016).

Assessment Strategies in Vocational Education.

Teachers are also crucial in ensuring that learning outcomes are fulfilled. Well-versed teachers in the assessment methods used play an essential role in ensuring that the assessment is accurate and effective. They can also help provide reliable information on students' abilities to stakeholders such as schools, parents, the Ministry of Education, and the students themselves. Teachers who conduct assessments should have a broad and in-depth understanding of the assessment's methods, criteria, and expected outcomes (Brewer,2015). The assessment process consists of four steps: generating and collecting evidence of achievement, evaluating the evidence against the outcomes, recording the evaluation findings, and using the information to aid the learner's development and improve the learning and teaching process (Nkalane, 2018).

According to UNESCO (2021), the TVET curriculum is practical and also emphasizes developing the soft skills necessary for sustainable work, not only in technical disciplines. Action-oriented school-based types of learning, such as learning in the workplace and an experimental laboratory environment, require exam assignments that consider the

"paradigmatic work contexts" of skilled jobs (Rauner et al., 2013). One aspect of education in almost every nation is to provide young people with the information and skills required for work (Knight & Sweet, 2010**)**. TVET institutions or training centres often educate students for training that combines theoretical knowledge and practical skills, enabling TVET students to handle problems, such as identifying faulty components or systems. Students may focus on mending components or systems by emphasizing TVET education through knowledge and skill equivalence, ensuring that the sequence, scope, and selection of components and systems align with each other. As recommended by (OECD,2011) to generate competent students who can fulfil industrial expectations, policymakers have to encourage interchange and collaboration between TVET institutions and industry so that vocational teachers and students will spend time in the industry to enhance their knowledge and vocational trainers in firms spend time in TVET institutions to strengthen their pedagogical competencies.

Consequently, teaching TVET students also depends on how training institutes or centres integrate theories and skills (Suhaini,2021). TVET requires mastery of information and practical skills, as well as writing and hands-on practice, to complete tasks that align with TVET curriculum requirements. Teaching approaches and assessment practices must also be prioritized to achieve students' learning outcomes, as stated in TVET requirements (Suhaini, Ahmad, & Bohari, 2021). Assessing student outcomes involves synthesizing formal information about how well students learn.

As a result, teachers must prioritize their understanding of the suitable assessment approaches and techniques to be utilized, and they must master the skills to implement such assessments in terms of proper processes, instruments, approaches, and work stages (Ghazali, Rabi, Hassan, & Wahab, 2018).

Assessment is an essential element in the learning process (Pattalitan,2016). The purpose of the assessment conducted by the teacher is to see the learning outcomes that the students can achieve. Some judgments are typically made when grades or marks are assigned after the process (Ratnam-Lim & Tan, 2015). This is because, although the importance of assessment in student learning has become increasingly recognized over the last three decades, it continues to impact externally conducted accountability and high-stakes certification examinations, indicating a need for quality assessment in teachers' assessment practices (Baird et al., 2014). Furthermore, curricular changes in TVET emphasize curriculum design with objectives and efficiency.

Specifications of assessments should be clear and precise to highlight what the assessments are for and how they will be used. Appropriate procedures to gather and interpret information

efficiently, assess competency, and record and report evaluation outcomes to stakeholders must also be employed in assessments (Gillis; & Patrick,2008) Therefore, classroom assessment practices and vocational skills development are suggested for this study and can be expanded in its application. Assessing students in the classroom is considered a comprehensive evaluation that includes summative and formative evaluations, ideal for assessing and improving students' knowledge, skills, and positive values (Russell & Airasian,2012)

Performance assessments

Teachers are also crucial in ensuring that learning outcomes are fulfilled. Well-versed teachers in the assessment methods used play a crucial role in ensuring that assessments are accurate and effective. They can also help provide reliable information on students' abilities to stakeholders such as schools, parents, the Ministry of Education, and the students themselves. Teachers who conduct assessments should have a broad and in-depth understanding of the assessment's methods, criteria, and expected outcomes (Carlsson,2023). The assessment process consists of four steps: generating and collecting evidence of achievement, evaluating the evidence against the outcomes, recording the evaluation findings, and using the information to aid the learner's development and improve the learning and teaching process.

Adlington et al. (2023) and Arista and Abbas (2022). highlight that teacher performance assessment is a method used to evaluate the competence and effectiveness of teachers in the classroom. This process focuses on measuring the quality of teachers based on specific criteria, providing an objective evaluation of their work. Teacher performance assessment aims to evaluate the competence of teachers in terms of their ability to facilitate learning, provide guidance, and fulfill additional duties that align with the school's objectives. The promotion of active involvement and provision of feedback are key components of effective assessment procedures in education, as highlighted by Finefter-Rosenbluh (2021). Teacher work performance encompasses the level of excellence and productivity exhibited by teachers in the execution of their responsibilities, which is impacted by factors such as training, work motivation, and teacher competency. In addition, the evaluation of teacher performance emphasizes a methodical approach that involves the examination, interpretation, and collection of data to comprehend a teacher's attributes and draw inferences or ascertain the degree to which educational goals have been achieved.

Teacher performance assessment can be used as a determining measure in implementing policies related to development, ensuring that teachers are prepared to serve students in the learning environment (Spina,2023). Based on this, teacher performance assessment is included in measuring the tasks and responsibilities assigned to teachers to enhance the quality of

education (Sugiyanti, 2022). Furthermore, teacher performance assessment is also utilized for conducting planned evaluations designed to measure teacher readiness before delivering services in the learning process, as well as a process to evaluate teacher performance based on specific, applicable standard criteria (Lyness, 202).

According to Ana et al. (2020) and Usman and Zahra (2021), the four competencies under consideration encompass pedagogic competence, personal competence, professional competence, and social competence. Teachers should enhance their pedagogical proficiency to provide instruction that is engaging, fun, innovative, and purposeful, utilizing diverse forms of media (Susilowati, 2021).

Pupils Academic Performance

Academic performance encompasses a broad range of communication skills and abilities that enable children to excel in school and beyond (Amadi & Paul, 2017). The ability to teach and learn effectively, as measured by standard achievement tests, facilitates the development of second language (L2) skills (Botes et al., 2020; Al-Murtadha, 2021). Content areas such as English, math, science, and social studies are used to measure academic success (Stoffelsma & Spooren, 2019). Cimermanová (2018) suggests that academic achievement can also be used to measure learning and various teaching approaches. Academic achievement, as measured by grade point average (GPA), high school dropout rates, and attitudes toward school, is commonly used to quantify educational outcomes (Wibrowski et al., 2017).

According to Uno (2012), cited in Yali (2020), "Learning outcomes are a relatively sedentary change in behaviour in a person as a result of interaction with the environment. One of the reasons is that low learning outcomes are caused by several factors, resulting in students getting low grades, but after conducting interviews with students, it was found that the method of learning used by lecturers is still conventional, which discourages students from developing and having an impact on learning outcomes lack of communication between students and lecturers. Then, the lecturer has problems in applying competence when teaching. This is visible when the teacher ignores the components of teacher competence, especially competence which is directly related to the process of learning to teach is like neglecting to give motivation to students related to the material to be delivered, the use of that teaching method less varied, and lack of feedback from students when the lecturer explains. Given the depth of this opportunity, based on the researcher's background, the title chosen was "Competency Influence on Pedagogy of Student Learning Outcomes in Physics Lessons."

Gap Appraisal of the Reviewed Literature

The study of Nopriyeni et al. (2019) focused on the gap in pedagogical knowledge among prospective teachers, particularly in biology. Despite prior microteaching experiences, these teachers exhibited a lack of comprehensive pedagogical understanding. Utilising a quasi-experimental design with 60 biology students, the study demonstrates the significant impact of a mentoring model in enhancing pedagogical knowledge, surpassing conventional models. This study highlights the significance of mentoring in fostering effective teaching strategies and classroom management skills, underscoring the importance of comprehensive pedagogical training.

Following this, the study by Von Christopher (2020) delved into the Mathematical Knowledge for Teaching (MKT) model. The study revealed a mixed impact of MKT on teaching quality and student achievement, indicating that while a strong MKT correlates with better instructional practices, it does not uniformly translate to student gains. The research aimed to gain a deeper understanding of marketing theory (MKT), its impact on classroom practice, and its adaptation in diverse cultural contexts. Chua's work makes a significant contribution to the discussion on teacher knowledge, particularly in the context of mathematics education.

Next, the study from Nkwadipo & Rabaza (2021) is grounded in Shulman's categories of

The teacher used observations and interviews in a qualitative case study involving two economics teachers and their students. The research revealed pedagogical challenges related to content knowledge, curriculum knowledge, and interaction with students, underscoring the need for specialized training programs for TVET economics teachers. The study suggests the need for tailored educational programs to mitigate these challenges.

CHAPTER THREE

RESEARCH METHODOLOGY

This chapter outlines the methods and procedures used in this research that is: Research Design, Research paradigms, Study Area, Population of the Study, Target population, Sample and Sampling Techniques, Instrument for Data Collection, Validity of the Instrument, Reliability of the Instrument, Procedure for Data Collection, Pilot study, Method of Data Analysis and Ethical consideration.

Research Design

A research design is a roadmap that sets the procedure and method to ensure that the research problem is effectively addressed. According to MacMillan and Schumacher (2001), a research design is a plan or blueprint for researching to answer specific questions. For Durrheim (2004), research design is a strategic framework for action that serves as a bridge between research questions and the execution or implementation of the research strategy. Research design is a plan, structure, and strategy for conducting an investigation (Creswell, 2009). Also, Leedy (1997) defines research design as a plan for a study, providing the overall framework for collecting data. An experimential research design will be use for this study as it manipulate teachers' pedagogic competencies (independent variable) on pupils' outcome of vocational skills (dependent variables) while taking into account a mixed research design .

Research paradigms

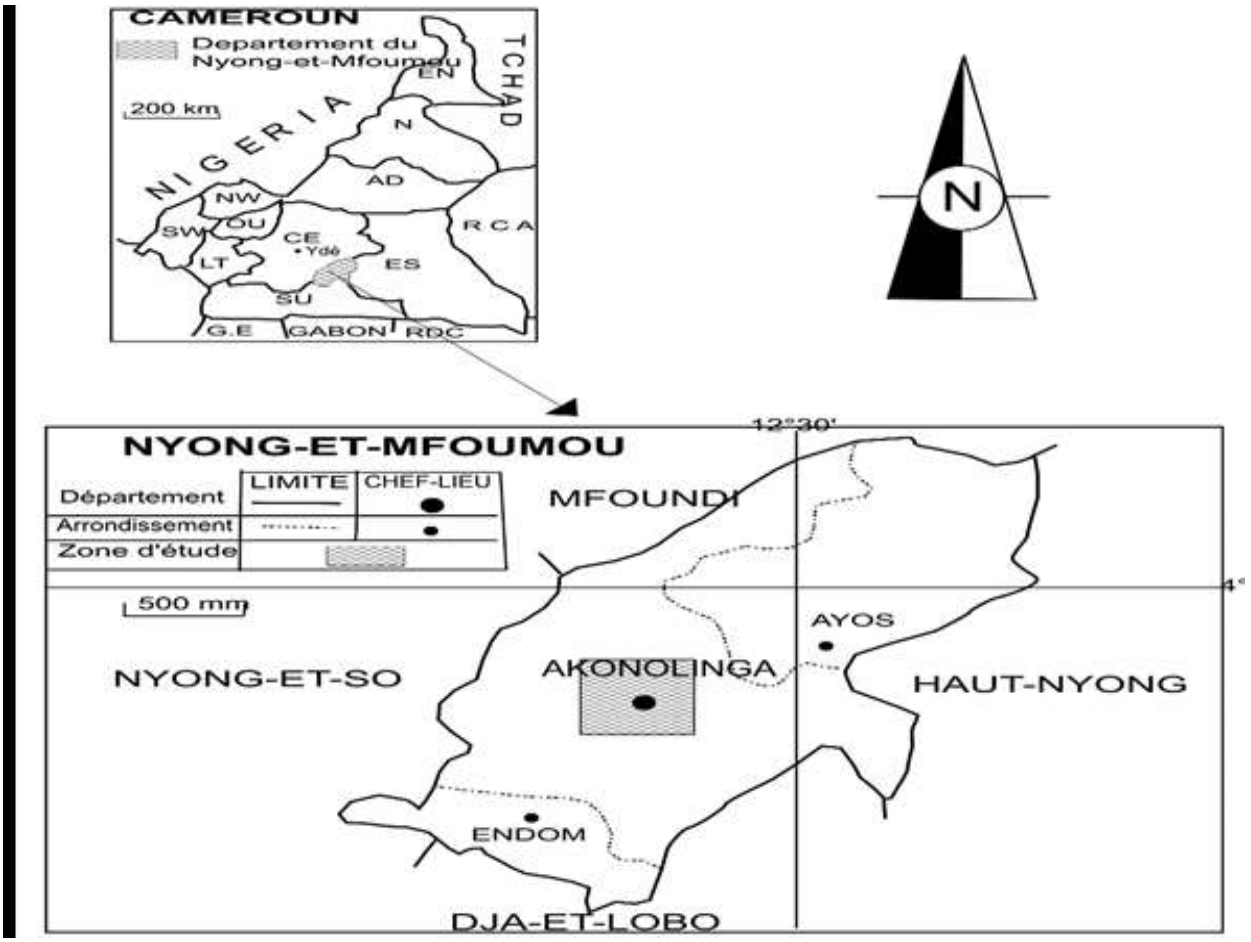
A research paradigm is a method, model, or pattern for conducting research. It is a set of ideas, beliefs, or understandings within which theories and practices can function (Jessica,2022, March 10). Rocco, Bliss, Gallagher and Perez-Prado (2003) define a paradigm as a worldview. It is a basic set of beliefs or assumptions that guides a researcher's inquiry. This implies that every researcher will approach research with a plethora of interlocking and sometimes contradicting philosophical assumptions and standpoints.

Creswell (2007) indicates that the research design process begins with philosophical assumptions that the enquirers make when deciding to undertake a study. Researchers bring their worldviews, paradigms, or sets of beliefs to the research project, and these inform the conduct and writing of the study. In concert with Creswell (2007), Mason (2002) indicates that in defining one's paradigmatic perspective as a researcher, the interplay between ontological and epistemological assumptions, meta-theoretical underpinnings, research questions, and research methodology becomes prominent. This research adopts the pragmatism paradigm and seeks a problem-solving philosophy that maintains that the best research techniques contribute the most effective answer to the research problem. This will be followed by examining different aspects of a research problem using a combination of quantitative and qualitative approaches to examine the impact of teachers' pedagogic competencies on pupils' learning outcomes of vocational skills in the Akonolinga sub-division.

Study Area

Akonolinga sub-division is situated in the centre south of the centre region precisely in the Nyong-et-Mfoumou division, Centre Region of Cameroon (Mah,2014). It shares boundary to the north with Lembeyezoum, to the south with Edom and Bengbis, to the east with Messamena and to the west with Mengang. Akonolinga was created sub division on 21st August in 1972 with a land surface of 1420.9km2, with 90 villages. From the 2020 Akonolinga communial plan, it had a population of 47,561 (ACP, 2020). Akonolinga is having 95 public and private schools, with pupils population of 13325 and 255 teachers, carte scholaire 2024.

Figure 2: Nyong-et-Mfoumou division.including Akonolinga subdivision



Source: Philippe et al.,2015

Population of the study

According to Amin (2005), a population is the totality of all the components relevant to certain research. Frankel et al. (2006), a population is the largest group to which researchers hope to apply the results obtained from a sample. The population of a study refers to the entire group of individuals, objects, or events that share a common characteristic and are the focus of the study. It represents the complete set of elements that the researcher aims to study and draw conclusions about (Jilcha Sileyew, 2020). A population is the group of all units to which the findings of the research are to be applied (Ashu,2024). The population of this study will consist of Headteachers, teachers, and pupils from the primary schools of Akongolina.

Figure 3:Explaining the three levels of population

Source Amin,2005

Target population

According to Amin (2005), cited in Ashu (2024), the target population of a study is the population to which the researcher intends to generalise the findings of the research. The target population will consist of primary school teachers and level 3 that is class 5 and 6 pupils of the Akonolinga sub-division. The target population, often known as the parent population, may not always be reachable to the researcher (Amin, 2005).

Table 1:Target population of the study

No	Name of School	Target Population Head teachers	Teachers	Pupils
1	Ecole publique Eboa	1	4	250
2	Ecole publique Bondi	1	4	143
3	Ecole publique Mve	1	6	108
4	Ecole publique Mekong	1	6	101
5	Ecole publique Akonolinga Group 1A	1	6	403

6	Ecole publique Akonolinga Group 1 B	1	6	413
7	Ecole publique Akonolinga Group 2	1	6	431
8	Ecole publique Ekam Bilingue	1	6	315
9	Ecole publique Efoulan	1	6	150
10	Ecole publique Melan	1	6	150
11	Ecole publique Azam	1	4	120
12	Ecole publique Abem	1	4	250
13	Ecole publique Afem	1	4	120
14	Ecole publique Akok yeme vong	1	6	98
15	Ecole publique Alangana	1	6	57
16	Ecole publique Yembama	1	6	75
17	Ecole publique Evom	1	6	67
18	GSB la Cite	1	6	406
19	GSB Rossignols	1	6	83
20	GSB Pangratia	1	6	102
21	GSB Akono Nsimi	1	6	150
22	Ecat Saint Jean Bosco	1	10	406
23	GSB La Reference Ekam	1	6	140
	Total	**23**	**175**	**4538**

Source: Divisional Inspectorate of Basic Education, Akonolinga,2025

Accessible population

Asiamah et al. (2017) posit that after eliminating every member of the target population who might or might not engage in the study or who cannot be reached during the time of the study, the accessible population is then reached. From the population of primary school teachers and pupils in Akonolinga, the accessible population was drawn from 23 schools.

Sample size

In research, a sample refers to a subset of the population that is selected for study purposes. The sample represents a smaller, manageable group that researchers use to make inferences and draw conclusions about the entire population (Bhardwaj, 2019). Since studying the entire population can be impractical, time-consuming, and costly, researchers use samples to gather

data and conduct analyses that provide insights into the characteristics and behaviours of the larger group (Ponto, 2015).

The sample size was determined using the Krejcie & Morgan table (1970), which constituted 232 participants drawn from Akonolinga Primary School.

Table 2:Target population of the study

No	Name of School	Target Population Head teachers	Teachers	Pupils	Sample
1	Ecole publique Eboa	1	4	250	10
2	Ecole publique Bondi	1	4	143	10
3	Ecole publique Mve	1	6	108	15
4	Ecole publique Mekong	1	6	101	11
5	Ecole publique Akonolinga Group 1A	1	6	403	15
6	Ecole publique Akonolinga Group 1 B	1	6	413	15
7	Ecole publique Akonolinga Group 2	1	6	431	15
8	Ecole publique Ekam Bilingue	1	6	315	10
9	Ecole publique Efoulan	1	6	150	10
10	Ecole publique Melan	1	6	150	5
11	Ecole publique Azam	1	4	120	10
12	Ecole publique Abem	1	4	250	5
13	Ecole publique Afem	1	4	120	10
14	Ecole publique Akok yeme vong	1	6	98	7
15	Ecole publique Alangana	1	6	57	5
16	Ecole publique Yembama	1	6	75	10
17	Ecole publique Evom	1	6	67	8
18	GSB la Cite	1	6	406	5
19	GSB Rossignols	1	6	83	10
20	GSB Pangratia	1	6	102	10
21	GSB Akono Nsimi	1	6	150	12

22	Ecat Saint Jean Bosco	1	10	406	5
23	GSB La Reference Ekam	1	6	140	10
	Total	**23**	**175**	**4538**	**223**

Source: Divisional Inspectorate of Basic Education,2025

Pilot study

The pilot study was a small-scale replication of the actual study, targeting a small number of persons with characteristics similar to those of the target group of respondents, namely teachers, head teachers, and pupils of primary schools in the Akonolinga sub-division. The questionnaire and interview guide need to be tested before carrying them to the study areas.

The pilot sample consisted of 20 respondents (2 head teachers, eight teachers, and 10 pupils) who were purposively sampled from two primary schools in the subdivision, namely EP Ngalla and EP Nganga ; the purpose of the pilot study was to determine the feasibility of the study; to test the reliability and validity of the instrument and trustworthiness of respondents for data collection in the main study; to establish how appropriate, understandable and practical the instrument is; to address any problems before the main study; and to check the time required for the completion of the questionnaire. The pilot study confirmed that neither the questionnaire nor the interview guide contained any confusing statements, and the responding head teachers found it easy and quick to complete.

Sampling Techniques

A sample technique is the process of selecting a smaller group of participants to tell us essentially what a larger population might tell us if we asked every member of the larger population the same questions (Adwok,2015). This study will adopt a purposive sample for Headteachers and a random sample for selecting teachers and pupils in the various schools in Akonolinga. A simple sampling technique is a type of probability sampling in which the units composing a population are assigned numbers. A set of random numbers is then generated, and the units having those numbers are included in the sample (Babbie,2004). While a purposive sample is a non-probability sampling method where participants are intentionally selected based on specific characteristics or criteria relevant to the research question (https://www.ebsco.com/research-starters)

Instrument for Data Collection

An instrument is any tool that has been methodically built to collect data and should be accurate in gathering the specific data required for the study. This study uses the following tools to collect data (Questionnaire and observation guide).

Questionnaire

According to Amin's definition from 2005, a questionnaire is a professionally crafted tool used to gather data in line with the research questions and hypothesis requirements. He continues by saying that a questionnaire can be thought of as a self-report tool used to collect data on factors of research interest. The questionnaire is a useful tool for gathering survey data, providing structured, frequently numerical data, being administered without the researcher's presence, and frequently being comparatively simple to analyse, as Cohen et al. (2007) reiterated. It is a tool for gathering data with specific questions that the respondent must answer and then return to the researcher.

There are two different kinds of questionnaires: closed and open-ended. The type of study is the only factor influencing the questionnaire selection. This study will use closed-ended questions, including Likert-style rating scale questions. These closed questions are simple to code and take little time to complete.

The teachers' questionnaire was made up of six (6) sections; the first(1) section contains respondents' demographic data, made up of six (6 items. Section two (2) is on teaching methods, section three (3) on resources used in teaching, section four (4) on teachers' knowledge, section five (5) on assessment strategies, and section six (6) on vocational skills. There are 34 items in all the other sections of the questionnaire, and respondents were requested to mark an (x) in the box that corresponds to their point of view.

The pupil questionnaire was made up of four (4) sections; the first(1) section contains the respondent's demographic data, made up of three (3 items. Section two (2) is on teaching methods, section three (3) on learning resources, and section four (4) on assessment strategies. There are 16 items in all the other sections of the questionnaire, and respondents were requested to mark an (x) in the box that corresponds to their point of view.

Table 3:Questionnaire options and corresponding weights on the Likert scale

Option	Weight

Strongly Agree (SA)	4 Points
Agree (A)	3 Points
Disagree(D)	2 Points
Strongly Disagree (SD)	1 Point

According to Tanah and Encho (2017), the decision rule refers to a regulation or guide that enables a researcher to decide whether to accept or reject an issue, as seen below.

The fours means that any factor with a mean of 2.5 and above was accepted(positive), while those less than 2.5 were rejected (negative)

Observation guide

An observation guide is a tool used in research to help researchers systematically observe and record behaviours, actions, or interactions in a specific context. It is a structured way to guide observations, ensuring they are relevant to the research objectives and questions (Roller,2015).

Validity of the Instrument

Validity is the extent to which an instrument measures what it is supposed to measure and performs as it is designed to perform. It is rare, if nearly impossible that an instrument be 100% valid, so validity is generally measured in degrees. As a process, validation involves collecting and analysing data to assess the accuracy of an instrument. There are numerous statistical tests and measures to assess the validity of quantitative instruments, which generally involve pilot testing. Twenty questionnaires were administered in GSB Rossignols and GSB Pangratia to test the validity of the instrument before administering the questionnaires in the study matrices.

External validity is the extent to which the results of a study can be generalised from a sample to a population. Establishing eternal validity for an instrument, then, follows directly from sampling. Recall that a sample should be an accurate representation of a population because the total population may not be available. An externally valid instrument helps obtain population generalizability or the degree to which a sample represents the population.

Content validity refers to the appropriateness of the content of an instrument. In other words, do the measures (questions, observation logs, etc.) accurately assess what you want to know? This is particularly important with achievement tests. My supervisor at the University of Yaounde 1 validated the content of this instrument.

Administration of the research instrument

The research obtains authorisation for research from the Dean of the Faculty of Education, University of Yaounde 1. Then, a copy of the authorisation and an application letter were submitted to the Inspectorate of Basic Education of Akonolinga for authorisation to carry out research in primary school. A week later, research authorisation was granted. Some of the questionnaires were filled out on the spot and returned to the researcher. Some respondents took their questionnaires home and returned for some after one, two or three days. Generally, a good number of teachers did not hesitate to fill out the questionnaires. The interview was done on day one with the respondent available.

Reliability of the instrument

Reliability measures the extent to which an experiment or any other process that involves measuring procedures will yield the same results if repeated trials are carried out (Ferrell, n.d). The degree of internal consistency or stability of the measuring device over time may be used to define reliability in educational contexts (Amin,2005). For Cohen et al. (2007), reliability in quantitative research is a synonym for dependability, consistency, and replicability over time, over instruments and groups of respondents. It has to do with accuracy and precision.

To find the reliability of the instrument, we carried out a pilot test. Twenty (20) questionnaires were administered to twenty participants in two of the sampled schools. To ensure reliability, Cronbach's Alpha was carried out on the set of instruments meant for the trial. The research instrument was administered to head teachers, teachers, and pupils who were not in the study sample. After running the Cronbach's Alpha test, we obtained an acceptable alpha of 0.941 for the teacher questionnaire and pupil questionnaire 0.881, which is an indicator that the instruments are highly reliable, as seen in the table below:

Table 4:Reliability of the instrument for teachers

Items	Cronbach's alpha (N=10)	Number of items
Teaching methods	0.97	5
Resources used in teaching	0.954	5
Teacher knowledge	0.89	7
Assessment strategies	0.91	5

Vocational skills	0.98	5
Total	**0.941**	**27**

Source: Field data,2025

Table 5:Reliability of the instrument for pupils

Items	Cronbach's alpha (N=10)	Number of items
Teaching methods	0.901	5
Learning Resources	0.923	5
Assessment strategies	0.82	4
Total	**0.881**	**14**

Source: Field data,2025

Ethical Consideration

A set of guidelines specifically created to direct researchers' work outlines ethical problems and outlines their responsibilities to both their profession and their subjects. Every activity associated with this study is guided by ethical norms (Ary, Cheser, & Sorensen, 2010). To make sure that the ethical concerns were addressed, the researcher followed all necessary and appropriate protocols. Informed consent, confidentiality of the data obtained, respect for the research environment, accurate data interpretation and presentation, obtaining authorisation to conduct the study, and participant privacy are all part of the protocols.

Under the direction of the faculty of education, the researcher received approval from both the University of Yaounde 1 and the Inspectorate of Basic Education of Akonolinga to conduct the study and gather data. Additionally, the researcher focused more on maintaining the privacy of the information gathered. The study refrained from disclosing private information without authorisation. By keeping the participants' names out of the study, the researcher respected their right to privacy. This was carried out out of consideration for the participants' anonymity.

The researcher assured the participants that privacy principles would be adhered to and that the research data would only be used for academic purposes. The names of the respondents were

then omitted from the surveys to prevent participant identity from being revealed. The participants did not need to respond to the questions. They willingly took part in the study.

The goal of the study was also explained to the participants on the cover of the questionnaire. Additionally, the researcher included the opening paragraph outlining the goal of the study. There were no sexist terms in the phrasing of the questions. The research environment was treated with respect. In addition to accurately interpreting and presenting the data, the researcher respected and complied with the school's availability and visiting policies. In addition, the researcher consistently presented and interpreted the findings accurately. Additionally, the researcher reported the findings and results honestly and professionally.

The researcher went to the field on 9 June 2025 to administer the questionnaires. The researcher visited the head teacher's office first, and then the head teacher accompanied the researcher to administer the questionnaires. This facilitated the process.

The return rate of the instrument

The return rate indicates the number of questionnaires returned at the end of the research after the questionnaires were administered to participants. The return rate for this study was calculated using a simple percentage based on the formula below.

The return rate of Questionnaire

$$R = \frac{\sum RQ}{\sum AQ} \times \%$$

Where;

R= Return rate

∑RQ= Sum of questionnaires returned

∑AQ=S um of questionnaires administered

% = Percentage expressed as a hundred

The rate of return of questionnaires for this study was calculated as follows;

Total number of questionnaires administered = 223 (143 for teachers and 60 for Pupils).

Total number of questionnaires returned = 170 (121 for teachers and 49 for pupils)

Therefore, the return rate is:

$$\frac{170}{223} \times 100 = 76.23\%$$

R= ————————

Data Analysis Method

Data analysis is the process of scrutinizing raw data to draw conclusions (Bhatia, 2017). According to Ashirwadam (2014), data analysis is the act of putting facts and figures together to solve research problems. This definition highlights the need to collect “facts and figures” and address a research problem, which is a crucial aspect of research. However, it does not define the necessity for these facts to be processed and interpreted, which is equally essential.

Descriptive statistics, such as percentages, mean frequency, and standard deviation, will be used to analyze the data of this study. The hypotheses will be tested using inferential tests like simple linear regression to demonstrate the extent to which teachers' pedagogical competencies affect pupils' outcomes in vocational skills.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND PRESENTATION OF DATA

The results of this study are presented in line with the research question and hypotheses tested in this chapter. The analysis of this study was based on 121 questionnaires for teachers and 45 questionnaires for pupils. Giving a total of 170 questionnaires

PART ONE: Questionnaire for teachers

Section A: Descriptive statistics

Demographic characteristics of respondents

Table 6:Status of the teacher

Elements	Frequency	Percentage
PTA	36	29.8
Civil servants	20	16.5
Contract agents	65	53.7
Total	**121**	**100**

From the table above, the greatest proportion of teachers are contract agents, 53.7%, implying that most teachers in Akonolinga primary schools are contract workers sent by the government, followed by 29.9.4% for PTA teachers and 16.5 % for civil servants.

Figure 4:Status of the teacher

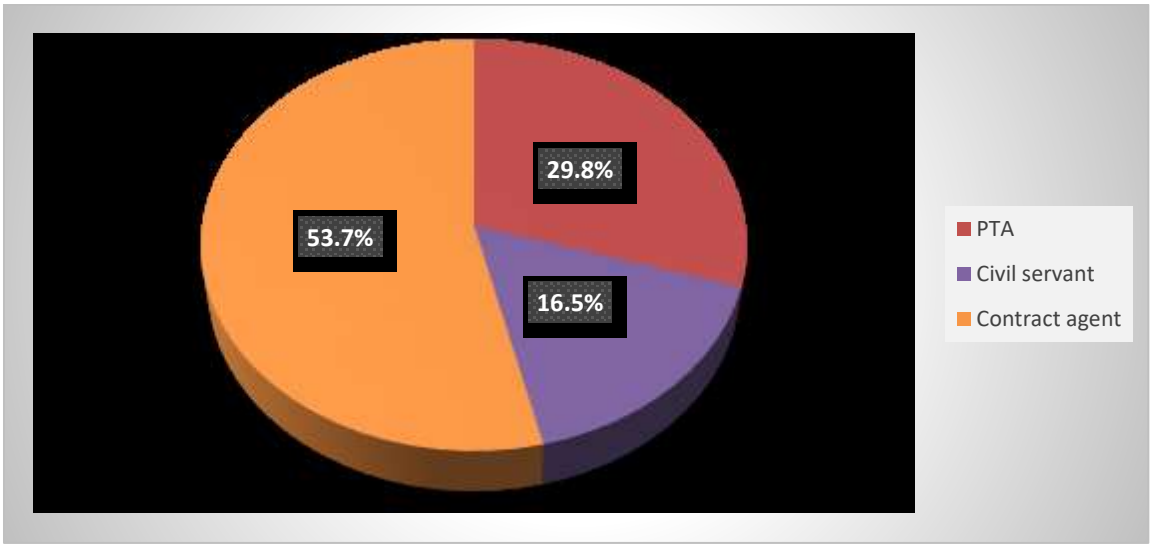


Table 7:Gender

Elements	Frequency	Percentage
Male	53	43.8
Female	68	56.2
Total	**121**	**100**

From the Table, the highest proportion of respondents are female, 56.2%, the reason being that there are more female teachers in primary schools in Akonolinga. 43.8% of respondents are male.

Figure 5:Gender

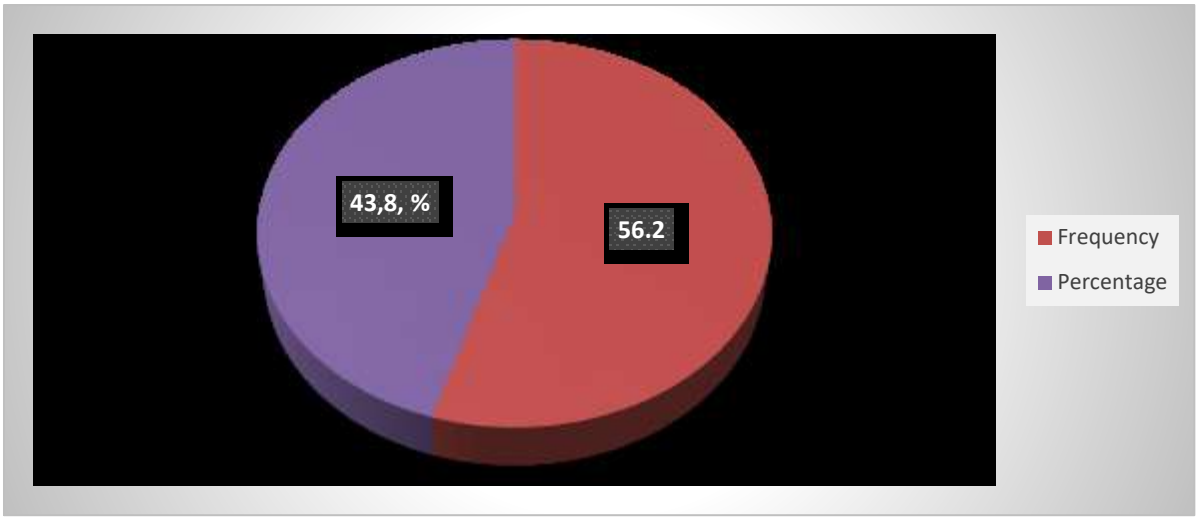


Table 8:Age group

Elements	Frequency	Percentage
20-25	28	23.1
26-30	19	15.7
31-35	40	33.1
36-40	22	18.2
41 and above	12	9.9
Total	**121**	**.100**

The results show that 23.1% of the teachers are 20 to 25 years old, 15.7% are between 26 and 30 years, 33.1% are 31 to 35 years old, 18.2 % are between 36 - 40 years and 9.9% are 41 years and above.

Figure 6:Age group

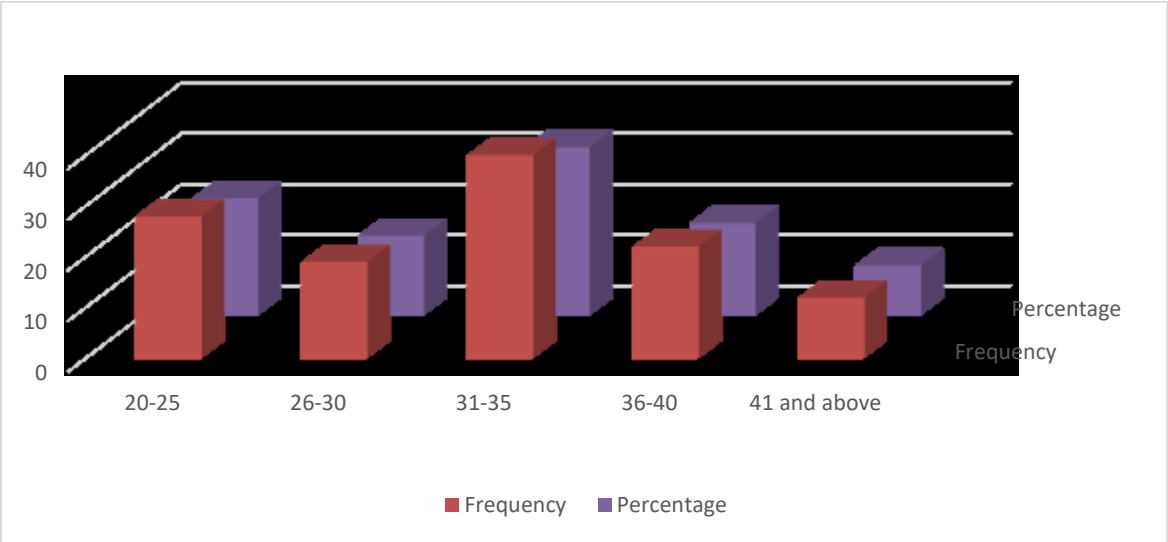


Table 9:Academic qualifications

Elements	Frequency	Percentage
A/Level	62	51.2
Degree	37	30.6

Masters	16	13.2
PhD.	6	5.0
Total	**121**	**100**

The table above shows that 51.2% of the teachers have an Advanced level certificate, 30.6% have a bachelor's degree, 13.2% have a master's degree, and 5% have a PhD.

Figure 7:Academic qualifications

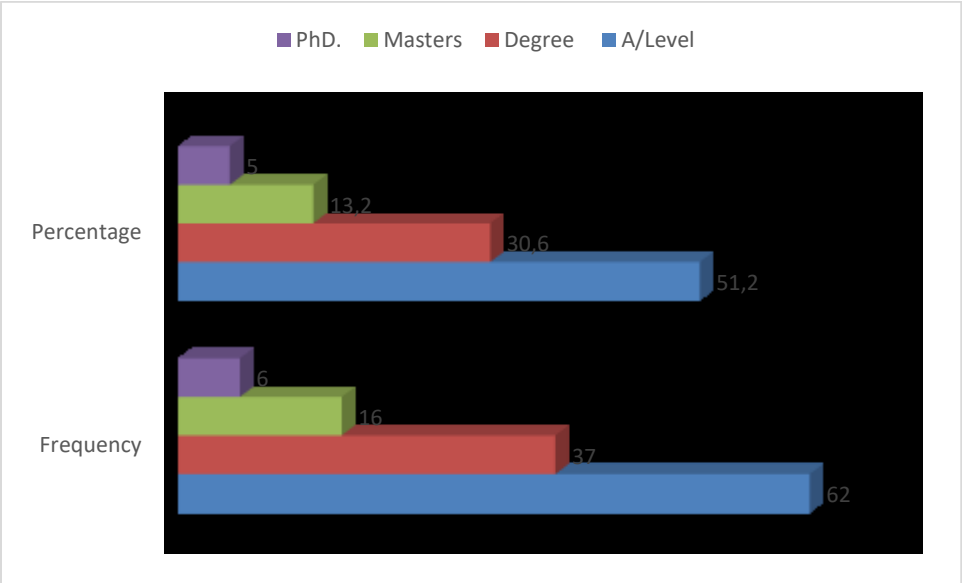


Table 10:Professional qualification

Elements	**Frequency**	**Percentage**
CAPIEMP	116	95.9
None	5	4.1
Total	**121**	**100**

From the table above, 95.9% of teachers are CAPIEM certified, while 4.1% are not certified professionals. From the results above, most primary school teachers of Akonolinga are certified.

Figure 8:Professional qualification

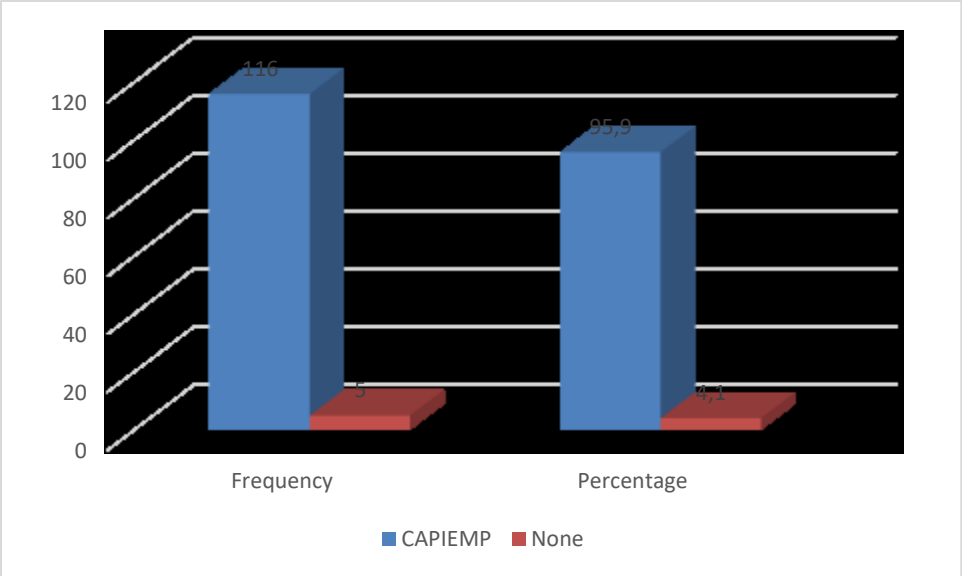


Table 11:Longevity in service

Elements	Frequency	Percentage
0-5	38	31.4
5-10	36	29.7
10-15	26	21.5
15 and above	21	17.4
total	121	100

The table above shows that 31.4% of the teachers have worked for 0 to 5 years29.7 % worked for 5 to 10 years, 21.5 % have worked for 10-15 years, and 17.4% have worked for 15years or more.

Figure 9:Longevity in service

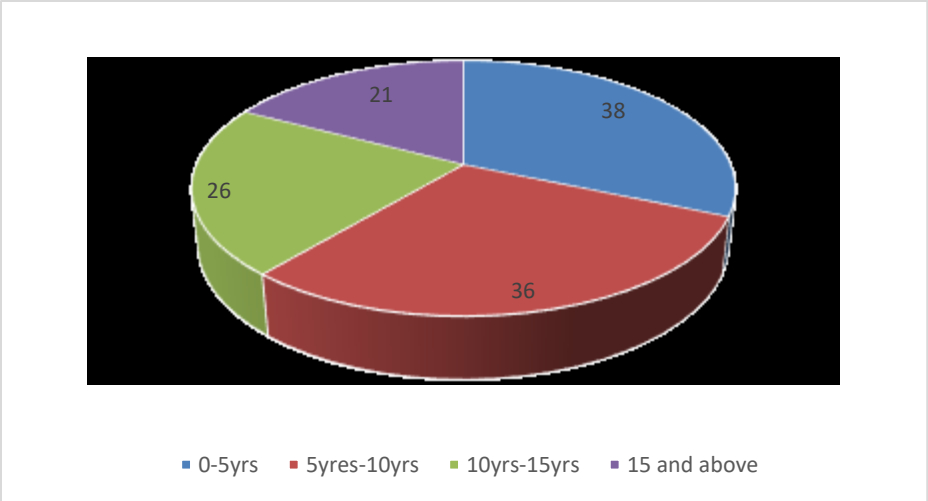


Table 12:Further analysis

S/N	Questions	Sample	Mean	Standard deviation
1	Status as a teacher	121	2.2	0.89
2	Gender	121	1.6	0.50
3	What is your age group	121	2.8	1.27
4	Highest academic qualification	121	1.7	0.88
5	Professional qualification	121	1.04	0.20
6	Longevity in service	121	2.2	1.08
	OVERALL	**121**	**1.92**	**0.80**

Research Question1: To what extent does the teaching method affect pupils' outcomes in vocational skills in primary school?

Table 13:Effects of teaching methods on pupils' outcomes in vocational skills

S/N	Statement	N	SA	A	D	SD
1	I often use demonstration method when teaching vocational skills	121	21 17.4%	18 14.8%	43 35.6%	29 32.2%
2	Pupils actively participate during vocational lessons	121	9 7.4%	28 23.1%	31 25.6%	53 43.8%
3	I use group work to teach vocational skills	121	14 11.6%	13 10.7%	49 40.5%	45 37.2%
4	The teaching method I use help pupils to master practical skills	121	9 7.4%	30 24.8%	41 33.9%	41 33.9%
5	1 adapt teaching methods base on pupil's learning pace/needs	121	25 20.7%	27 22.3%	34 28.1%	35 28.9%
	Overall/average	**121**	**16 12.9%**	**23 19.14%**	**40 32.74%**	**42 35.2%**

Source: field data 2025

The analyses in the table above indicates that indicates 17.4% of the respondents strongly agree to the fact that they often use demonstration method when teaching vocational studies, 14.8% agree, 35.6% disagree and 32.2% strongly disagree. This means majority of the respondents do not use demonstration when teaching their lessons.

The analysis also shows that 7.4% of the respondents strongly agree that pupils participate actively during lessons, 23.15 agree, 25.6%disagree and 43.8% strongly disagree. This shows that there is no active participation in class during lessons.

Furthermore, the analysis show that 11.6% of the respondents strongly agree that they use group work during vocational studies, 10.7 agree, 40.5% disagree and 37.2%% strongly disagree.

The analysis equally indicates that 7.4% of the respondents strongly agree that the teaching methods they use help pupils to master practical skills, 24.8% agree, 33.9% disagree and 33.9% strongly disagree. This indicates that the teaching methods used by teachers do not help the student understand practical skills.

In addition, the analyses further indicate 20.7% of the respondents strongly agree that they adapt teaching methods base on pupils learning needs, 22.3% agree, 28.1% disagree and 28.9%

strongly disagree. This is proof that the teachers do not use methods tailored to the needs of the learners.

Finally, the overall frequency analysis indicate that in average, 12.9% of the respondents strongly agree that they use teaching method facilitates pupils outcomes in vocational skill, 19.14% agree, 32.74% disagree and 35.2% strongly disagree. This is an indication if effective teaching methods are used, it will foster the acquisition of vocational skills.

This can further be explained on the mean table below

S/N	Questions	N	Mean	SD
1	I often use demonstration method when teaching vocational skills	121	2.17	1.07
2	Pupils actively participate during vocational lessons	121	1.94	0.99
3	I use group work to teach vocational skills	121	1.97	0.97
4	The teaching method I use help pupils to master practical skills	121	2.06	0.94
5	1 adapt teaching methods base on pupil's learning pace/needs	121	2.35	1.11
	Overall	**121**	**2.098**	**0.998**

Source field data 2025
Scale: mean: 1.00 - 1.49 = Strongly Disagree, **1.50 - 2.49** = Disagree **2.50 - 3.49** = Agree, **3.50 - 4.00** = Strongly Agree.
Standard Deviation: **0.00-0.5** = strongly disagree, **0.51- 1.00** = disagree, **1.01-1.50** = Neutral, **1.51=2.00** = agree, above **2.00** = strongly agree

The findings in the table above indicate an overall mean of 2.098 and a standard deviation of 0.998. This indicates that a good number of the respondents acknowledge poor usage of teaching methods when teaching vocational studies,

The findings also reveal that the teaching methods rarely used are participative and group work with a mean of 1.94 and 1.97 respectively.

Research Question 2: What is the effect of resources used in teaching vocational studies affects learners' outcomes of vocational skills in primary school?

Table 14:Effects of using resources in the teaching of vocational studies

S/N	Questions	N	SA	A	D	SD
1	My school provides adequate material for teaching vocational studies	121	4 3.3%	7 5.8%	51 42.1%	59 48.8%
2	I often use local materials or improvised materials for my lessons	121	19 15.7%	20 16.5%	46 38.0%	36 29.8%
3	Inadequate teaching resources limit practical teaching in vocational studies	121	43 35.5%	47 38.8%	17 14.0%	14 11.6%
4	I design teaching aids for specific vocational content	121	16 13.2%	11 9.1%	53 43.8%	41 33.9%

5	Teaching resources make it easier for pupils to understand vocational studies	121	53 43.8%	48 39.7%	9 7.4%	11 9.1%
	Overall/average	**121**	**27** **22.3%**	**26** **21.98%**	**36** **29.06%**	**32** **26.64%**

Source: field data 2025

The analyses in the table above indicates that indicates that a average 22.3% of the respondents strongly agree to the fact that there is effective use of adequate resources during the teaching of vocational studies, 21.98% agree, 29.06% disagree and 26.64% strongly disagree. This means majority of the population do not employ adequate resources during the teaching of vocational studies thereby leading to poor acquisition of skills.

The analysis also indicates specific areas like teachers not using improvised materials to teach their lessons as it shows that a total of 67.8% of the respondents do not use local or improvised materials.

Furthermore, the analysis show that the school does not provide adequate materials for the teaching of these lesson as only 9.1% of respondents agree that the school provides materials for teaching vocational studies and the rest disagree

Based on the data, one can the conclude that the provision of materials, and the use of adequate teaching aids during the teaching of vocational studies fosters understanding and acquisition of vocational skills in the learners.

S/N	Questions	N	Mean	SD
1	My school provides adequate material for teaching vocational studies	121	1.64	0.74
2	I often use local materials or improvised materials for my lessons	121	2.18	1.03
3	Inadequate teaching resources limit practical teaching in vocational studies	121	2.98	0.98
4	I design teaching aids for specific vocational content	121	2.01	0.98
5	Teaching resources make it easier for pupils to understand vocational studies	121	3.18	0.92
	Overall	**121**	**2.398**	**0.93**

Source: field data 2025
Scale: mean: 1.00 - 1.49 = Strongly Disagree, **1.50 - 2.49** = Disagree **2.50 - 3.49** = Agree, **3.50 - 4.00** = Strongly Agree.
Standard Deviation: **0.00-0.5** = strongly disagree, **0.51- 1.00** = disagree, **1.01-1.50** = Neutral, **1.51=2.00** = agree, above **2.00** = strongly agree

The findings in the table above indicate an overall mean of 2.398 and a standard deviation of 0.930. This indicates that a good number of the respondents acknowledge poor usage of teaching resources when teaching vocational studies,

The findings also reveal that the specific areas of problem resources are the inability of the school to provide resources and the designing of teaching aids by teachers to suit content with a mean of 1.64 and 2.01 respectively

Question Research 3: What is the effect of teachers' knowledge of content matter on learners' outcome of vocational skills in primary school?

Table 15:Explore teachers' knowledge in content mastery of teaching vocational studies

S/N	Questions	N	SA	A	D	SD
1	I have received formal education on vocational education	121	13 10.74%	9 7.4%	46 38.0%	53 43.8%
2	I am able to prepare lesson plans in line with vocational content	121	19 15.7	35 28.9	37 30.5	30 24.8
3	I am able to teach all topics in vocational studies curriculum	121	7 5.8%	8 6.6%	47 38.8%	59 48.8%
4	I have a good mastery of media and learning models in teaching vocational studies	121	5 4.1%	20 16.5%	52 43.0%	44 36.4%
5	I am creative in solving problems	121	13 10.74%	31 25.6%	34 28.1%	43 35.5%
6	I regularly attend pedagogic seminars organized by the ministry to update our skills	121	20 16.5%	17 14.0%	38 31.4%	46 38.0%
7	I utilized ICT in teaching vocational content	121	4 3.3%	20 16.5%	50 41.3%	47 38.8%
	Overall	**121**	**11 9.55%**	**20 16.5%**	**43 35.87%**	**47 38.01%**

Source: field data 2025

The analyses in the table above indicates that 10.74% of the respondents strongly agree to the fact that they have received formal education on vocational studies, 7.4%agree, 38.0% disagree and 43.8% strongly disagree. This means majority of the teachers have not undergone training in vocational studies

The analysis also shows that 15.7% of the respondents strongly agree that they are able to prepare lesson plans in line with vocational content, 28.9% agree, 30.5% disagree and 24.8% strongly disagree. This shows that most teachers do not know how to prepare lesson plans for vocational studies.

Furthermore, the analysis shows that 5.8%% of the respondents strongly agree that they are able to teach vocational studies in the curriculum, 6.6% agree, 38.8% disagree and 48.8% disagree.

The analysis equally indicates that 4.1% of the respondents strongly agree that they have a good mastery of media and learning models in teaching vocational skills, 16.5% agree, 43,0 disagree and 36.4% strongly disagree.

In addition, the analyses further indicate 10.74% of the respondents strongly agree that that they are creative in solving problems, 25.6% agree, 28.1% disagree and 35.5% strongly disagree.

The analysis equally shows that 16.5% of the respondent strongly agree that they regularly attend pedagogic seminars organized by the ministry to upgrade their skills, 14.0% agree, 31.4% disagree and 38.0 strongly disagree

The analysis also indicates that 3.3% of the respondents strongly agree that they utilize ICT tools, 16.5% agree, 41.3% disagree and 38.8% strongly disagree

Finally, the overall frequency analysis indicates that in average, 9.55% of the respondents strongly agree that they utilize their knowledge and master content, 16.5% agree, 35.87% disagree and 38.01% strongly disagree. This is an indication that most teachers do not explore their knowledge and content matter when teaching vocational skills

S/N	Questions	N	Mean	SD
1	I have received formal education on vocational education	121	1.85	0.96
2	I am able to prepare lesson plans in line with vocational content	121	2.36	1.02
3	I am able to teach all topics in vocational studies curriculum	121	1.69	0.83
4	I have a good mastery of media and learning models in teaching vocational studies	121	1.88	0.83
5	I am creative in solving problems	121	2.12	1.01
6	I regularly attend pedagogic seminars organized by the ministry to update our skills	121	2.09	1.09
7	I utilized ICT in teaching vocational content	121	1.84	0.81
	Overall	**121**	**1.83**	**0.94**

Source: field data 2025
Scale: mean: 1.00 - 1.49 = Strongly Disagree, **1.50 - 2.49** = Disagree **2.50 - 3.49** = Agree, **3.50 - 4.00** = Strongly Agree.
Standard Deviation: **0.00-0.5** = strongly disagree, **0.51- 1.00** = disagree, **1.01-1.50** = Neutral, **1.51=2.00** = agree, above **2.00** = strongly agree

The findings in the table above indicate an overall mean of 1.83 and a standard deviation of 0.940. This indicates that a good number of the respondents acknowledge poor mastery and exploitation of knowledge in relation to vocational studies

Question Research 4: To what extent do assessment and assessment strategies influence pupils' outcomes in vocational skills in primary school?

Table 16:Assessment strategies used to assess vocational studies

S/N	Questions	N	SA	A	D	SD
1	1 assess my pupils weekly through practical task and projects	121	4 3.3%	15 12.4%	51 42.1%	51 42.1%
2	My assessment are adapted to real-life vocational skills	121	13 10.74%	11 9.1%	46 38.0%	51 42.1%
3	I use observation as part of my assessment strategy	121	11 9.1%	19 15.7%	53 43.8%	38 31.4%
4	I give feedback to pupils after each vocational task or test	121	13 10.74%	19 15.7%	46 38.0%	43 35.5%
5	Pupil’s assessment results guide my future teaching	121	43 35.5%	38 31.4%	24 19.8%	16 13.2%
	Overall	**121**	**17 13.88%**	**20 16.86%**	**44 36.34%**	**40 32.86%**

Source: Field data 2025

The analyses in the table above indicates that indicates 3.3% of the respondents strongly agree to the fact that they assess pupil weekly through practical skills, 12.4% agree, 42.1% disagree and 42.1% strongly disagree. This means majority of the population do not assess their learners through practical task.

The analysis also shows that 10.74% of the respondents strongly agree that their assessment is adapted to real-life situations, 9.1% agree, 38.0% disagree and 42.1% strongly disagree.

Furthermore, the analysis shows that 9.1% of the respondents strongly agree that they use observation as part of assessment, 15.7% agree, 43.8%% disagree and 31.4% strongly disagree.

The analysis equally indicates that 10.74% of the respondents strongly agree that they provide feedback, 15.7%% agree, 38.0 disagree and 35.5% strongly disagree.

In addition, the analyses further indicate 25.5%% of the respondents strongly agree that pupils' assessment serve as guideline for future teaching, 31.4% agree, 19.8% disagree and 13.2% strongly disagree.

Finally, the frequency analysis indicates that in average, 13.88% of the respondents strongly agree that assessment strategies are used in vocational studies, 16.86% agree, 36.34% disagree and 32.86% strongly disagree. This is an indication that assessment strategies are not used by teachers in vocational studies.

S/N	Questions	N	Mean	StD.
1	1 assess my pupils weekly through practical task and projects	121	1.77	0.79
2	My assessment is adapted to real-life vocational skills	121	1.88	0.97
3	I use observation as part of my assessment strategy	121	2.02	0.92
4	I give feedback to pupils after each vocational task or test	121	2.02	0.97
5	Pupil's assessment results guide my future teaching	121	2.89	1.04
	Overall	**121**	**2.12**	**0.94**

Source: field data 2025
Scale: mean: 1.00 - 1.49 = Strongly Disagree, **1.50 - 2.49** = Disagree **2.50 - 3.49** = Agree, **3.50 - 4.00** = Strongly Agree.
Standard Deviation: **0.00-0.5** = strongly disagree, **0.51- 1.00** = disagree, **1.01-1.50** = Neutral, **1.51=2.00** = agree, above **2.00** = strongly agree

The findings in the table above indicate an overall mean of 2.12 and a standard deviation of 0.94. This indicates that a good number of the respondents acknowledge poor usage of assessment strategies during the teaching of vocational studies.

Table 17:Dependent variable: Vocational skills in primary schools

S/N	Questions	N	SA	A	D	SD

1	Pupils perform hands-on tasks accurately and neatly	121	7 5.8%	12 9.9%	43 35.5%	59 48.8%
2	Pupils demonstrate creativity and innovation during practical work	121	12 9.9%	18 14.9%	43 35,5%	48 39.7%
3	Pupils develop entrepreneurial skills through task-based project	121	13 10.74%	23 19.0%	41 33.9%	44 36.4%
4	Pupils develop communication skills during projects-based teaching	121	21 17.4%	31 25.6%	43 35.5%	26 21.5%
5	Pupils develop problem solving ability through task-based project	121	15 12.4%	31 25.6%	36 29.8%	39 32.2%
	Overall	**121**	**14** **11.25%**	**22** **19.0%**	**42** **34.04%**	**43** **35.72%**

Source: Field data 2025

The analyses in table above indicates that indicates 5.8% of the respondents strongly agree to the fact that pupils perform hands on task accurately, 9.9% agree, 35.5% disagree and 48.8% strongly disagree.

The analysis also shows that 9.9% of the respondents strongly agree that pupils demonstrate creativity and innovation during practical work, 14.9% agree, 35.5% disagree and 39.7% strongly disagree.

Furthermore, the analysis shoe that 10.74% of the respondents stronglyagree that pupils develop entrepreneurial skills through task-based projects, 19.0% agree, 33.9% disagree and 36,4% strongly disagree.

The analysis equally indicates that 17.4% of the respondents strongly agree that pupil develop communication skills during task-based teaching, 25.6%% agree, 35.5% disagree and 21.5%% strongly disagree.

In addition, the analyses further indicate 12.4% of the respondents strongly agree that pupil develop problem solving skills during task-based teaching, 25.6% agree, 29.8% disagree and 32.2% strongly disagree.

Finally, the frequency analysis indicates that in average, 11.25% of the respondents strongly agree that pupils have vocational skills, 19.0% agree, 34.04% disagree and 35.72% strongly disagree. This is an indication that learners lack vocational skills.

This further be explained on the table below

S/N	Questions	N	Mean	StD
1	Pupils perform hands-on tasks accurately and neatly	121	1.73	0.87
2	Pupils demonstrate creativity and innovation during practical work	121	1.95	0.97
3	Pupils develop entrepreneurial skills through task-based project	121	2.04	0.99
4	Pupils develop communication skills during projects-based teaching	121	2.39	1.01
5	Pupils develop problem solving ability through task-based project	121	2.18	1.02

	Overall	**121**	**2.058**	**0.972**

Source: field data 2025
Scale: mean: 1.00 - 1.49 = Strongly Disagree, **1.50 - 2.49** = Disagree **2.50 - 3.49** = Agree, **3.50 - 4.00** = Strongly Agree.
Standard Deviation: **0.00-0.5** = strongly disagree, **0.51- 1.00** = disagree, **1.01-1.50** = Neutral, **1.51=2.00** = agree, above **2.00** = strongly agree

The findings in the table above indicate an overall mean of 2.058 and a standard deviation of 0.972. This indicates a clear indication of lack of vocational skills in the learners.

PART TWO: Questionnaire for pupils

Table 18:Class for pupils

Elements	**Frequency**	**Percentage**
Class 5	28	57.1
Class 6	21	42,9
Total	**49**	**100**

From the Table below, 57.1% of participants are from class five and 42.9% are from class six.

Table 19:Gender for pupils

Elements	**Frequency**	**Percentage**
Male	14	28.6
Female	35	71,4
Total	**49**	**100**

From the Table below, the highest proportion of pupils who participated in the study are female, 71.4%, the reason being that there are more female in primary schools in Akonolinga. 28.6.% of respondents are male.

Table 20:Teaching methods for pupils

S/N	**Questions**	**N**	**SA**	**A**	**D**	**SD**
1	My teacher shows us how to do things during vocational studies	49	5 10.2%	19 38.8%	17 34.7%	8 16.3%
2	Our teacher put us in groups during practical lesson	49	17 34.7%	12 24.5%	14 28.6%	6 12.2%
3	I understand better when we do things with our hands	49	30 61.2%	13 26.5%	3 6.1%	3 6.1%
4	I learn many new skills during vocational lesson	49	15 30.6%	8 16.3%	13 26.5%	13 26.5%
	Overall	**49**	**17 34.18%**	**13 26.53%**	**12 23.98%**	**7 15.28%**

Source: field data 2025

The analyses in table above indicates that indicates 10.2% of the respondents strongly agree to the fact that their teachers show them what to do during vocational studies, 38.8% agree, 34.7% disagree and 16.3% strongly disagree.

The analysis also shows that 34.4% of the respondents strongly agree that the teachers put them in groups during practical work, 24.5% agree, 28.6% disagree and 12.2% strongly disagree.

Furthermore, the analysis shoe that 61.2% of the respondents stronglyagree that they understand better when they do things on their own, 26.5% agree, 6.1% disagree and 6.1% strongly disagree.

The analysis equally indicates that 30.6% of the respondents strongly agree that they learn many skills during vocational studies, 16.3%% agree, 26.5% disagree and 26.5%% strongly disagree.

Finally, the frequency analysis indicates that in average, 34.18% of the respondents strongly agree to the use of effective teaching methods, 26.53% agree, 23.98% disagree and 15.28% strongly disagree. This is an indication that teachers employ effective teaching methods when teaching vocational studies.

S/N	Questions	N	Mean	StD
1	My teacher shows us how to do things during vocational studies	49	2.42	0.89
2	Our teacher put us in groups during practical lesson	49	2.82	1.05
3	I understand better when we do things with our hands	49	3.42	0.87
4	I learn may new skills during vocational lesson	49	2.51	1.19
	Overall	**49**	**2.79**	**1.0**

Source: Field data 2025
Scale: mean: 1.00 - 1.49 = Strongly Disagree, **1.50 - 2.49** = Disagree **2.50 - 3.49** = Agree, **3.50 - 4.00** = Strongly Agree.
Standard Deviation: **0.00-0.5** = strongly disagree, **0.51- 1.00** = disagree, **1.01-1.50** = Neutral, **1.51=2.00** = agree, above **2.00** = strongly agree

The findings in the table above indicate an overall mean of 2.79 and a standard deviation of 1.0. This indicates that a good number of the respondents acknowledge good usage of teaching methods by their teachers when teaching vocational studies,

Table 21:Learning materials and resources for pupils

S/N	Questions	N	SA	A	D	SD
1	Our teacher brings things from home to make us learn	49	17 34.7%	11 22.4%	10 20.4%	11 22.4%
2	Sometimes we do not have enough materials to work with	49	31 63.3%	8 16.3%	5 10.2%	5 10.2%
3	The learning materials we use in class help us to better understand	49	14 28.6%	29 59.2%	3 6.1%	3 6.1%
4	We use real material during vocational studies	49	14 28.6%	7 14.3%	10 20.4%	18 36.7%
	Overall	**49**	**19 38.8%**	**14 28.03%**	**7 14.28%**	**9 18.85%**

Source: field data 2025

The analyses in table above indicates that indicates 5.8% of the respondents strongly agree to the fact that pupils perform hands on task accurately, 9.9% agree, 35.5% disagree and 48.8% strongly disagree.

The analysis also shows that 9.9% of the respondents strongly agree that pupils demonstrate creativity and innovation during practical work, 14.9% agree, 35.5% disagree and 39.7% strongly disagree.

Furthermore, the analysis shoe that 10.74% of the respondents stronglyagree that pupils develop entrepreneurial skills through task-based projects, 19.0% agree, 33.9% disagree and 36,4% strongly disagree.

The analysis equally indicates that 17.4% of the respondents strongly agree that pupil develop communication skills during task-based teaching, 25.6%% agree, 35.5% disagree and 21.5%% strongly disagree.

In addition, the analyses further indicate 12.4% of the respondents strongly agree that pupil develop problem solving skills during task-based teaching, 25.6% agree, 29.8% disagree and 32.2% strongly disagree.

Finally, the frequency analysis indicates that in average, 11.25% of the respondents strongly agree that pupils have vocational skills, 19.0% agree, 34.04% disagree and 35.72% strongly disagree. This is an indication that learners lack vocational skills.

Summary table

S/N	Questions	N	Mean	StD
1	Our teacher brings things from home to make us learn	49	2.69	1.18
2	Sometimes we do not have enough materials to work with	49	3.33	1.03
3	The learning materials we use in class help us to better understand	49	3.10	0.77
4	We use real material during vocational studies	49	2.35	1.25
	Overall	**49**	**2.87**	**1.06**

Source: field data 2025
Scale: mean: 1.00 - 1.49 = Strongly Disagree, **1.50 - 2.49** = Disagree **2.50 - 3.49** = Agree, **3.50 - 4.00** = Strongly Agree.
Standard Deviation: **0.00-0.5** = strongly disagree, **0.51- 1.00** = disagree, **1.01-1.50** = Neutral, **1.51=2.00** = agree, above **2.00** = strongly agree

The findings in the table above indicate an overall mean of 2.87 and a standard deviation of 1.06 This indicates that a good number of the respondents acknowledge making use of resources when teaching vocational studies.

Table 22:Assessment strategies for pupils

S/N	Questions	N	SA	A	D	SD
1	My teacher checks what we learn through test or projects	49	23 46.9%	10 20.4%	11 22.4%	5 10.2%
2	We do activities that show what we have learned	49	16 32.7%	20 40.8%	7 14.3%	6 12.2%

3	My teacher watches us while we do vocational tasks	49	7 14.3%	25 51.0%	8 16.3%	9 18.4%
4	We get feedback from our teacher after each activity	49	19 38.8%	7 14.3%	15 30.6%	8 16.3%
5	I compare my own activities realized with other class mates	49	4 8.2%	10 20.4%	22 44.9%	13 26.5%
	Average	**49**	**14 28.18%**	**15 29.38%**	**12 25.7%**	**8 16.72%**

Source: field data 2025

The analyses in table above indicates that indicates 46.9% of the respondents strongly agree to the fact that their teachers check what they learn through test and projects, 20.4% agree, 22.4% disagree and 10.2% strongly disagree.

The analysis also shows that 32.7% of the respondents strongly agree they do activities that show what they have learned, 40.8% agree, 14.3% disagree and 12.2% strongly disagree.

Furthermore, the analysis shows that 14.3% of the respondents stronglyagree that the teacher watches them while they perform task, 51.0% agree, 16.3% disagree and 18.4% strongly disagree.

The analysis equally reveals that 38.8% of the respondents strongly agree that they get feedback for each activity done, 14.3% agree, 30.6% disagree and 16.3% strongly disagree.

In addition, the analyses further indicate 8.2% of the respondents strongly agree that they compare their work with that of others, 20.4% agree, 44.9% disagree and 26.5% strongly disagree.

Finally, the frequency analysis indicate that in average, 28.8% of the respondents strongly agree to the use of assessment to test vocational skills vocational skills, 29.38% agree, 25.7% disagree and 16.72% strongly disagree.

S/N	Questions	N	Mean	StD
1	My teacher checks what we learn through test or projects	49	3.04	1.06
2	We do activities that show what we have learned	49	2.94	0.99
3	My teacher watches us while we do vocational tasks	49	2.61	0.95
4	We get feedback from our teacher after each activity	49	2.76	1.15
5	I compare my own activities realized with other class mates	49	2.10	0.90
	Overall	**49**	**2.69**	**1.01**

Source: field data 2025

Scale: mean: 1.00 - 1.49 = Strongly Disagree, **1.50 - 2.49** = Disagree **2.50 - 3.49** = Agree, **3.50 - 4.00** = Strongly Agree.
Standard Deviation: **0.00-0.5** = strongly disagree, **0.51- 1.00** = disagree, **1.01-1.50** = Neutral, **1.51=2.00** = agree, above **2.00** = strongly agree

The findings in the table above indicate an overall mean of 2.69 and a standard deviation of 1.01. This indicates that a good number of the respondents acknowledge the use of different assessment strategies invocational studies

Inferential Analysis/ Hypotheses testing

Correlation analysis is done to determine the degree of relationship between the different objectives such as teaching methods, use of teaching resources, content mastery, assessment strategies and pupils' outcome in vocational skills. According to Camorin & Camorin (1999), a hypothesis is a wise guess that is formulated and temporally adopted to explain the observed facts by the study. There are two types of hypotheses, the null hypotheses (Ho) and the alternative hypotheses (Ha). For the purpose of this study, the variables will be grouped into composite variables. This was done using SPSS version 20.0 where the different questions were group under the respective variables. In this study, the Pearson Product Moment Correlation Coefficient (PPMC) was used as a statistical test to verify the correlation between the two variables. It equally measures the strength of a linear correlation between two variables. The PPMC (r) is always between +1 & - 1. When the correlation positive, r is close to + 1 and when it is negative, r is close to -1

Decision rule

Reject the Ho when the asymptotic significant level is greater than the level of significance and do not reject Ho when the asymptotic significant level is less than the level of significance. In order words, we reject the Ho when the calculated value is greater than the critical or table value. The PPMC is given by,

$$r = \frac{\mathrm{N}\sum \mathrm{xy} - (\sum \mathrm{x})(\sum \mathrm{y})}{\sqrt{[N\sum x^2 - (\sum \mathrm{x})^2[\mathrm{N}\sum \mathrm{y}^2 - (\sum \mathrm{y})^2}}$$

Where :

N= total number of observations
X = independent variable
Y = dependent variable

The coefficient of determination is r^2

The table below is used to test the relationship between use of proper teaching methods and pupils' outcome in vocational skills

Hypotheses 1:

Ha: There is a statistically significant relationship between teaching methods and pupils' outcome in vocational skills

Ho: There is no statistically significant relationship between teaching methods and pupils' outcome in vocational skills

Table 23:Relationship between teaching methods and pupils outcome in vocational skills

		Pupils' outcome in vocational skills	Teaching methoda
Pupils' outcome in vocational skills	Pearson Correlation	1	.443**
	Sig. (2-tailed)		.000
	N	121	121
Teaching methods	Pearson Correlation	.443**	1
	Sig. (2-tailed)	.000	
	N	121	121

Source: Field data 2025. Correlation is significant at the 0.05 level (2-tailed).

From the analysis in the table above, it is observed that the Pearson correlation (r) is 0.443 at a 0.05 level of significance. Based on this, we reject the null hypotheses and conclude that teaching methods has a moderate statistically significant relationship with pupils' outcome in vocational skills

The coefficient of determination $r^2= (0.443)^2 = 0.196$ measures the strength of the relationship between teaching methods (X) and pupils' outcome in vocational skills (Y). This implies that Y is not affected by changes in X.

Furthermore, the calculated value of the PPMC is 0.443 and the p-value is 0.179, we thus reject the Ho since the calculated value is greater than than the table value of 0.179. This therefore means that there is a significant relationship between teaching methods and pupils' outcome in vocational skills. According to Amin (2007), there is a strong relationship when the asymptotic significance is greater than or equal to 0.7 and if it between 0.4 and 0.6, then it is moderate. This therefore means that there is moderate relationship between X and Y since the asymptotic significance is less than 0.7. The coefficient of determination equally implies that the proportion of common variance between the two variables is 0.196. This means 19.6% of the variance of pupils' outcome in vocational skills is explained by the variance of teaching methods

Hypotheses 2:

Ha : There is a statistically significant relationship between teaching resources and pupils' outcome in vocational skills

Ho : There is no statistically significant relationship between teaching resources and pupils' outcome in vocational skills

Table 24:Relationship between teaching resources and pupils' outcome in vocational skills

		Pupils' outcome in vocational skills	Teaching resources
Pupils' outcome in vocational skills	Pearson Correlation	1	.475**
	Sig. (2-tailed)		.000
	N	121	121
Teaching resources	Pearson Correlation	.475**	1
	Sig. (2-tailed)	.000	
	N	121	121

*Source: Field data 2025***. Correlation is significant at the 0.05 level (2-tailed).

Looking at the analysis in the table above, it is observed that the Pearson correlation (r) is 0.475 at a 0.05 level of significance. Based on this, we reject the null hypotheses and conclude that teaching resources has a moderate statistically significant relationship with pupils' outcome in vocational skills

The coefficient of determination $r^2 = (0.475)^2 = 0.226$ measures the strength of the relationship between teaching resources (X) and pupils' outcome in vocational skills (Y). This implies that Y is not affected by changes in X.

Furthermore, the calculated value of the PPMC is 0.473 and the critical value is 0.179, we thus reject the Ho since the calculated value is greater than than the table value of 0.179. This therefore means that there is a significant relationship between teaching resources and pupils' outcome in vocational skills although the relationship is not strong. According to Amin (2007), there is a strong relationship when the asymptotic significance is greater than or equal to 0.7 and if it between 0.4 and 0.6, then it is moderate. This therefore means that there is weak relationship between X and Y since the asymptotic significance is less than 0.4. The coefficient of determination equally implies that the proportion of common variance between the two variables is 0.226. This means 22.6% of the variance of pupils' outcome in vocational skills is explained by the variance of teaching resources.

Hypotheses 3:

Ha : There is a statistically significant relationship between content mastery and pupils' outcome in vocational skills

Ho : There is no statistically significant relationship between content and pupils' outcome in vocational skills

Table 25:Relationship between content mastery and pupils' outcome in vocational skills

		Pupils' outcome in vocational skills	Content mastery
Pupils' outcome in vocational skills	Pearson Correlation	1	.773**
	Sig. (2-tailed)		.000
	N	121	121
Content mastery	Pearson Correlation	.773**	1
	Sig. (2-tailed)	.000	
	N	121	121

*Source: Field data 2025***. Correlation is significant at the 0.05 level (2-tailed).

From the analysis in the table above, it is observed that the Pearson correlation (r) is 0.773 at a 0.05 level of significance. Based on this, we reject the null hypotheses and conclude that knowledge in content mastery has a statistically significant relationship with pupils' outcome in vocational skills

The coefficient of determination $r^2 = (0.733)^2 = 0.596$ measures the strength of the relationship between content (X) and pupils' outcome in vocational skills (Y). This implies that Y is not affected by changes in X.

Furthermore, the calculated value of the PPMC is 0.773 and the p-value is 0.179, we thus reject the Ho since the calculated value is greater than than the table value of 0.179. This therefore means that there is a significant relationship between content and pupils' outcome in vocational skills. According to Amin (2007), there is a strong relationship when the asymptotic significance is greater than or equal to 0.7 and if it between 0.4 and 0.6, then it is moderate. This therefore means that there is strong relationship between X and Y since the asymptotic significance is greater than 0.7. The coefficient of determination equally implies that the proportion of common variance between the two variables is 0.596. This means 59.6% of the variance of pupils' outcome in vocational skills is explained by the variance of teaching methods

Hypotheses 4:

Ha : There is a statistically significant relationship between assessment strategies and pupils' outcome in vocational skills

Ho : There is no statistically significant relationship between assessment strategies and pupils' outcome in vocational skills

Table 26:Relationship between assessment strategies and pupils' outcome in vocational skills

		Pupils' outcome in vocational skills	Assessment strategies
Pupils' outcome in vocational skills	Pearson Correlation	1	.723**
	Sig. (2-tailed)		.000
	N	121	121
Assessment strategies	Pearson Correlation	.723**	1
	Sig. (2-tailed)	.000	
	N	121	121

*Source: Field data 2025***. Correlation is significant at the 0.05 level (2-tailed).

Looking at the analysis in the table above, it is observed that the Pearson correlation (r) is 0.7233 at a 0.05 level of significance. Based on this, we reject the null hypotheses and conclude that teaching methods has a statistically significant relationship with pupils' outcome in vocational skills

The coefficient of determination $r^2 = (0.723)^2 = 0.523$ measures the strength of the relationship between teaching methods (X) and pupils' outcome in vocational skills (Y). This implies that Y is not affected by changes in X.

Furthermore, the calculated value of the PPMC is 0.723 and the critical value is 0.179, we thus reject the Ho since the calculated value is greater than than the table value of 0.179. This therefore means that there is a significant relationship between assessment strategies and pupils' outcome in vocational skills. According to Amin (2007), there is a strong relationship when the asymptotic significance is greater than or equal to 0.7 and if it between 0.4 and 0.6, then it is moderate. This therefore means that there is weak relationship between X and Y since the asymptotic significance is less than 0.4. The coefficient of determination equally implies that the proportion of common variance between the two variables is 0.523. This means 52.3% of

the variance of pupils' outcome in vocational skills is explained by the variance of teaching methods

CHAPTER FIVE
DISCUSSION, CONCLUSIONS AND RECOMMENDATION

This chapter presents a discussion of the findings, conclusion, implications of the study, recommendations, contribution to knowledge, and suggestions for further study.

Discussion of the findings

Effect of teaching methods and pupils' outcome in vocational skills in primary school.

Findings and observation have reveal that many teachers mostly use discoussion methodzhile teacheing vocational studies. They use little r not outdoors activities ong demonstrqtion, little or practical base activities, little or notask basz teaching methods and experime,tation zhile teaching vocational studies

The overall mean of 2.098, and the standard deviation of 0.998. Indicates that a good number of the respondents acknowledge that poor usage of teaching methods influences teaching in vocational studies.The findings also reveal that the teaching methods rarely used are participative and group work with a mean of 1.94 and 1.97, respectively.

The Pearson Product-Moment Correlation Coefficient conclude that teaching methods have a moderate, statistically significant relationship with pupils' outcomes in vocational skills. The coefficient of determination $r^2= (0.443)^2 = 0.196$, measuring the strength of the relationship between teaching methods and pupils' outcome in vocational skills. Implies that Y is not affected by changes in X. Furthermore, the calculated value of the PPMC is 0.443, and the p-value is 0.179, which indicates that the calculated value is greater than the table value of 0.179. This therefore means that there is a significant relationship between teaching methods and pupils' outcomes in vocational skills.

The coefficient of determination equally implies that the proportion of common variance between the two variables is 0.196. This means 19.6% of the variance of pupils' outcomes in vocational skills is explained by the variance of teaching methods.

To complement this result, teaching skills and competencies in TVET, trainers, teachers, and instructors must employ appropriate teaching methods. However, to achieve this, several key factors, or didactics, need consideration, including the target group (considering their individual characteristics and expectations), the lesson topic, objectives, and strategies for controlling the learning session (Wiekenberg, 2014). The full significance of the didactics will not be realised if the principles of teaching TVE subjects are overlooked. Consequently, Wiekenberg argued

that a key principle of teaching is motivation. When students are motivated, it creates interest within them. Interest then fosters commitment, which ultimately leads to successful learning.

This finding agrees with the study carried out by Ogu, (2000) Teaching methods are strategies utilized by teachers to ensure effective learning occurs. Also Eze and Nwaukwa (2018) also support the finding that teaching methods strategic employed by teachers to transfer knowledge, and skills, creates positive attitudes aimed at transforming learners into enterprising individuals.

Ahmad et al (2017), and Rustamov et al. (2021), agree that various teaching methods such as demonstration, project, discussion, discovery, lecture, case studies, role playing, field trips, brainstorming, conferencing, creative assignment method, and programmed instruction influences learners understanding of abstract concepts in vocational education and instructors tramssion of knowledge to learners. Another study by Okuta and Yayock (n.d.) supports that teaching methods used by instructors that develop creative knowledge, critical thinking, problem-solving skills, and communication skills are critical skills that must be transmitted through the appropriate teaching methods in the 21st century.

Effect of teaching resources and pupils' outcomes in vocational skills in primary school

Qkonolinga is found in a rural area wth vast land and ,uch natural resources like bamboo, fruit, crops and so on . rare do teachers exploit them for teaching of practical lessons in the primay school. The findings indicate the overall mean of 2.398 and a standard deviation of 0.930. This implies that a good number of the respondents acknowledge poor usage of teaching resources influences teaching of vocational studies.The findings also reveal that the inability of the school to provide resources and the designing of teaching aids by teachers to suit content with a mean of 1.64 and 2.01 respectively which are below the cutoff mean.

Pearson correlation (r) is 0.475 at a 0.05 level of significance. Conclude that teaching resources has a moderate, statistically significant relationship with pupils' outcomes in vocational skills. The coefficient of determination $r^2 = (0.475)^2 = 0.226$ measures the strength of the relationship between teaching resources and pupils' outcome in vocational skills.

The coefficient of determination equally implies that the proportion of common variance between the two variables is 0.226. This means 22.6% of the variance of pupils' outcomes in vocational skills is explained by the variance of teaching resources.

Alemnge et al (2024), support the results that pedagogic resources influence teaching in vocational education. Teachers need to adjust their teaching materials to learners' needs. The findings show that the level of deployment of teaching resources on students' performance was

slightly above average. Consequently, the degree of teacher effectiveness is directly linked to their level of professional development and teaching resources, which in turn influence academic performance.

Effect of teachers' knowledge of content matter on learners' outcomes of vocational skills in primary school.

Teacher in Akonolinga lack appropriate mastery of the subject matter, they do not have text books in teaching vocational studies and donot fully exploit and prepare the content of vocational studies found in the curriculum. They shallowly introuduce this domain an d children graduate from pri,ary school with out adequate vocational skills aquisision. The findings in the table above indicate an overall mean of 1.83 and a standard deviation of 0.940. This indicates that a good number of the respondents acknowledge poor mastery and exploitation of knowledge in relation to vocational studies.

Pearson correlation (r) is 0.773 at a 0.05 level of significance. Based on this, we conclude that knowledge in content mastery has a statistically significant relationship with pupils' outcomes in vocational skills. This therefore means that there is a significant relationship between content and pupils' outcomes in vocational skills. The coefficient of determination equally implies that the proportion of common variance between the two variables is 0.596. This means 59.6% of the variance of pupils' outcomes in vocational skills is explained by the variance of teaching methods. There is a strong positive relationship between knowledge in content mastery and pupils' outcomes in vocational skills in Akonolinga.

Kyomuhendo and Kasule (2017) in their study also agree that there is a significant relationship between a tutor's content knowledge and the academic achievement of primary teacher trainees. These studies, therefore, align methodologically with the current study, although their designs and instrumentation differ significantly. Classroom Management (CRM) is stated to be linked to discipline or control, predicting the reduction of undesirable student behaviour. However, it involves more than just responding appropriately when problems arise in the classroom (Little & Akin-Little, 2008). Fenstermacher (2015) opined that a teacher's content knowledge positively influences students' behaviour and achievement in vocational education. Guardino (2015) asserted that knowledge of content matters for learners' outcomes of vocational skills in secondary school. Teachers have the responsibility of transferring content to learners, as it significantly determines the success of instruction. During the instructional process, effective teachers demonstrate professionalism by managing and controlling the classroom, regardless of

students' achievement levels and the diversity within the class. This notion leads curriculum developers to consider the level and achievement of students before designing a curriculum. To implement the developed curriculum effectively, it is essential for teachers to cultivate the knowledge, values, and competence needed to understand student heterogeneity.

Effect of assessment strategies and pupils' outcomes in vocational skills

In the primary schools in Akonolinga, assessment of vocational studies is mostly paper pen in the classroom which dose not permit the evaluation of vocational skills. Teachers rarely practical assessment, nor out doors or field work assessment. The pearson correlation (r) is 0.7233 at a 0.05 level of significance. Based on the conclusion that assessment strategies have a statistically significant relationship with pupils' outcomes in vocational skills.

The coefficient of determination equally implies that the proportion of common variance between the two variables is 0.523. This means 52.3% of the variance of pupils' outcomes in vocational skills is explained by the variance of assessment strategies.

This result ties with that of UNESCO (2021), the TVET curriculum assessment strategies are practical and emphasise the development of soft skills necessary for sustainable work, not just in technical disciplines. Action-oriented, school-based learning types, such as workplace learning and experimental laboratory environments, require exam assignments that consider the "paradigmatic work contexts" of skilled jobs (Rauner et al., 2013). One aspect of education in almost every nation is providing young people with the information and skills required for employment (Knight & Sweet, 2010). TVET institutions or training centres often educate students in programs that combine theoretical knowledge with practical skills, enabling them to tackle issues like identifying faulty components or systems. Students may focus on repairing components or systems by emphasising TVET education through knowledge and skill equivalence, ensuring that the sequence, scope, and selection of components and systems align. As recommended by OECD (2011), to generate competent students capable of meeting industrial expectations, policymakers should encourage the interchange and collaboration between TVET institutions and industry so that vocational teachers and students can spend time in the industry to enhance their knowledge, while vocational trainers in firms spend time in TVET institutions to strengthen their pedagogical skills competencies. Assessment strategies and pupils' outcomes in vocational skills need to be formative and summative during practical activities in vocational education.

Implications of the study

This study will provide insight for the early exposure of primary school pupils to vocational training while paying attention to teachers' pedagogic competencies, taking into account teachers' training.

This study will provide a holistic view of vocational education in line with teachers' pedagogic content, allowing pupils to develop practical skills and experience in real real-life context.

Another pedagogic implication of the teacher's role as a facilitator in vocational education lies in the ability to construct tasks and activities which will serve to meet the needs and expectations of the learners.

Conclusion

This study examine the impact of teachers pedagogic competencies on pupils outcome in vocational skills in some primary schools in Akonolinga sub Division. Specifically the study focuss on teachers use of instructional resources, assessment strategies, teaching methods and knowledge of vocational studies content. This findings indicate that teachers pedagogic competence play a significant role in enhancingpupils acquisition of vocational skills and overall learning outcome.

The study reveal that effective use of instructional resources in vocational studies promote pupils practical engagement and understanding of vocational studies concept where teachers use consistence and relevant tools and materials. Pupils demonstrate improve skills acquisition and interest in vocational activities. Conversely inappropriate or limited use of resources negatively affect pupils performance and acquisition of vocational skills.

Futher more, the assessment strategy employed by teachers were found to influence pupils vocational skills outcome. Continuous assessment, practical evaluation and constructive feed back contribute positively to pupils skills development. While over reliances theoretical and summative evaluation limite learners practical competences. This highlight the importance of aligning assessment methods with the practical nature of vocational studies supported by Wirngo Tani Ernestine (2021), says pedagogy is not complete with out learner assessment and that the quality of test most influence pupils outcome and performance.

In addition the teaching methods used by teachers significantly affect pupils vocational skills outcome . Learners center approach such as demonstration, hand on practice and guided participation prove more effective than teachers center methods. Pupils expose to interactive and practical teaching methods show high level of competence and confidence in vocational tasks.

Alemnge(2024) confirm that pedagogic content knowledge of teachers contribute positively to the development of teachers skills in their endeavour to promote effective teaching in the primary school classroom. Teachers content knowledge of vocational studies emerged as a critical factor influencing pupils learning outcome. Teacher with adequate subject matter knowledge are better equipped to deliver accurate instruction, intergrate theories with practical and support pupils skills development effectively.

Finally the studybunderscores the importance of strengthening teachers pedagogic competencies to improve pupils vocational skill outcome in primary schools in the Akonolinga sub Division. Enhancing teachers teachers professional training, providing adequate instructional resources and promoting effective teaching and assessment practices are essential steps toward achieving **quality vocational education at the primary school level**

Recommendation

In-service training should be conducted to enable teachers to acquire up-to-date teaching skills in vocational education so as to better transmit these competencies to pupils. Capacity building should involve the best teaching methods, resources, technology and assessment strategies to help people better understand abstract concepts.

Weekly pedagogic supervision from the regional delegation of primary education should be done. While integrating technology into the teaching and learning processes in their classrooms. Primary schools need to sign conventions with apprenticeship workshops to help people perfect their skills with experts during holidays.

The budget allocation to schools should be increased so as to provide adequate infrastructure and material resources needed to perfect the vocational skills of pupils.

Teacher training programs should in training schools be restructured to include practical, hands-on components that potray the realities of work environment. Simulated teaching environments, workshops, and project-based activities should be integral parts of the training to equip teachers with the skills needed for experiential learning. Continuous professional development programs, including mentorship and refresher courses, are essential to support teachers in adapting their teaching practices to evolving educational demands.

Limitations of the study

The sample size of this study is 170 respondents, which is considered large enough for the study. However, the issue with this survey is that not all questionnaires were returned, as the response rate is 96.23%. The researcher believes that the results would be more valid with a larger sample size that at least covers the Centre regions.

The research instrument used for data collection was a closed-ended questionnaire and an observation guide. This limited respondents' ability to provide answers that could accurately reflect their opinions.

Some limitations were also noted at the literature review level, as most of the articles were reviewed online and contained very little information on teachers' pedagogical competencies

related to pupils' vocational skills outcomes in primary schools. Some journals and articles were inaccessible due to financial constraints. We also faced limitations during the administration of the instrument since it was only administered in one subdivision of the Nyong-et-Mfoumou division. The researcher wanted to reach out to respondents in other divisions of the Centre regions.

Suggestion for further studies

- Teachers' pedagogical competencies related to pupils' vocational skills outcomes in primary schools in Cameroon.
- Teachers' pedagogical competencies in inclusive primary schools.
- Teachers' pedagogic competencies, instructional quality and students' academic performance.

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APPENDIX

Sample Size Determination Using Krejcie and Morgan Table 1970

N	*S*	*N*	*S*	*N*	*S*
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note.—*N* is population size. *S* is sample size.

Source: Krejcie & Morgan, 1970

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Peace – Work – Fatherland

THE UNIVERSITY OF YAOUNDE I

The Faculty of Education

Department of Curricula and Evaluation

Questionnaire for teachers

Dear Sir/Madam,

I am **NDIFON PAMELA FRI**, a master's II student of the University of Yaounde I, Faculty of Education, Department of Curriculum and Evaluation. I am carrying out a study on the topic of **The impact of teachers' pedagogic competencies on pupils' outcome of vocational skills in some selected primary schools in the Akonolinga sub division.** Our study seeks to find out how the impact of**teachers' pedagogic competencies on pupils' outcome of vocational skills in some selected primary schools**. Dear respondent, your answers shall be treated with a lot of confidentiality and we will also ensure the non-traceability of your answers. Are you therefore ready to provide answers to these questions?

Yes □ No □

Instructions: Tick (√) the items that suit your opinion

Section A: Demographic information

1. Status as a teacher PTA □ Civil servant □ Contract agent □
2. Gender Male □ Female □
3. What is your age group? 20-25 □ 26-30□ 31-35 □ 36-40 □ 41 and above □
4. Highest academic qualification A level □ Degree □ Masters □ PhD □
5. Professional qualification CAPIEMP □ None□
6. Longevity in service 0-5 years □ 5-10 years □ 10-15 years □ 15-20years and above □

Instructions: Please select the response that represents your views by using a cross(x) on any of these items; Strongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD)

Section B: Effects of teaching methods and pupils' outcome of vocational skills.

No	Items	SA	A	D	SD
1	I often use demonstration method when teaching vocational skills.				
2	Pupils actively participate during vocational lessons				
3	I use group work / practical tasks to teach vocational skills.				
4	The teaching method I use help pupils to master practical skills				
5	I adapt teaching methods base on pupil's learning pace / needs.				

Section C: Effects of using resources in the teaching of vocational studies and learner outcomes of vocational skills in primary school

No	Items	SA	A	D	SD
1	My school provide adequate materials for teaching vocational studies.				
2	I often use local materials or improvised materials in my lesson				
3	Inadequate teaching resources limits practical teaching in vocational studies .				
4	I design teaching aids for specific vocational content				
5	Teaching resources make it easier for pupils to understand vocational studies.				

Section D: Explore teacher's knowledge in the content matter of teaching vocational studies and pupil outcome of vocational skills in the primary school

No	Items	SA	A	D	SD
1	I have received formal training in vocational education				
2	I am able to prepare lesson plans in line with vocational content				
3	I am able to teach all topics in vocational studies curriculum				
4	I have a good Mastery of media and learning models				
5	I am creative in solving problems				
6	I regularly attend pedagogic seminars organized by the ministry to update our skills				
7	I Utilized ICT in teaching of vocational content				

Section E: Assessment strategies used to assess vocational studies and pupils' outcomes of vocational skills in primary school

No	Items	SA	A	D	SD
1	I assess my pupils weekly through practical tasks and projects.				
2	My assessments are adapted to real-life vocational skills.				
3	I use observation as part of my assessment strategy.				
4	I give feedback to pupils after each vocational task or test.				
5	Pupils' assessment results guide my future teaching				

Section F: vocational skills in primary school

No	Items	SA	A	D	SD

1	Pupils Perform hands-on tasks accurately and neatly				
2	Pupils demonstrate creativity and innovation during practical work.				
3	Pupils develop entrepreneurial skills through craft work.				
4	Pupils develop communication skills and problem solving ability through task based project				

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Questionnaire for pupils

Dear Sir/Madam,

I am **NDIFON PAMELA FRI**, a master's II student of the University of Yaounde I, Faculty of Education, Department of Curriculum and Evaluation. I am carrying out a study on the topic of **The impact of teachers' pedagogic competencies on pupils' outcome of vocational skills in some selected primary schools in the Akonolinga sub division.** Our study seeks to find out how the impact of **teachers' pedagogic competencies on pupils' outcome of vocational skills in some selected primary schools**. Dear respondent, your answers shall be treated with a lot of confidentiality and we will also ensure the non-traceability of your answers. Are you therefore ready to provide answers to these questions?

Yes □ No □

Instructions: Tick (√) the items that suit your opinion

Section A: Demographic information

1. ClassClass five □ Class Six □
2. Sex Male □ Female □

Instructions: Please select the response that represents your views by using a cross(x) on any of these items; Strongly Agree (SA), Agree (A), Disagree (D), Strongly Disagree (SD)

3. **Section B: Teaching methods**.

No	Items	SA	A	D	SD
1	My teacher shows us how to do things during vocational lessons				
2	Our teachers put us in groups during practical lesson.				
3	I understand better when we do things with our hands.				
4	I learn many new skills during vocational lessons.				

4. **Section C: Learning Materials and Resources**.

No	Items	SA	A	D	SD
1	Our teacher brings things from home to make us learn.				

2	Sometime we do not have enough materials to work with.				
3	The learning material we use in class help us to better understand.				
4	We use real materials during vocational lesson.				

5. **Section : Teachers' knowledge**.

No	Items	SA	A	D	SD
1	My teacher knows a lot about vocational subjects				
2	My teacher help us when we don't understand.				
3	I do well in vocational lessons.				
4	I enjoy learning vocational studies because my teacher teaches well.				

6. **Section E: Assessment strategies.**

No	Items	SA	A	D	SD
1	My teacher checks what we learn through tests or projects				
2	We do activities that show what we have learned.				
3	My teacher watches us while we do vocational task				
4	We get feedback from our teacher after each activity				

I compare my own activities realized with other class mate

Thanks