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AN EVALUATION OF MINESEC DISTANCE EDUCATION CENTRE RESOURCE IN ENSURING PEDAGOGIC CONTINUITY

A dissertation defended in partial fulfilment of the requirement for the award of Masters in Education.

Option: ***Educational Management***
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by
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DECLARATION

I KINYUY FLORENCE YERIMA; Registration Number 22W3351 Faculty of Education, Department of Curriculum and Evaluation declares that this dissertation titled “An Evaluation of MINESEC Distance Education Centre (DEC) Resource in Ensuring Pedagogic Continuity” is research conducted by me in accordance with the ethical guidelines prescribed by the University of Yaoundé1. The work is submitted in partial fulfilment of the requirement for the award of Masters in Educational Management, speciality: Conception and Evaluation of Educational Projects. The study is approved by:

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CERTIFICATION

I Dr Wirngo Tani Enerstine certify that this dissertation titled “An Evaluation of MINESEC Distance Education Centres (DEC) Resource in Ensuring Pedagogic Continuity” submitted by Kinyuy Florence Yerima Registration Number 22W3351 to the Department of Curriculum and Evaluation in the Faculty of Education at the University of Yaoundé 1 is research work carried out by the candidate under my supervision The research was conducted in accordance with the ethical guidelines prescribed by the University and the necessary approvals were obtained.

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To my Mother Mamma Grace Tume and My Mentor Mrs Ngeh Beatrice Vufeng

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

ANTIC: National Agency for Information and Communication Technology

APA: American Psychological Association

ATMM: Auralog's TELL ME MORE

CAMBIN: Cameroon Bioethics Initiative

CBHI: Community-based Health Insurance

CD ROM: Read Only Memory

CESA: Continental Education Strategy for Africa

CIAC: Computer Internet Access Centre

COVID-19: Corona Virus Disease 2019

CRE: Culturally Responsive Evaluation

CRTV: Cameroon Radio Television

DE: Distance Education

DEC: Distance Education Centre

DepEd: Department for Education

ICG: General Coordinating Inspector

ICT: Information and Communication Technology

IEEE: Institute of Electricity and Electronic Engineering

IGE: Inspector General of Education

IIEP: International Institute of Education and Planning

LAS: Learning Activity Sheets

LDCs: Least Developed Countries

LMS: Learning Management System

LMS: Learning Management Systems

LRMDS: Learning Resource Management and Development System

MINESEC: Ministry of Secondary Education Cameroon

MOOCs: Massive Open Online Courses

MRC: Multimedia Resource Centre

NPI: National Pedagogic Inspectors

ODL: Open distance learning

OER: Open Educational Resources

RFD: Rural Free Delivery

RS: Rosetta Stone

SDGs: Sustainable Development Goals

S**ibSUTIS**: Siberian State University of Telecommunications and Information Sciences

SO: Strategic Objectives

SPSS: Statistical Package for Social Science

TAM: Technology Acceptance Model

UNESCO: United Nations Educational, Scientific and Cultural Organisation

USB: Universal Serial…..

VL: Video-Lessons

WCAG: Web Content Accessibility Guidelines

ABSTRACT

This study is titled ``An Evaluation of the Ministry of Secondary Education Cameroon (MINESEC) Distance Education Centre (DEC) Resource in Ensuring Pedagogic Continuity''. It is set out to determine whether MINESEC DEC resource is meeting the expected outcomes in breaching pedagogic disruption in Secondary Schools. The overall objective is to evaluate MINESEC DEC resource (video lessons) in assuring pedagogic continuity. Three theories: the Empowerment, Diffusion innovation, and Connectivism theories including the Context, Input, Process and Product (CIPP) model guided the research. The study adopted a Mixed, and Ex-post Facto and Survey Designs, particularly a cross-sectional design. The area of study is precisely DEC in Mfoundi Division Centre, Region Cameroon. The population was made up of teachers, students and the pedagogic supervision chain. The sample population size of teachers was 156, 7 pedagogic supervisors in DEC while 226 students were sampled from 7 selected schools using a purposive sampling technique. The qualitative and quantitative approaches were employed. Data collection was via questionnaires, interview schedules, observation guide and ex-post facto design. Analyses were done using SPSS and results presented in tables and charts. The validity of the instruments was verified through content and face validity. Reliability of the instruments was done using a test-retest and synchronous reliability. Findings of objective one obtained through the triangulation of data results proved that DEC resource is of very good quality. Objective two showed that students who are the target beneficiaries were not satisfied with video lessons due to high cost of megabytes thus limiting accessibility and usability with direct bearing on utility. Objective three revealed that expected outcomes were not met due to limited knowledge transfer, media materials and weak engagement in distance education activities among teachers and students. The overall results of responses suggest a generally positive evaluation of quality resources at 74%, specifically in aligning with curriculum standards and content quality relevance. However, the needs of beneficiaries in terms of platform accessibility, responsiveness and utility jeopardise pedagogic continuity. Hence, judging from the results it is suggested that MINESEC DEC put in more funding for sensitisation of DEC existence and its products, subsidising phones, computers and internet connection while working in close collaboration with the teachers and parents towards the attainment of envisaged solid pedagogic continuity through distance education for secondary schools in Cameroon.

Key Words: Evaluation, Quality Resource, Expected outcome, Beneficiaries Satisfaction, Pedagogic Continuity

RÉSUMÉ

Cette étude est intitulée « Une Évaluation le Ressource du Centre d'Éducation à Distance (CED) du Ministère de l'Éducation Secondaire du Cameroun (MINESEC) pour Assurer la Continuité Pédagogique ». Elle vise à déterminer si le ressource du CED du MINESEC atteignent les résultats escomptés pour combler les ruptures pédagogiques dans les établissements secondaires. L'objectif général est d'évaluer le ressource du CED du MINESEC (les leçons vidéo) dans leur capacité à assurer la continuité pédagogique. Trois théories ont guidé cette recherche : les théories de l'Autonomisation, de la Diffusion de l'Innovation, et de l'Évaluation Connectiviste, ainsi que le model CIPP. L'étude a adopté une méthode mixte, ex-post facto et une enquête transversale. La zone d'étude se situe précisément au CED et dans le Département du Mfoundi, Région du Centre au Cameroun. La population était composée d'enseignants, d'élèves et de la chaîne de superviseurs pédagogiques. L'échantillon comprenait 156 enseignants, 7 superviseurs pédagogiques du CED, et 226 élèves issus de 7 établissements sélectionnés par échantillonnage raisonné. Des approches qualitatives et quantitatives ont été employées. La collecte des données s'est faite via des questionnaires, des entretiens, des grilles d'observation et le model ex-post facto. Les données ont été analysées à l'aide de SPSS et les résultats présentés sous forme de tableaux et graphiques. La validité des instruments a été évaluée par validité de contenu et apparente, tandis que leur fiabilité a été vérifiée par test-retest et fiabilité synchrone. Les résultats du premier objectif, obtenus par triangulation des données, ont démontré que les ressource du CED sont de très bonne qualité. Le deuxième objectif a révélé que les élèves, principaux bénéficiaires, ne sont pas satisfaits des leçons vidéo en raison du coût élevé d'achat des mégaoctets, limitant ainsi l'accessibilité et l'utilisation, avec un impact direct sur l'utilité. Le troisième objectif a mis en évidence que les résultats attendus n'ont pas été atteints en raison d'un transfert de connaissances limité, de matériels médiatiques insuffisants et d'un faible engagement dans les activités d'éducation à distance parmi les enseignants et les élèves. Les résultats globaux des réponses suggèrent une évaluation généralement positive de la qualité des ressources à (74%), notamment dans l'alignement avec les normes du programme et la pertinence de la qualité du contenu, bien qu'il existe une préoccupation concernant les besoins des bénéficiaires en termes d'accessibilité, de réactivité de la plateforme et d'utilité, compromettant ainsi la continuité pédagogique. Par conséquent, le CED du MINESEC doit investir davantage dans la sensibilisation et la diffusion du produit, et travailler en étroite collaboration avec les enseignants et les parents afin d'atteindre la continuité pédagogique envisagée par l'éducation à distance pour les établissements secondaires au Cameroun.

Les Mots clé : Évaluation, Qualité de Resource, Résultat Attendu, Satisfaction de Bénéficiaires, Continuité Pédagogique

CHAPTER ONE

INTRODUCTION

The creation of high-quality audio-visual educational resources emerged as a resilient response to the global transition from remote to online instruction during the COVID-19 pandemic (Lucky, and Rubin, 2022). The importance of Distance Education (DE) and of children learning online in Africa and particularly in Cameroon is not new. It is portrayed in several texts including Sustainable Development Goals (SDG4) for all learning institutions in the world. Law No. 98/004 of 14thApril 1998 in Cameroon states that distance education will be used to facilitate teaching and learning as need arises (Alemnge 2018). Also, the Law No. 2023/009 July 25th (2023) stipulates the institution of the Charter on child online protection in Cameroon (D. Moukouri and PARTNERS UGGC Africa, n.d).Various challenges have hampered DE's development, including insufficient policies, inadequate funding, limited professional development, infrastructure deficiencies, and technological barriers. Cameroonian researchers including Ndongfack (2015-2017), Fomunyam (2019), Beche (2020), Akumbu, Teneng, and Ngu (2022) and Sokeng (2022) have documented these constraints, noting that DE's potential remains substantially untapped. The COVID-19 pandemic, however, catalysed the establishment of the MINESEC Distance Education Centre, which now produces and publishes video lessons online to mitigate learning disruptions for secondary school students during quarantine periods. The current priority is to maintain pedagogic continuity which is critical during incapacitation, strikes, and similar educational challenges. This study aims to evaluate this educational resource's quality through assessments of effectiveness, beneficiary satisfaction, and progress toward intended outcomes. The findings will inform improvements to MINESEC resource while contributing to broader understanding and best practices in producing materials that ensure continuous learning opportunities.

1.1.Background of the Study

This part focuses on the historical background, including the shift from correspondence learning to internet-based distance education, with particular attention to developments in Cameroon.

1.1.1. Historical Background

Internet-based distance education has gradually overtaken traditional correspondence learning in many countries in the world. While flourishing in developed regions such as Europe and

America, it has followed a more measured trajectory in developing countries, particularly across Africa. However, the COVID-19 pandemic significantly accelerated the adoption of distance education globally (Beche, 2020). In response to this shift, Cameroon's Ministry of Secondary Education established the Distance Education Centre (DEC) in Yaoundé to produce educational content for secondary schools throughout the national territory. This initiative represents a resilient measure to combat learning discontinuity, which poses a serious threat to national development. Such discontinuity directly contradicts Sustainable Development Goal 4 (SDG4), which emphasises quality education as fundamental to sustainable progress. Having identified distance education as a crucial resilience strategy for educational continuity during crises, Zulaikha, Azlin, Khairul and Bity (2021) note that the pandemic-driven transition necessitates continuous evaluation to guide implementation and maintain quality standards. Similarly, Ndongfack, Babalola, and Ferreira-Meyers (2023) emphasise that enhancing distance education quality requires not only conducting research but also applying findings to theory, practice, and policy development.

Since the inception of the Ministry of Secondary Education (MINESEC) Distance Education Centre, no work on the evaluation of its video lessons was found on the University, Centre and Online shelves. Hence, this study addresses this critical gap, as systematic assessment is essential for any successful educational initiative to maintain standards and achieve objectives within the relevant context. This research specifically evaluates the educational product developed by MINESEC DEC for Cameroon's secondary schools, employing carefully selected research methodologies, models, and theoretical frameworks.

The question as to when distance education started is not certain. However, Kentnor (2015), citing the Boston Gazette, states that distance education is not a new paradigm in education. It started in America with Caleb Phillips' advertising distance education through the learning of shorthand by correspondence. Further, in 1840, Sir Isaac Pitman started teaching it in the town of Bath, England, and became known as the first proponent of distance education. He used the English mail system to send and receive lessons and assignments to and from shorthand learners. Kentnor, op.cit noted that this exercise went on until the completion of the study programme and certification.

Pregowska, Masztalerz, Garlinska and Osial (2021) stated that Distance Education started as far back as the early 18th century, using the mailing system with postal stamp service in Boston, USA, and spread throughout the world until the arrival of high technology, which has greatly facilitated distance education. Consequently, the present distance education is referred to as online education or digitalised education, which uses computers and the Internet as teaching tools (Allen & Seaman, 2011; Shelton & Saltsman, 2005).

In Africa, Piper, Jepkemei, Kwayumba and Kibukho (2015) highlight that, though still accompanied by many weaknesses, infrastructural investments in information and communication technology (ICT) have increased in education. Thus, with the implementation of ICT, distance education, which was delivered through non electronic correspondence communication, has ceased from mailing scripts through the Post Office to using e-learning or online learning or ICT with the help of Internet connection. Many countries in Africa have engaged in distance education, as IMad and IIham (2021) reveals in their History of Distance Education that the Government of Gambia created a Correspondence Secondary School in 1964, and in Nigeria, it started in 1978 and disseminates lessons to students through postal mail system.

In alignment, with Piper et al (2015), Cole (2024) holds that technology has emerged as a powerful tool in shaping the future of education in Africa. Internet usage has seen rapid growth, with 570 million internet users in 2022 in the continent having more than doubled the number in 2015. Countries like Kenya, Morocco, South Africa, and Uganda have become hotspots for education innovation (world data website). The advantages are that digital education offers a cost-effective approach to enhancing a country's performance on the SDG4 without significant physical infrastructure, mobile devices, widely accessible across Africa as catalysts.

Still, to Cole upcit, the widespread availability of mobile devices and internet connectivity, students in urban and remote areas are enabled to access diverse educational content, engage in interactive learning experiences, and connect with educators and peers globally. This inclusivity may bridge some gaps between urban and rural communities and provide more equal educational opportunities for all African learners. Digital education could facilitate e-learning platforms and digital resources to offer personalised and flexible learning experiences, allowing students to study at their own pace. In addition, technology could also empower educators to create dynamic

and interactive lessons, tailor instruction to individual student needs, thereby providing immediate feedback, thus improving the quality of teaching and learning.

Notwithstanding the potential benefits, Africa still faces digital divide challenges. Several students need access to basic technological infrastructure, such as reliable internet connectivity, computers, and digital devices. This disparity exacerbates educational inequalities, as students from underserved communities face disadvantages in accessing digital learning resources and participating in online education. Addressing the digital divide necessitates collaborative efforts from governments, educational institutions, and private sector stakeholders. Investments in digital infrastructure, the affordability of devices, and expanding internet connectivity to rural and marginalized communities are essential for ensuring equitable access to technology-enhanced learning. By bridging the digital divide, Africa would promote equality in education. In a nutshell, the successful integration of technology in education in Africa requires the collaboration of all. In synergy, Africa would build an inclusive and forward-thinking education system that prepares learners for success in the digital world.

In Cameroon, Mbangwana (2008) highlights that ICT which is the main driver of distance education extended from private to public secondary schools in 2001 after the Presidential call for the orientation of education towards a knowledge economy for Cameroon's youth in February 2001. Also, Ngajie, Ngo Mback and Marie Charlotte (2016) posit that distance education through correspondence existed in Cameroon before the advent of ICT in secondary schools, beginning with its implementation in private schools like College Francois Xavier Vogt in Yaoundé between 1998 and 1999. According to Ngajie et al (2016) it only started in public schools later in 2003. This was followed by the Multimedia Resources Centres (MRC), which according to Nkongho and Ndip (2020), was a 6-year project from 2001-2007. In this, 100 Multimedia Centres were planned, 10 for each of the 10 Regions of Cameroon. The verifiable indicators at the end of the project were 1600 monitors made of teachers, and administrators to manage and create necessary facilities like different platforms to enhance the achievement of objectives on the goals of the project. It was then recommended that the government put in place the following: a policy document on ICT, a general strategy for the integration of ICT in all sectors of the National Agency for Information and Communication Technology (ANTIC), a French acronym. As a follow up, Multimedia Centres were set up in schools such as; Government Bilingual High

School Yaoundé, Lycée General Leclerc Yaoundé, Government Bilingual High School, Joss, Douala and some primary schools. Similarly, between the years 2003-2008 projects aimed at granting media centres in some schools were put in place. Moreover, the Government's efforts went on in one hand and on the other hand non-governmental Organisations were also contributing to the ICT implementation to achieve the common goals of ICT in schools within the country.

The study of Nganji, Kwemain, and Taku (2010) found that the participation of the Association for Development, Communication and Environment (ADCOME) Cameroon, through Computer Internet Access Centre (CIAC) in the South West Region of Cameroon contributed in the reduction of digital divide while bringing the digital resources closer to the people. Consequently, the building and equipping of computer laboratories in schools was embarked on and one of the examples include the Baptist High School Buea. Also, with the online registration of both new and old students in to the University of Yaoundé 1, platforms for learners have been created and in-service training for teachers have been put in place, all as means of promoting distance education.

Other sources like the World Bank Report (n.d) highlight that the emergence of internet-based learning in Cameroon has been gradual, with private schools initially pioneering the use of ICTs in the 1990s, followed by a government push to integrate ICTs into education in 2001, leading to the development of digital learning platforms in universities and some secondary schools, particularly through initiatives like the "Cyber Education" project, which focused on establishing multimedia resource centers and training teachers to utilise them; however, challenges remain regarding access to reliable internet and the need for further teacher training to fully implement effective online learning practices.

According to the World Bank Report (n.d), Cameroon is among the sub-Saharan African countries that are making enormous progress in the use of the Information and Communications Technologies (ICTs) in the various development sectors, including education. Private schools introduced ICTs into their curricula in the 1990s and in 2001 the President officially introduced ICTs into education, however, without any specific policy guiding the teaching or use of ICTs in education. This has led to different practices from private to public schools. Djeumeni (2022) highlights that distance learning in

Cameroon has been adapted without taking into consideration the content and structures that may determine the successes of the implementation.

Above all, MINESEC has not stopped according to Ngajie et al, (2016) planting Multimedia Centres and now says 80% of secondary schools have computer rooms and 60% are equipped with Computers. Finally, it does not go without mentioning that MINESEC has gone further ahead to create the Distance Education Centre which can be regarded as an industry for video lessons production which is ongoing with a bright future based on observations.

In the same light, Ayega (2020) states that since COVID-19 took the world by surprise leaving it with negative impacts, digitalised distance education was found to be the most reliable resilient measures that stood the test of time and has pushed most Education stakeholders to embark much more on its implementation than other forms of learning in addition to traditional. Ndongfack (2021) also opines that the closure of schools negatively impacted educational systems that had not initiated a resilient or alternative model of instructional delivery before like the Cameroon Ministry of Basic Education. Tentative measures were taken to maintain the continuous delivery of teaching hoping to build a resilient measure of education that can guarantee continuous learning in times of emergencies. Owing to the common implementation of digitalised distance learning in Africa by education authorities, the Minister of Secondary Education Cameroon called the attention of her colleagues at the International Education Summit in Senegal to reflect on the "what if" a similar crisis should occur again (CRTV NEWS, 2022).

According to Beche (2020), the shock of COVID-19 in the recent years caused the Cameroon Education Authorities to face the dilemma of how to ensure the continuity of formal education, how to minimise the exacerbation of the already existing educational inequalities, which tool to use for continuity, and how to enable learners in the examination classes to proceed to the next level through summative examinations while still in quarantine. Beche’s (2020) study revealed that Cameroon must guarantee educational continuity in case of subsequent similar crises through the integration of distance education.

The above history therefore presents the initiation of MINESEC DEC resource production not as arbitration, but as a giant step towards combating learning disruption to maintain pedagogic continuity. In a nutshell DE continues to be held as an instruction tool that meets the needs of several societies who have embraced it including Cameroon. The hope of educational authorities

in the country is that, all hands on deck, stakeholders must not only initiate DE projects but make them work throughout learners' study life span. Beche (2020), echoes that Cameroon must guarantee educational continuity in case of subsequent similar challenges through its continuous integration at all levels.

Sourcing from several Cameroonian researchers these challenges are common in their work as summarised by Nkongho et al (2020) for instance, that policy vacuum is noticed at all levels. There is no national policy to point the direction, provide orientations and create an enabling environment for the practice of DE. In universities apart from the programme coordinators there are virtually no other trained and knowledgeable staff in the area of DE and there are no plans in place to pursue the training and promotion of staff in DE at the national level. The financial resources provided by the state as subventions to manage these programmes are largely insufficient to meet current expenditures. There is limited energy supply to urban areas, and poor communication resulting in isolation of rural areas hindering the progress of distance education in Cameroon. In the same light, Guiake (2022) researches on educational inequalities and policy responses that address those disparities and recommend effective policies on the development of infrastructure and human resources for underserved areas in Cameroon. Nevertheless, the promise of Distance education and the accompanying advantages it has and continues to provide to several societies who have embraced it is developing in Cameroon and is still at the experimental level for the cited common reasons.

1.1.2. Contextual Background

The contextual background of this study presents factors affecting digitalised distance education around the world and particularly in Cameroon. These include texts and specific efforts and reports put in place by stakeholders considering weaknesses and strengths in the country.

Globally, the Sustainable Development Goals (SDGs) 17.6-17.8 focus on strengthening the implementation and reinforcement of global partnership for sustainable development and integration of technology in all sectors of human activities. Numbers 17.6-17. 8 are specifically based exclusively on technology in education. SDG17. 8, in particular is aimed at strengthening Science, Technology, and Innovation Capacity for Least Developed Countries (LDCs).

Alemnge, (2018) opines that many countries of the world are becoming more interested in online distance education than the traditional education especially at the college level. Facts following this assertion portray that in 2011 already 2/3 of 6 million learners who are under graduates are taking at least one lesson online. He emphasises that in India for instance distance education is becoming fashionable such that it is the solution for the poor who cannot afford the traditional classroom. Also, China since 1960 has valorised the use of radio and television to deliver lessons to college students. Hence, it is predictable that the future for them given the previous practice is brighter. South Korea on their part invested in high speed internet and is well equipped in distance education facilities and can now estimate up to at least 17 colleges benefiting, even though still threatened by indigenous' high value for traditional education. In the same vein, the United Kingdom has invested 100 million for the growth of online education and it is positively impacting the country's position in distance education. Moreover, the importance of distance education according Blomgren, (2021) is very critical to education because all over the world it is crucially applied across all other disciplines.

On their part, the management of the United Nations Educational, Scientific and Cultural Organisation (UNESCO, 2021) in their manual "Managing a Low-cost Digitalisation Project in the Least Developed Countries and Small Island Developing States - A Manual", highlights the difficulties faced in the realisation of this dream. The key challenge is on how to equate the limited available budget and the high demand in the targeted countries, which involve the majority of countries in Africa. This is paramount to distance education because the development in technology and digitalisation is the development of distance education. This implies that distance education in this era may no longer be possible without technology and the digitalisation processes.

Hence, the recognition of the relationship between technology, digitalisation, and distance education in this study may be indispensable. This is to suggest according to this study that if there is no technology and digitalisation, there will be no distance learning in education. This reinforces the fact that during the COVID-19 pandemic period, which imposed the use of technology-based learning, only these synonymous digitalised means like e-learning, online learning, virtual learning, remote learning, distributed learning, and more were put in place to realise distance learning. In all, talking about distance learning in this study is talking about

technology and digitalisation as used by the MINESEC DEC to produce distance education learning materials, precisely video lessons.

Also, Growth of Online Education in Africa is on Rise (2019) observes that online education is gaining attraction around the world; especially in Africa where the tertiary engagement rate in 2015 was only 12% .The advent of online courses has helped millions of Africans to pursue their tertiary education without leaving their jobs. The dynamic changes and advancements over the years have motivated people to upgrade themselves. Thanks to new age technology, one can easily take up a profession and also pursue their education. Better still, blended learning modules and e-learning options offer students the opportunity to study from the comforts of their homes. Universities around the world have entirely taken advantage of this. Internet Education Africa reports that Helping Policy Makers met at the Global Education Agenda Sustainable Development Goal 4 (2017) and observed that the Internet is a crosscutting enabler for education. It facilitates connections to educational resources, virtual labs, ideas and people and gives access to varied information users. Notwithstanding, this is not equitably distributed around the world. In the African region, schools, colleges and learners out of school are lagging behind due to the poor availability of internet connectivity. The Sustainable Development Goal for Education (SDG4) commits countries to address these challenges to attaining universal pre-primary, primary and secondary education and gender equity in order to promote youth learning for employability. Such commitments require innovative approaches that go beyond simply building more educational institutions. One such innovative approach involves using educational technology. They highlight that the identification of what is possible and what is already available for parents and teachers is crucial for students to benefit from the vast learning resources already available on the Internet.

Generally, despite all the constraints faced in Africa in the field of digitalised distance education, efforts are put in place by various stakeholders to ensure the realisation of the global dream. In this light, the Continental Education Strategy for Africa (CESA) 2016-2025 strategic objectives (SO) number 3.2.3 SO. 3 a) stipulate the integration of ICT in African educational systems. It also recommends the creation of online education and training platforms making them available to all learners in their diversified nature. As such, even though partnership is encouraged, each

country is largely responsible for the realisation of its digital implementation and its sustainability.

Consequently, Cameroon, as an African country and a signatory to CESA (2016-2025), is engaged in the digitalisation of education in her context. Before this era, Cameroon has been active in exploiting and benefiting from available educational opportunities open to the world in distance education. Jitzi, Maguachee and Ru, (2019) opine that in the 1960s former West Cameroonians seized the opportunity to obtain certificates in different disciplines from the United Kingdom through correspondence distance education. Other sources of information, such as newspapers, inform that radio programmes taken up by the Cameroon Radio Television (CRTV) to continue strengthening the capabilities of teachers after training started off with the 1960 independence. This went on from 1960 and terminated in 1980 due to an economic crisis.

Similarly, Ngajie, Nsolly, Ngo, Mback and Charlotte (2016) confirm that distance education began in Cameroon after its independence in the 1960s. Hence, distance education in Cameroon, like in other countries of the world, as Moore (2022) declares, has passed through three traditions: the early 19th century tradition, the industrial tradition of the later 19th century, and the digital classroom of the twenty-first century. As such, distance education has evolved with the changes experienced, ranging from non-technological correspondence to innovations in information and communication technology, which include radio, television, and now the internet, using multimedia materials. In line with this development, Cameroon and the rest of the world, as posited by the Institute of Electrical and Electronic Engineering Program (IEEE, 2024), initiated under SDG 17.6 to reduce the digital divide, are living in anticipation of the artificial intelligence (AI) era.

Looking at Nkongho et al (2020) in their historical overview it is stated that the Early Initiatives (1967) the Decree No. 67/187 establishing the Centre Pédagogique (Centre for Correspondence Learning) marked the initial attempt at formalising distance education in Cameroon. Also, the Law No. 98/004 of April 14, 1998, provided a broader legal framework for education in Cameroon, including the explicit mention of DE as a tool to facilitate teaching and learning as needed. Despite this legal recognition, the development of DE programs at the basic and secondary education levels is still timid. Between 1992 and 1998 the Ministries of Basic, Secondary and Higher Education through a liaison between the “Service du teleenseignment” and

“la division de la formation et des stages de l’Ecole Normale Superieur (ENS)” trained 1500 French Language secondary school teachers, who did not receive ICT training at Baccalaureate. The suspension of funding by l’Agence de la Francophonie brought the programme to an end. Also, the Presidential decree No. 95/041 of 07 March 1995 reorganising the Ministry of Secondary Education did not include the role of DE. Despite the support of UNESCO, the Commonwealth of Learning (COL), the International Council for Distance Education (ICDE), and the Agence Universitaire de la Francophonie (A.U.F) much has not changed in Cameroon DE.

Ngajie et al, opine that ICT was introduced in Cameroon in 1998 and started officially in public schools after the President's address to the youth in 2001. Also, CRTV (June 2020) informs that on the occasion of launching the reopening of secondary schools in the Post-COVID-19 Pandemic lockdown period, the Minister of Secondary Education, Prof. Pauline Nalova Lyonga Egbe, announced that the Distance Education Program had prepared and uploaded over three hundred lessons in the last three months on the MINESEC website.

UNESCO Report (2020) says that the search for solutions for educational discontinuity at the outbreak of COVID 19 pandemic established distance education as the most secure mode of learning during the emergency. The training of educators in alternative educational services (tele-education, digital education, online learning/teaching, etc.) was essential to maintain continuity. Hence, the Cameroonian government in collaboration with its partners developed and adopted a national response plan to the impact of Covid-19 in education and training sector. This plan was aimed at guaranteeing a successful completion of the school year, the organisation of end-of-year exams and the preparation for the reopening of schools and universities in a safe and secured environment. It was possible with the contribution of the audiovisual channels. The covid-19 crisis through its negative effects forcefully added another mode of education on the traditional system in Cameroon. In addition to broadcasting of lessons and activities on radio and television, educational resource formats (digitalised school lessons, video clips) have been put online on platforms

Subsequently, the initiative developed into a significant extended project which is steadily ongoing, attracting attention online. In 2020 alone, following the statistics from the MINESEC Platform, 2,767 visitors from outside Cameroon visited the platform, as against 34,233 in

Cameroon. It is acknowledged that, to kick-start this programme, a decision signed by the Minister of Secondary Education, Decision No. 187/21 of 09 June 2021, in line with law No. 98/004 of 14th April 1998 on guidelines of Education in Cameroon, stating that the following should be put in place: the setting up of units for the Development of teaching aids, supervising the Development of teaching Materials, ensuring the dissemination and distribution of the selected teaching materials, ensuring monitoring and evaluation of their implementation, evaluating the impact of the strategy put in place for learners' results, and submitting the project for validation.

It is with respect to these efforts put in place by the Minister of Secondary Education and the decisive role the project plays in education in the 21st century that this study identifies the need to evaluate the quality of products of the Distance Education video lessons and the beneficiaries' (students, teachers and parents) satisfaction leading to the expected pedagogic continuity.

1.1.3. Theoretical Background

Three theories have been chosen to explain and guide this study. These include:

Empowerment Evaluation Theory

Fetterman; improved by Wandersman in 2007. This type of evaluation involves the project stakeholders in the process of evaluation with the goal to promote learning and capacity building. This implies that the final results of the findings will be used by the project holders to improve outputs.

Diffusion of Innovations Theory

Rogers (1962, 2003) offers a useful perspective for understanding the adoption and dissemination of digital resources and innovative pedagogical practices within distance education contexts. The theory explains how new ideas, technologies, or practices spread through social systems over time, influenced by factors such as relative advantage, compatibility, complexity and observability.

Connectivism Learning Theory

The Connectivism Learning Theory holds that students combine thoughts, theories, and general information in a useful manner to build their own knowledge. It suggests that technology is one

of the major parts of the learning process in which constant connectedness to it gives the opportunities to make choices in learning.

Evaluation Model

The evaluation model chosen for the research is the Context, Input, Process and Product (CIPP) model propounded by Stufflebeam (1983), it provides a systematic way of looking at the different aspects of the curriculum development process (Aziz, Mahmood and Rehman 2018). It is found most appropriate for this research process considering its systematic nature which is reflected in the process in which lessons are produced in the Centre involving a series of criteria to be observed in order to meet the expected quality of the required product.

1.2. Problem Statement

Education is a fundamental basic human right. The development of a nation, quality of life, life expectancy and poverty alleviation are indicators of quality education. The Sustainable Development Goals 4 which stresses equity, quality and inclusion is seen as a solution to overcoming challenges faced in other sectors of the nation.

Cameroon has carried out a number of interventions aimed at achieving SDG 4, such as undertaking curricular reforms from Basic Education, Secondary Education, right up to Higher Education. A paradigm shift is a teaching approach such as recently embraced Competency Based Approach, flipp pedagogy, Massive recruitments of teachers at all levels of the Cameroon education system and intensification of inclusive education practices, but unfortunately the sudden outbreak of COVID 19 watered down the efforts as schools were shut down creating significant rupture in pedagogy continuity and worsening the quality of education.

Issues of quality are central to Cameroon government law no. 98/004 of 14 April 1998 laying down guide lines for education in Cameroon and stipulates in its section 4 that " the general purpose of education shall be to train the children for intellectual, physical, civic and moral development and their smooth integration in to the society bearing in mind prevailing, economic socio cultural, political and moral factors” in order to pursue these purpose amidst political, and health crisis there must be a paradigm shift from traditional face to face pedagogy to alternative hybrid or distance learning. It is in the face of this that the Ministry of Secondary Education

adopts a resilience digital project aimed at producing and digitalising resources online for secondary school students thereby ensuring pedagogic continuity in case of any eventuality.

At the outbreak of COVID 19, in 2019, students in final year examination classes and as a rapid measure, lessons for these classes were prepared and broad casted life on national television and radio stations at particular periods to accompany students to prepare and write their certification exams. Thereafter, the Ministry created the Centre where resources have been produced and disseminated.

Going by statistics from the platform it is realised that the number of hard drives given to some secondary schools by the Centre in 2023 amounted to a total of 88. Also, statistics demonstrates a quantitative increase in the number of users who visit the platform to carry out activities in diverse forms as illustrated in the table below from 2020, outbreak of COVID 19 and functioning of the Centre till 2024

Table 1: Number of Platform Visitors

No.	Year	No. of learner
1.	2020	38,924
2.	2021	276,067
3.	2022	904,498
4.	2023	1,594,123
5.	2024	1,700, 015

Source: MINESEC Platform

Table 1 demonstrates that the number of visitors on the platform is increasing. Moreover, assessing the overall number of students who participated in the live video revision lessons in 2023; firstly, feedback came in from 5/10 Regions and secondly the total of 1051 learners throughout the nation participated. Furthermore, considering the inclusive average number of times Cameroonians whether students, teachers or parents have accessed the platform in 2023 was 1, 223,598. Nevertheless, the question we need to answer is how effective is this project in using its video lessons to ensure pedagogic continuity? Based on this premises, the objectives of the study were;

1.3. Research Objectives

Main Objective

To evaluate MINESEC DEC resource **(**video lessons**)** in assuring pedagogic continuity

Specific Objectives

1. To evaluate the MINESEC DEC video lessons' quality in ensuring pedagogic continuity
2. To determine the beneficiaries' satisfaction with MINESEC DEC video lessons in ensuring pedagogic continuity
3. To determine the project's progress against expected outcomes

1.4. Research Questions

Main Research Question

To what extent do MINESEC DEC Resource (video lessons) meet the standards in assuring pedagogic continuity?

Specific Research Questions

1. To what extend does MINESEC DEC Resource meet quality standards?
2. To what extend are beneficiaries' satisfied with MINESEC DEC digitalised video lessons?
3. To what extend does the project's progress meets desired expected outcomes?

1.5. Justification of the Study

Many scholars, researchers and thinkers in the field of Project and Programme Management highly recommend the integration of evaluation practice in discharging such duties. Means, Toyama, Murphy and Baki, (2013), suggest that since internet-based learning has become an obligatory trend in the world, regular evaluation of this tool is necessary to ensure efficiency in its project realisation. In this light, it becomes necessary also for MINESEC Distance Education Centre's project which is an internet-based project to regularly implement evaluation especially in its early years of practice. This is because regular evaluation secures a project from over lapping errors that may induce the project to retardation or may finally lead to its failure in goal achievement.

Further, the absence of evaluation in MINESEC Distance Education Centre Cameroon may cause misplacement of efforts and funds; for instance, without evaluation, efforts and funds may be invested more at the beginning in the production of resources instead of the sensitisation,

dissemination and facilitation. It follows that if students are not adequately trained on using the media materials practically to access the platform and familiarise students with the need to use lessons on YouTube, the resources may be wasted. In addition, not to initiate ways of engaging learners in exploiting the YouTube and all the other available materials in their various locations, the quality and quantity of lessons published on the media may end up not affecting the lives of the beneficiaries; specifically, the secondary school students.

Moreover, evaluation brings to a project, organisation or programme a variety of recommendations, suggestions and proposals of sub project which may act as enablers to the main project to facilitate the attainment of its objectives and goals. This is why it may be suggested that at the beginning of the present programme sensitisation may be more necessary than production.

The role of evaluation also involves drawing the attention of the project stakeholders to any approaching danger and an impending damage may be avoided, for example, evaluation can guide the project managers to see clearly where to invest more and where to do less considering the characteristics of the various phases of the project and the impact that the resources produced and used have made. Hence, this exercise is of paramount importance because if the goal of distance education is not finally achieved in Cameroon the country will fail in achieving the 21st Century global education goals SDG4. This can cause Cameroonians to remain poor and be rated among the weakest countries of the world in development.

Furthermore, the consequences of not achieving DE goals could be the loss of partners in development, a fall in socio economic, political and cultural wellbeing, and low standards of living in Cameroon. In a nutshell, the important initiative of creating a Distance Education Centre to produce video lessons for secondary schools in Cameroon is ongoing with the intention of securing quality and quantity video lessons to insure pedagogic continuity. Nevertheless, evaluation is supposed to be one of the pillars in ensuring its efficiency and sustainability. Above all, the Cameroon Minister of Secondary Education holds that the resilience in creating and sustaining a hybrid educational system in her country is to ensure continuous learning in order to watch against subsequent pandemics or similar social disrupting challenges, Phillips, and Fisser, (2022). This study upholds that one of the key enablers to achieve the dream is both periodic and continuous evaluation.

1.6. Delimitation of the Study

Geographical scope

This study is limited to the evaluation of MINESEC Distance Education Centre resources produced for secondary schools in Cameroon in some selected secondary schools in Mfoundi Division in the Centre Region.

The results are to be generalised to other cities within Cameroon. The teachers of some schools within Mfoundi and staff of the DEC were administered various instruments by the researcher and the quantitative and qualitative data collected were analysed and used to determine whether or not the learners are satisfied with the resource of the Distance Education Centre.

The Department

The researcher studies at the Faculty of Education in the Department of Curriculum and Evaluation, Specialty Educational Management, option Conception and Evaluation of Educational Projects.

Thematical Scope

Only the resources produced by the MINESEC Distance Education Centre are under evaluation and donated materials and persons connected to the production may selectively be considered.

Theoretical scope

Three evaluation theories are used to explain the relevance of evaluation of the resources of the programmes and the satisfaction of the Secondary school learners. Teachers and parents: Models will enable the clarification of the process.

The time frame

The time frame within which the research is carried-out spans from year 2023-2025.

1.7.Significance of the Study

This study is significant to four parties namely, the project life goals of MINESEC. In other words, the programme can only be continued if the objectives for which it was created are met. Thus, the feedback of this work will inform the stakeholders of their strengths and weaknesses.

Also, COVID 19 has shown to the whole world that education can no longer be tied down only to the classroom. Hence, close attention needs to be paid on how hybrid pilot projects would be initiated. Blended education policies need to be put in place and for this to be done, evaluation is one of the services that will strengthen the authorities to take informed decisions.

Secondly, the beneficiaries of the distance education resources: the students and teachers need to be regularly reminded of the expectation of the other stakeholders through evaluations and with useful feedback to enable them accept and integrate distance learning as one of the forms of education that has come to stay.

Thirdly, evaluation would provide facts for educational stakeholders to enable them to draw informed operational and strategic plans for the programme.

Fourthly, the parents in particular will be spurred by the feedback of evaluation and contribute by encouraging their children through sponsoring, skills building trainings and increase the purchase of media materials to improve on the capacity of their children in navigating different media materials to grow in ICT and distance learning. Gradually our society will develop in scientific skills and overcome the tendency of digital divide in line with the Institute of Electricity and Electronic Engineering (IEEE, 2024) Peng, Chen, and Huang (2024). Finally, the researcher benefits the rich experience going through the task and at the end submit the Study in partial fulfilment of the academic demand in the University of Yaoundé I.

Operational Terms

This study is frequently making use of some selected terms which are consequently defined. These include; Evaluation, distance education, distance education resources and students' satisfaction.

Evaluation as perceived by (Gene and Ellett, 1980) is a term linked to different fields of concern. Thus, to evaluate as applied to research is a system management, decision theory, assessment progress, jurisprudence, description and rational empirism activity.

Dahler-Larsen, (2011) opines that evaluation can be grasped as quality assurance, audit and accreditation. He underlines that evaluation must be implemented by any organisation that lives in public. In addition, there is need for self-evaluation as well as reciprocal evaluation. He emphasises that it guides organisations and societies to participate in shaping principles.

Wirngo (2021) holds that evaluation is a vital tool which plays an important role in giving feedback to educational stakeholders. While Wirngo ibid evaluates test items quality this study evaluates MINESEC DEC resources in ensuring pedagogic continuity.

The Evaluation Society argues that to understand many of the norms, values, and expectations that are, sometimes unknowingly, brought to evaluation, exploring how evaluation is demanded, formatted, and shaped by two great principles of social order: organisation and society is necessary. With the understanding, more conscientious participation in evaluation processes; better position in understanding many of the mysteries, tensions, and paradoxes in evaluation; and use evaluation in a more informed way is secured (Wankasi, Sehularo, Rakhudu, 2020).

Digitalisation, as defined by Yasar (n.d.), is the use of computer technology and the internet to encode and decode information or data in numerical digital form. In this study, digitalised distance education, learning, and teaching will be used, among others, to differentiate non-electronic tools which were used in the past. These could be synchronous or asynchronous. It is also important to note that in the ancient world, the tools used to facilitate distance education were all different forms of non-electronic correspondences.

According to Simonson, M., Susan, Sharon, (2019), distance education is a mode of teaching and learning where the teacher and the learner are separated in space and/or time. Saykili (2018) holds that distance education has taken various forms as the world evolves over time, and has been characterised by the concepts that influence it. In the past it was correspondence studies characterised by manuscripts, postal stamps, mailing system and considerable waiting time lapse in between. In modern days the concept of distance education has replaced corresponding education and is characterised by the concepts of its practice such as digitalisation, information and communication technology (ICT) referred to as e learning, online learning, remote learning, distributed learning, virtual learning, open distance learning, hybrid and blended learning. While the list is not exhaustive, some authors choose to use either "distance education" or "distance learning" based on their area of interest.

Distance education is an organised way of learning in which the teacher and the learner are separated in space and or time. In this it is highlighted that what was once domestic and international education is rising from traditional programme to even completely web based to becoming an "everywhere anytime education" (Gunawardena, 2013).

Scholesser and Lagormarcino, (1994) posits that distance education is education facilitated through the use of communication Media such as mail, email, radio, television, video tapes computer and video conferencing. Running within or no classroom or other face to face contact between teacher and learner.

Inter-Agency internet for Education in Emergency (INEE), (2022) a global network of organisations and individuals that work together to ensure that people have access to education in time of crisis, opines that distance education resources are all that is produced by the distance Education Centre to facilitate the distance learning for all the beneficiaries. These for them include even programmes and policies ensuring the production of the resources during the process. More of these resources for them encompass: Video Conferencing/Live Virtual Training, Video Recording, Self-Spaced Learning, Massive open On-line Learning Simulation, Computer Management Learning (CML), Adaptive E-learning and Webinars.

Further, Toyama, Murphy and Baki (2013), added that these distance education resources might include those available on the Internet and online education environment such as HTML documents like course chapter objective, lecture notes, assignments or answers to chapter questions, auditor video lessons, interactive exercises or exams or documents providing links to other Websites.

Mbabngong and Yaro (2023) state that quality of content is one of the factors that determine the quality of education in distance learning. Irrespective of the availability of the content development tool for distance learning, content needs to be presented in such a way that it will be easy for learners to understand and interact with its structure. Designing the quality instruction involves organising instructional activities to create a satisfying and effective learning experience. Therefore, it is important to describe the way course contents in these distance learning programs are organised so as to determine whether it meets the standards of organisation content or not.

Radu, Stoica, Catana, Radu, Dan (2021) define beneficiaries' satisfaction as the effects of benefits improving development experienced by consumers of a specific project which facilitates their expected out comes.

According to Rajput, Alessandro, andWiebe1, (2022) synchronous distance learning implies a communication software system which involves an interaction where the sender waits for the receiver to respond before continuing while asynchronous distance learning obtains in the situation where the sender proceeds without waiting for the response from the receiver.

Dzhanda, (2022) defines pedagogic continuity as a strategy aimed at enabling damaging breaks in a learning process that may lead to permanent disruption in an important knowledge acquisition progression. Hence, all measures put together to breach learning disruption from occurring is assuring pedagogic continuity.

CHAPTER TWO

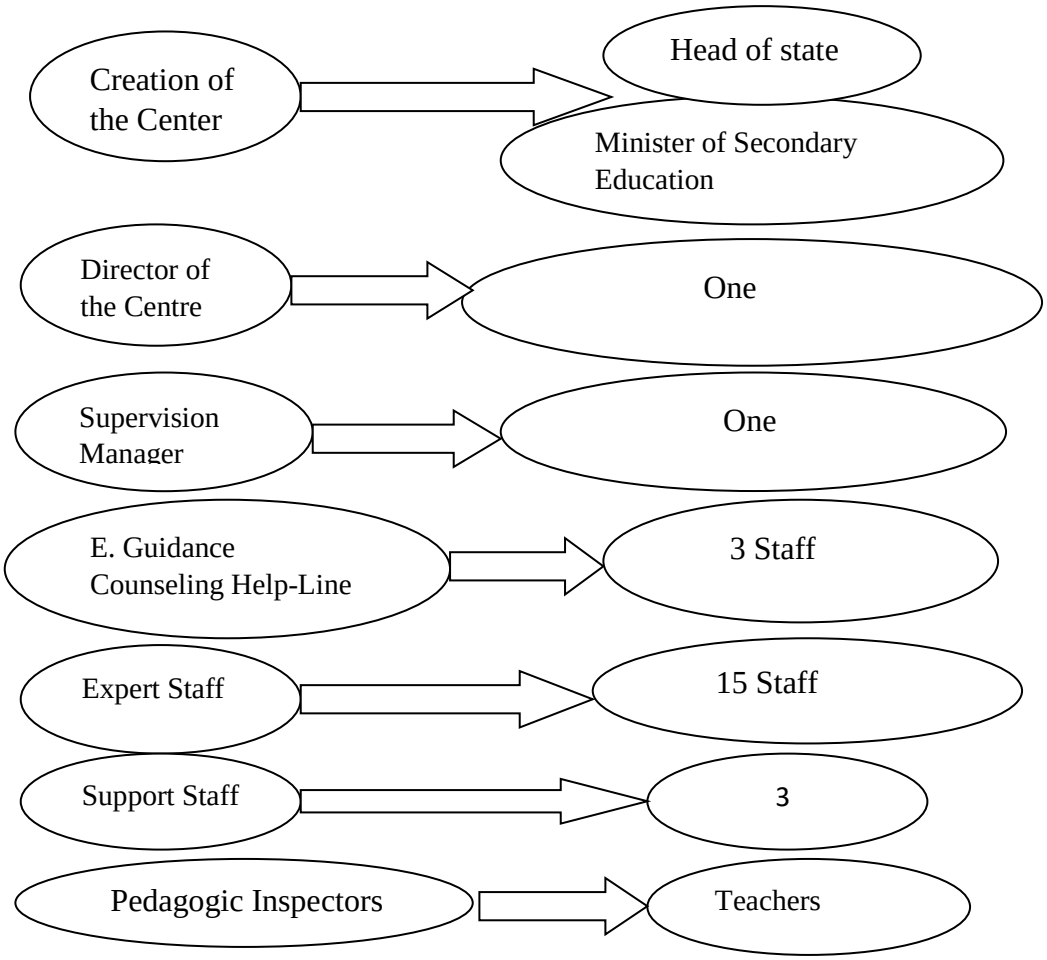
REVIEW OF LITERATURE

This second chapter reviews literature related to the evaluation of distance education resources, its variables, the conceptual frame work, theories and the model that guide the study. It begins by presenting the Distance Education Centre and it daily activities. These provide more insight on the project and concepts, and guide the researcher in presenting facts throughout the study.

The COVID-19 pandemic significantly disrupted educational processes all over the world, imposing the necessity for innovative solutions to maintain pedagogic continuity. In Cameroon, the Ministry of Secondary Education Cameroon (MINESEC) established the Distance Education Centre (DEC) to bring about the solution. The Centre produces quality video lessons and makes them available on the MINESEC platform. The initiative came as a response to the urgent need for educational resources that could be accessed remotely, ensuring that students continued to receive quality education despite the constraints brought about by the pandemic. The main objective as stated by the Ministry is to ensure resilience modernisation improvement in the secondary education system in Cameroon. The specific objectives include: the production of quality audio video lessons, dissemination and facilitation. This study seeks to assess the quality of these video lessons in terms of their effectiveness in ensuring pedagogic continuity, satisfaction among beneficiaries, and the project's progress against its expected outcomes. In addition to these objectives and to strengthen the action a Helpline Service has been put in place to assist all learners who face difficulties with lessons or other education constrains. The service runs from Monday to Friday every week. A total number of three staff manage Helpline Service for the whole nation. The calls to this service are free of charge for all learners to ensure equal access.

1.8.2.1. General Overview of MINESEC Organisational Structure of Distance Education Centre (DEC) and Activities

Figure 1: The Organigramme of DEC



Source; Observation at the Centre (2024)

Daigram 1 shows the Organigramme of DEC management in a top bottom manner.

Resources Production Stakeholders

The stakeholders involved in the resources production process include: National Pedagogic Inspectors (NPI), Teachers, Inspector General of Education (IGE), General Coordinating Inspector (ICG), and the Minister of Secondary Education on behalf of the Head of State. External partners like UNESCO, UNICEF and EVO SOLUTION who offered1500 tablets and UNESCO 5000.

How Teachers are selected to Participate in the MINESEC Distance Education Centre Lesson Presentation.

The choice is made through the National Inspector who identifies competent teachers when they go out for inspection, Regional Inspectors and administrators also recommend some teachers based on their willingness and availability. Lessons are assigned to the selected teachers from the harmonized programme curriculum by the Inspectors.

Production Procedures Adopted

The strict procedure adopted for the video lessons production at the Centre entail the assignment of lessons to teachers, preparation by the teacher, validation by first the Inspector and finally by the Educational Technologist, presentation by the teacher, editing and publication in the Platform and YouTube by the respective experts.

Lessons are assigned to the Teachers

In the field to be prepared by the National Pedagogic Inspectors following some orientations, they produce, and take back to the inspectorate for scrutiny. The preparation process continues till it is validated by the NPIs and finally by the expert at the DEC. The National Inspector leads the teacher to the MINESEC DEC for final screening and validation process by the Experts. Sometimes at the Centre lessons may be recommended for corrections up to two or more times. After validation the teacher who is coming for the first time is sent to the simulation studio while others go straight to the studio.

Rules to Respected for Quality Production

- Do not move when presenting a lesson in order to maintain the camera fixed view. However, moderate gestures are necessary for a natural presentation.
- Maintain a natural and consistent voice peach.
- Maintain a closed door after the technician moves out.
- One slit must not exceed six lines.
- Time management is maintained within 25 and 30 minutes.
- Lesson must be presented respecting Richard Mayer’s 12 principles of instructions.
- Dress code must be moderate avoiding black or too bright colours.
- Neatness is also a strong requirement for the teacher

Simulation

Simulation is the orientation on the use of the digital board, how to stand in front of the camera, how and where to wear the microphone, the respect of “one lesson one outfit” and colours to be worn for presentation. The length of each lesson must fall on or between 25-30 minutes maximum, to this effect, a timer is set to guide the presenter, as such shorter or longer lessons and other defects are started all over. Under the inspector's supervision, the teacher is given enough time to rehearse before the final presentation still under the inspector's supervision.

Lesson Presentation Steps

Lesson presentation steps are systematic actions that teachers must be versed with during lesson preparation before being allowed into the studio to apply. These are:

- ✓ Welcome learners into the platform.
- ✓ The Teacher introduces his/herself beginning with his/her name.
- ✓ He announces the discipline and class he is going to teach.
- ✓ The Teacher introduces the assignment of the previous topic and lesson.
- ✓ He presents corrections for the last assignment and solutions.
- ✓ Announces the lesson of the day.
- ✓ Gives lesson topic
- ✓ lesson number
- ✓ lesson Title
- ✓ lesson Plan
- ✓ lesson Objectives
- ✓ lesson prerequisites
- ✓ lesson life situation
- ✓ lesson learning activities
- ✓ Exercises
- ✓ Home work
- ✓ Bibliography is for INIEG lessons only.
- ✓ Announcement of the next lesson

Dissemination of Resources

Dissemination of resources is understood by Wang, and Wu (2021) as making available information for someone to use and improve on their efficacy. In the context of MINESEC DEC it is sharing of both information and equipment to facilitate distance education exercises for Secondary School learners in Cameroon schools.

Techniques used for the dissemination of resources

Some of the techniques used in the dissemination of resources include principally the publication of quality lessons in the platform and YouTube. From these two sources the lessons are further distributed through hard disk, USB keys, the hard drives, CD ROM, phones and tablets. Also, from some of these sources the learners could use the TV screen and the radios to play them. This helps to overcome the weaknesses of playing them from the broadcasting houses.

Dissemination Process

The dissemination process begins primarily with the publication of the lesson on the platform where everyone within the Internet in possession of an Android phone in the globe can access them. Unfortunately, there is a code which limits access for many people. Secondly, the Secondary School representatives are expected to come to DEC with hard drives for registration and saving of lessons for their schools. Also, the Centre organises seminars through which essential information and materials are disseminated. In addition, though not frequently, the Centre also visits the field to update lessons installed in the equipment previously distributed like the radios and tablets in some schools.

Some Challenges Faced During the Dissemination.

The major challenges which are faced during dissemination process are energy supply and network coverage in some enclave areas. These challenges infringe on the intended equal distribution resources. However, these are overcome so far by alternative equipment like radio-sets and solar panels distributed by the Minister of Secondary Education and radios and tablets offered by international partners UNESCO and AVO SOLUTION.

Learner/Learner and Teacher/Learner Interaction Management During video Lessons attendance

The management of learner/learner and teacher/learner interaction during online life revision lessons is managed the same as it is in a normal face to face classroom. The teacher asks a question and learners use the phone or tablet to answer or type the answer. Learners also ask questions by typing or may speak using the available means at their disposal. This takes place in three specific periods annually; during Christmas, Easter breaks and the third revision lesson is held only for end of year examination classes. This involves promotion and certified evaluations. On the contrary there is no interaction when listening to MINESEC'S DEC video Lessons offline and online lessons out of the life revision classes so far.

Internal Evaluation of DEC learning Outcomes

The internal evaluation done to ensure that learning objectives of DEC have been met is basically carried out by the inspectors/teachers and feedback comes in through the National Pedagogic Inspectors (NPI (s) who channel it to the Centre's management. Notwithstanding, some parents and teachers also call the Center to appreciate, while some students call in anticipation of the next revision sessions. Also, feedback of improved results in the schools that use the resources is indicative of positive outcomes. However, this particular feedback is not yet statistically measured and recorded consistently.

Facilitation of Resources

According to Wankasi, Sehularo and Rakhudu, (2020), facilitation of resources brings together two terms dissemination and implementation. Hence, monitoring and evaluation come in to foster proper and effective use of resources. According to MIMESEC's DEC the facilitation of resources is monitoring to ensure the proper use of the available produced resources of the Centre at the disposal of her beneficiaries specifically the Secondary School Students in Cameroon. The types of resources so far facilitated encompasses published video lesson in platform and YouTube, 6500 tablets and 1000 radios shared out. These were given to some selected Secondary Schools in the ten Regions in Cameroon as presented below as follows:

Table 2: Types of Resources Distributed; Tablets and Radio Sets.

No.	Region	Number of Tablets Per school in each Region Reg.	Number of Radios Per school in each Region
1.	Far North	670	5 x 20 = 100
2	North	550	5 x 20 = 100
3.	Adamawa	510	4 x 25 = 100
4.	East	549	5 x 20 = 100
5.	South	700	5 x 20 = 100
6.	Centre	650	4 x 25 = 100
7.	Litoral	590	5x 20 = 100
8.	South West	750	5 x 20 = 100
9.	West	690	5 x 20 = 100
10..	North West	520	5 x 20 = 100
	Total	6,179 tablets	1,000 radios

Sources: MINESEC DEC platform (2024)

Table 2 shows that all the 10 Regions of Cameroon have received some media materials from MINESEC DEC.

Facilitation of Effective Usage

Generally, the facilitation of effective usage is done through Seminar with National Pedagogic Inspectors and they give feedback. The Centre does not often physically go out into the field for direct facilitation but use the collaborators and the platform to channel information and receive feedbacks.

Table 3: Number of Hard drives Served with Lessons by DEC to some Schools throughout the National Territory per Month recorded in 2023 only.

No.	Month in 2023	No. of hard drives
1.	January	70
2.	February	8
3.	March	17
4.	April	3
5.	May	3
6.	June	3
7.	July	0
8.	August	1
9.	September	23
10.	October	35
11	November	18
12	December	7
	Total	188 Hard drives in 2023

Sources: MINESEC DEC platform (2024)

Table 3 shows that during school period the number of hard drives collected generally rises.

Table 4: Numbers of Lessons Produced so far from Forms 1-5 for the Listed Subjects.

No.	**Discipline**	F1	F2	F3	F4	F5
1.	Biology	19	19	11	X	8
2.	Geography	18	X	10	19	19
3.	Computer	X	9	X	19	19
4.	Chemistry	17	14	15	X	X
5.	Physics	20	X	20	X	X
6.	Mathematics	19	19	20	19	8
7.	History	5	16	X	X	15
8.	Philosophy	X	X	X	X	X
9.	Literature	X	X	X	X	10
10.	English Language	4	9	5	6	7
11.	Citizenship Education	6	5	19	8	19
12.	Guidance and Counselling	13	4	7	3	7
13.	Physical Education and Sports	7	1	X	4	2
14.	Manual Labour	9	X	9	2	1
15.	French	X	9	X	20	10
16	Logic	X	X	11	29	19
17	Economics	X	X	X	13	19
	Total No. Of lessons per class	137	106	125	122	123
	No, of Subjects with null lessons	6	7	7	6	3

Sources: MINESEC DEC Platform (2024)

Table 4 shows that the teachers in the F5 are more aware of the video lessons and participate more in the production. That is perhaps why only three subjects do not have lessons, whereas the others have double or more than double the number of subjects having no lessons. This also highlights the fact that more effort is made in the examination classes even though in term of the number of lessons available F1 has more than F5. Moreover, there are inequalities in number of lessons produced for each subject, some have much more, some very few and some nothing. This creates gaps in the production phase which is important to our study.

Table 5: Cumulative Average Visits in the Platform and YouTube per Year

No.	**Year**	**Those who played the lessons and listened to it**	**Number in the viewer list Visits**
1.	2020	38, 024	Inclusive 37, 600, Cm34. 233
2.	2021	276, 067	1, 685
3.	2022	904, 498	218, 602 visits
4	2023	1, 594. 123	1, 223, 598 times
5.	2024	2, 000, 015	283 learners only

Sources: MINESEC DEC platform (2024)

Table 5 shows the number of those who have actually played and listened to the lessons and those who just came into the platform. These figures are indiscriminate they do not distinguish a student from a non-student visitor.

Table6: Video Lessons Revision; Available feedback in 2023

No.	Town	Viewers
1.	Yaounde	683
2.	Douala	227
3	Bertoua	129
4.	Buea	12
5.	Bamenda	10
	Total	**1, 051**

Sources: MINESEC DEC platform (2024)

Table 6 shows the number of students who participated in the revision session in Cameroon in 2023.

Production Challenges

Energy inconsistency and equipment break down constitute some of the major challenges which delay work. Disparity in Regional Representation is noticed in the number of lessons produced in French 4,351 and those in English 2,323. This challenge of disparity may be influenced by the distances which exist in geographical locations. The two English speaking Regions, Grand North and East which are located far away from Distance Education Centre in Yaoundé thus, it is obvious that displacement may pose problems to many teachers. It is therefore evidential that the most French speaking teachers who live close to the Centre record more lessons than their counter parts that are far off.

Attention to Various Subjects per Class

It is also observed that, not all subjects in various classes receive the same attention in lesson production at DEC. Some subjects receive more lessons, others few, while some have no lessons.

Indiscriminate Visitors Count in the Platform

It is observed that visits into the platform and YouTube are indiscriminately recorded. One is unable to identify a student from non-students. This makes it difficult for our study to depend solely on online statistics to determine beneficiaries' satisfaction with the product of Distance Education Centre resources depending on students alone.

Insufficient Staff and Deadlines Respect

Are some of the constraints which cause work pressure on staff to work beyond the 8am to 6pm and beyond Monday to Friday stipulated working hours and periods respectively.

Limited time and space for Lesson Presentation

Some teachers come with too many lessons to present whereas the maximum permitted in one day is three. This however, strains the relationship between experts and the presenters when they are insisting. In addition, when the lesson contains too many corrections the owners are tense and some blame the experts, some go back without presenting to come later. This holds true for those who are asked to go and shave their hair, or change clothes for quality to solve colour problem during presentation.

Irregular Lesson Presentation Attendance by Teachers

Teachers who are irregular forget the production rules and have to go through simulation again. Some teachers who are coming for the first-time express discouragement because of the high standards. Some after rehearsing still start all over for up to five times. Similarly, too many corrections cause some teachers to go back without presenting their lessons.

Helpline: owing to the fact that the helpline is free of charge some students just call for fun and disturb staff. Also, not all staff in this section are full time employed.

1.9.2.2. Definition of Concepts

This section defines relevant terms and explains them to illicit the objectives of the study.

Evaluation

Evaluation is defined by Patton, (2015) as a process that critically examines projects, it involves data collection and information analyses about a programme or activities. It takes into consideration characteristics and the outcomes. The purpose is to make judgments about

relevance, impact and sustainability of the programme or project in order to improve on its effectiveness and efficiency. Lockhart, (2023) emphasises that project evaluation is all about objectively examining the success or effectiveness of a project at all stages. This is at the conceptual, planning, execution and the exploitation stages. Evaluation should not only be at the end but should be carried out continuously during the project. It is mentioned that one of the factors always considered and measured in all the stages is the beneficiaries' satisfaction. This approach allows organisation and teams to make informed decisions and adjust their course if necessary. This study sets out to evaluate MINESEC DEC product quality of video lessons for distance education improvement for secondary school learners in Cameroon.Given that in the past the tools used in carrying out distance education were all forms of limited ICT correspondences such as postal mailing, radio and television and now switched to full stream ICT tools such as computer and phone using Internet connection, follow up is necessary. These new tools have come with different challenges and as such require continuous monitoring and evaluation as echoed by Lockhart opcit.

Omid, Haass, Gustavo and Guzman (2020), suggest that there are many ways to address the shortcomings of conventional project evaluation practice. More so there are different types of evaluations in project management such as pre evaluation which comes before the project goes operational to ensure feasibility. Continuous evaluation ensures that the project does not get off tract (lndeed Editorial, Team, 2023). There is also an end of project or outcome evaluation which verifies if the project objectives are met at the end. In addition, there are internal and external evaluations, the first has to do with personal evaluation or evaluation carried out within by members of the Organisation or Enterprise using specific modalities to verify the strengths and weaknesses of their project (Mohammadi, Eshaghi and Mahbobeh, 2012).

The second which is external evaluation according to Seeland, Krell, Sirko and Elsa (2018), involves inviting a neutral body of experts that comes in from without to act as a mirror. They collect data, analyse and draw conclusions on pertinent aspects of the project which should be improved upon, maintained, increased, reduced or dropped. All of these are aimed at improving the quality of products and the enhancement of resources. This upholds the importance of evaluators and the ever-growing need for researchers like Newcomer, Hatry and Wholey, (2015) who worked on designing a Useful Handbook for Practical Evaluation. This means that any serious project which

is worth maintaining in quality and quantity needs to put in place continuous and periodic evaluation strategies.

Distance Education

According to Kisirkoi and Kamanga (2022), in Africa distance education has been conceptualised by several scholars as education by correspondence, in other words indicating that the teacher and the learner only exchange information through the use any suitable and available channel of communication in their context. In ancient days; Paul the Apostle and Sir Isaac Pitman of America used either people who were travelling on foot or vehicles or ships or planes, who carried written scripts or printed materials and delivered at the post office or distributed directly to the people concerned. In modern days; correspondence learning is christened as, distance education or technology enabling learning, online learning, flexible learning, distance technology learning and open teaching.

Saykili (2018) adds that while distance education is referred to today as open distance or open education resources (OER) or Massive Online Open Courses (MOOCs) to facilitate a wider population to partake in education; in 1800 it was considered as education for the poor only. Moore (2022) posits that at that time Universities in Europe and UK were disinterested in correspondence education. The multiplicity of different terms referring to the same phenomenon indicates that distance education can be achieved using different means. Considering the various definitions, it is all about teaching and learning that goes on in a situation in which the teacher and the learner are separated by time and space (Sari and Nayir, 2020). This means that distance learning has evolved from distance learning by paper and mail to distance learning through the use of technology accepting as many appellations as the tools and means used in the process. For example, those who lay emphasis on the fact that they are using electronics to achieve distance learning refer to it as e-learning; those who see more of technology in general say distance technology learning. The following section clarifies key concepts and terminology in distance education, which various authors define differently according to their specific contexts while referring to the same fundamental principles. This could be summarised as follows:

Table 7: Various Attributes of Distance Education

No.	Description	Means
1	Correspondence studies	Exchange of information through written scripts or printed materials. Wear and Levenson, (2004) underline that it is Education material, typically textbooks or lecture notes, is sent to the student by way of the US Postal Service or common carrier.
2	E-learning	Use of electronics
3	Distance technology learning	Use of technology
5	Open distance learning (ODL)	Increasing access for more people and removing barriers Enabling success. Accumulating success, Maphosa and Bhebhe, (2020).
5	Remote learning, distance learning and e-learning	According to Sarikas, (2020) these are the same things. Learning that goes on with the teacher and learners in different places and time
6	Digitalised distance learning	According to Delcker and Ifenthaler, (2022) is the same as distance education
7	Online learning	According to Imam, Jupriyanto, Widiya, Kusumaningsih (2021) online and distance learning is the same thing.

Source: collected and constructed from various authors by the researcher

Table 7 demonstrates various concepts basically means modern correspondence in the digitalised form and each concept is used from the background of the user with no conflict yet, however, in this study distance education and Learning is used more.

Audio-visual lessons

The term audio-visual materials are defined by Dike (1993) as those materials which do not depend solely upon reading to convey meaning. They may present information through the sense of hearing as in audio African Educational Research Journal Vol. 4(1), pp. 19-24, February 2016 ISSN: 2354-2160 Full Length Research Paper resources, sight, as in visual resources or through a combination of senses. Indeed, the variety of such resources is a striking characteristic.

According to Anzaku (2011), “the term audio-visual materials are commonly used to refer to those instructional materials that may be used to convey meaning without complete dependence upon verbal symbols or language”. Thus, according to the above definition, a text book or a reference material does not fall within this grouping of instructional materials but an illustration in a book does. Some audio-visual components are in the nature of process and experience, for example, dramatising an event or a procedure or making diorama. Some of the audio-visual materials like the motion pictures require the use of equipment to release their latent value. Some do not need equipment at all like an exhibit or a study print. This term designates in common usage both material things as well as processes such as field trips.

Pedagogy

Korthagen and Buitink (2006) define pedagogy as a specific set of principles and approaches utilised to inform about teaching, particularly focusing on how teachers should transmit knowledge in education, which is distinct from general educational theory. These pedagogical approaches guide the structure of teacher education programs and the interventions of teacher educators. One of the examples from the study is the use of video lessons as a component of distance education. These video lessons serve as a platform for enhancing teacher education by providing a medium that combines theory and practice, allowing future teachers to observe and reflect on teaching practices remotely. This is particularly beneficial in distance education settings, where physical presence is not possible, yet the need for practical, experiential learning remains critical. The integration of video lessons can help bridge the gap between theoretical knowledge and practical application, an essential aspect of effective teacher education.

Crawford (2016) defines pedagogy in the context of blended learning as an educational approach that integrates traditional face-to-face instruction with online learning, aiming to combine the most effective aspects of both methods. This approach is particularly relevant in the digital age, where the use of technology in education can enhance teaching and learning experiences by making them more engaging and reflective of real-life contexts. The pedagogy emphasises a multidimensional and non-linear model, which includes interactive and experiential learning practices facilitated by technology. An example of this is the Interact Music Project, which utilised Web 2.0 technologies to deliver high-quality music education resources to rural and remote schools in Australia. The project provides a platform for developing online music

compositions and sounds capes, enabling students and teachers to engage with music education beyond geographical constraints. This approach not only increased student engagement and learning outcomes but also encourages pedagogical change among teachers, aligning educational practices with contemporary technological advancements.

Continuity

Mukherjee, Khandakar and Saha (2021) define continuity in education as the seamless integration of technology into learning environments to prevent disruptions, particularly through the use of video lessons in different platforms for distance education enhancement. This approach is part of a broader framework aimed at maintaining learning gains and ensuring educational resilience, particularly during unforeseen disruptions such as the COVID-19 pandemic. An example in the document highlights the adoption of blended learning models, which combine online and face-to-face instructional methods. This model has been instrumental in bridging the digital divide and enhancing the educational experience by using digital tools to facilitate interactive learning and improve accessibility to educational content. The use of video lessons on diverse platforms is a critical component of this strategy, enabling educators to deliver lectures and engage with students remotely, thus ensuring continuity in the learning process despite the challenges posed by the pandemic.

In the same vein Bratitsis, Barroca, Bessi and Guccione (2016) describe "continuity" in the context of education during the COVID-19 pandemic as the continuous transition and maintenance of educational processes despite the shift to distance learning platforms. The term emphasises the need for effective educational design, communication, and the support required to uphold the quality and inclusiveness of education. The authors highlight that simply transferring existing teaching methods onto digital platforms without adapting to the new environment undermines continuity. Instead, innovative approaches using the unique capabilities of video lessons and digital platforms are necessary to ensure educational effectiveness. For example, the document discusses the potential for utilising more interactive and collaborative teaching methods, such as concept mapping and guided group discussions, which are more suited to digital environments than traditional lecture-based approaches. This adaptation is crucial for maintaining engagement and educational quality in distance settings.

Pedagogic Continuity

Terrien and Güsewell (2021*)* refers to "pedagogic continuity" as the persistence of educational activities through the integration of digital tools and platforms, especially during unforeseen disruptions like the COVID-19 pandemic. This concept emphasises maintaining educational progress and engagement despite physical separation between educators and students. The authors highlight the use of diverse video conferencing platforms, shared file repositories, and multimedia hosting sites as critical for sustaining pedagogical activities in higher music education during the pandemic. The document illustrates how music professors at CNSMDP and HEMU utilised video lessons across various platforms to adapt their teaching methods. They reported that while initial challenges included sound quality and gesture transmission, the forced adoption of these tools led to innovative teaching practices and a deeper reflection on their pedagogical approaches. These adaptations demonstrate the potential of digital platforms to enhance distance education by providing flexibility and fostering creativity in teaching methodologies, ultimately leading to more efficient pedagogical outcomes.

Video Lessons

Lucky and Rubin (2022) define video lessons as a multifaceted instructional tool that enhances distance education by delivering content through both visual and oral channels, which is closer to an in-person lecture than traditional text-based instruction. This approach is beneficial in online learning environments, as it can lead to better learning outcomes compared to other methods such as readings or podcasts. Videos offer flexibility, allowing students to control their learning pace and enabling instructors to optimise content through editing and design principles. Moreover, videos provide an authentic perspective, particularly useful in skill-based teachings, by offering realistic demonstrations. For instance, the study highlights the use of a YouTube platform to share instructional videos, allowing for wide accessibility and the ability to track usage metrics, which are crucial for evaluating the impact and reach of the educational content. This use of diverse platforms does not only improve distance education but also contributes to the wider dissemination of Open Educational Resources (OER). Consequently, it could also be asserted that video lessons are an imitation of a face to face class lesson delivery with additional inputs towards optimal goal achievement.

Preparation of Quality Video Lessons

Mondong and Agao-Agao (2022) perceive the preparation of video lessons as the process of creating educational content delivered through video platforms, tailored for effective distance education. This preparation involves extending traditional design principles, exploring novel design principles, and considering personal characteristics in learning with instructional videos. The goal is to enhance the educational experience by addressing challenges such as time constraints, script limitations, and ensuring clarity in instructions. For example, in the context of the Cotabato City Division, teachers faced difficulties due to restricted time for elaborating lessons and were bound by pre-written scripts, leading to ambiguous instructions. These challenges highlight the need for comprehensive training and support to develop effective video lessons that align with learners' needs and educational goals. This preparation is crucial for maximising the potential of video lessons as a primary resource in distance education, especially during the COVID-19 pandemic when traditional classroom settings were disrupted.

Dissemination of Video Lessons

Ndongfack (2021) defines the dissemination of video lessons as the strategic distribution of educational video content in various platforms to enhance distance education to ensure that educational materials are accessible and effective in improving learning outcomes. This is especially in the context where traditional face-to-face education is disrupted, such as during the COVID-19 pandemic. This implies using different types of platforms like online learning management systems to deliver content that is compatible with diverse technological capabilities and learning needs. The document highlights the use of the Moodle Platform, a flexible and customisable learning management system, which was adopted by the Ministry of Education in Cameroon to facilitate the continuous delivery of learning during school closures. Moodle's open-source nature allows for a wide array of activities and themes, making it a suitable choice for hosting and offering online education and training programs to a wide audience.

Sokeng (2022) sees the dissemination of video lessons as the effective spreading of learning video content in multiple platforms to facilitate distance education. This approach involves exploiting diverse technologies and platforms to ensure that learners can access educational materials regardless of their geographical location or technological constraints. The integration of video lessons into distance education allows for a more engaging and interactive learning

experience, potentially overcoming some of the barriers posed by traditional remote learning methods. For instance, during the rapid transition to remote learning in Cameroon due to the COVID-19 pandemic, various platforms such as Google Classroom, Moodle, and WhatsApp were used to deliver video lessons. This diversification in delivery methods aimed to accommodate the varying technological capabilities of students and enhance accessibility to educational content by utilising different platforms. Educators can tailor content delivery to meet the specific needs of their students, thereby improving the overall quality and effectiveness of distance education.

Dissemination and facilitation according to the MINESEC Distance Education Centre's perspective and practice are defined as follows: dissemination refers to the distribution of products, making them available, placing them within the reach of users. The main product of the centre the quality video lessons is also distributed through school principals to teacher and onto the students. The publication of the lessons in YouTube and the Platform is directly served to students and the public. Similarly, facilitation for DEC stands for the follow up of the resources to see that they are properly used as intended to avoid effort wastage. To this effect the MINISEC DEC has also put in place the Help Line Service (HLS) which counsels students with learning issues during working hours.

Many researchers have carried out studies on distance education or distance learning, or virtual distance education which is highly dependent on ICT. Their findings are important in guiding the present study. Bearing in mind that in the present days distance education is highly dependent on ICT, it is a reminder that talking about distance education sometimes implies ICT and vice versa because the two are bonded in this context. The same holds true for distance education, online learning, e-learning, virtual learning in relation to similar media materials. Therefore, this study considers the following concepts to principally influence the quality of lessons in the preparation process leading to beneficiaries' satisfaction. These include accessibility, utility, and usability defined as follows:

Accessibility of Video Lessons

Youmeyse and Ngamaleu (2020) view accessibility of quality video lessons as the ability to effectively integrate video content into various educational forums to enhance online education. This integration is crucial for adapting teaching methods to diverse technological environments,

which became particularly important during the COVID-19 pandemic when traditional classroom settings were disrupted. The authors emphasise that accessibility involves not only the technical availability of video lessons but also the pedagogical strategies to use these resources effectively. A critical aspect includes aligning video content with the curriculum and ensuring that teachers are equipped with the necessary skills to facilitate learning through these platforms. For instance, they highlight the challenge faced by primary school teachers in Cameroon, who have a positive attitude towards technology but struggle with the practical application due to limited skills and resources. This example underscores the need for comprehensive professional development and consistent updates in hardware and software to make quality video lessons more available and effective in distance studies.

Also, Cheo and Akumbom (2022) refer to accessibility of video lessons as a crucial element in improving remote education by ensuring that learners can easily access and interact with educational content in various platforms. Accessibility involves the availability of video lessons on multiple types of platforms, such as proprietary and open-source Learning Management Systems (LMS), which are tailored to meet diverse user needs and preferences. These platforms must support various functionalities, such as ease of use, timeliness, and flexibility to effectively serve a broad audience. For example, the integration of video conferencing and discussion boards within an LMS can provide an engaging and interactive learning environment, allowing students to participate in virtual classes and discussions regardless of their location. Such features are particularly beneficial in Cameroon, where there has been a significant shift towards e-learning to address educational disruptions and accommodate a growing student population.

Similarly, Fomunyam (2019) says that accessibility of video lessons is the ability to provide educational packages through diverse technological channels that facilitate learning from a distance, especially within the context of Cameroonian higher education. The study highlights that while educational technology has the potential to accelerate learning, significant barriers such as poor internet access, high costs of technology and lack of locally relevant content persist. These barriers hinder the effective use of video lessons across different platforms. For instance, findings in the study notes that although platforms like YouTube and Google Forms are available, their use is limited by poor internet connectivity and the expensive nature of technological devices, which many students and lecturers cannot afford. This situation is

exacerbated by the fact that most online resources are designed for Western contexts and are not easily adaptable to the needs of Cameroonian students and lecturers. Also, the accessibility challenge is compounded by the lack of institutional support and coherent national policies to guide the integration of such technologies in education.

According to Sokeng (2022) accessibility of video lessons is the capability of educational content to be delivered effectively in platforms to facilitate education. The emphasis is on ensuring that video lessons are available and easily reached on diverse digital platforms, thereby improving students' learning experiences during remote education situations like during the COVID-19 pandemic. This accessibility ensures that students can engage with educational materials without barriers, such as technological limitations or unstable internet connections, which were significant challenges during the pandemic. An example of this is seen in the efforts by educators in Cameroon who use Zoom, WhatsApp, and Moodle to deliver content. Some educators organise live sessions, while others utilise pre-recorded video lessons. Accessibility from various contributions is all about the ease with which beneficiaries of quality video lessons could have in their learning progression experience.

Utility of video Lessons

Khasawneh, Y. Alsarayreh, Al Ajlouni, Eyadat, Ayasrah, and Khasawneh, M. (2023) define the utility of video lessons as a significant tool in enhancing distance education, particularly for deaf students, by providing a dual-channel of visual and auditory information that aids in overcoming communication barriers. The utility lies in its ability to present educational content in a format that is more engaging and accessible, thereby bridging the gap between content creators and learners. This approach is beneficial to various platforms, such as YouTube or WhatsApp, where video lessons can be replayed as many times as desired and allowing students to learn at their own pace and according to their unique needs. An example highlighted in the research is the use of video media that aligns with learning objectives, effectively preparing teachers and students for the content delivery, execution, and successful conclusion of lessons. Such strategic implementation ensures that video lessons are not only accessible but also in synchrony with the educational goals, thereby improving the overall efficacy of distance education for students with hearing impairments.

In the same vein, Bayram (2013) perceives utility of quality video lessons as an effective enhancement for online distance education courses, emphasising their role in improving student engagement, comprehension, and motivation. High-quality video content is considered beneficial because it enriches the learning environment by integrating multimedia elements such as video, audio, text, and graphics. This integration creates a more dynamic and interactive experience than traditional classroom settings or textbook-based learning. Video lessons can simulate real-world complexities, providing learners with opportunities to engage with authentic facts and facilitating deeper understanding and retention of course material. For example, in the findings students reported that video content helped them stay focused and better prepared them for professional applications of their knowledge, highlighting the videos' role in enhancing motivation and engagement. Also, the technical quality of the videos, including ease of navigation and playback controls, contributed to the overall positive perception of the video-enhanced learning experience.

Simimilary, Abanda, Kamdjoug, Fosso, and Tcheuffa (2019) highlights the utility of video lessons as the extent to which lessons effectively influence learning outcomes by providing accessible and engaging content in deferent e-learning platforms. Quality video lessons are instrumental in facilitating the performance of educational tasks, ensuring that learners acquire new knowledge and develop skills necessary for improved work performance. The perceived quality of these lessons is crucial as it guarantees the acquisition of knowledge and skills that directly contribute to efficient work performance. The work suggests that the output quality of a video lesson, which refers to its ability to improve learning outcomes, has a significant positive effect on the perceived usefulness of e-learning systems. This effect is demonstrated by the improvement in employees' skills and knowledge, essential for meeting the demands of their professional roles.

Drawing from the various definitions, the utility of quality video lessons is the sum of proper factors which are considered and put together at the production stages. These factors include preparation, presentation and dissemination stages of a video lesson production, hence, all the relevant elements involved in each stage of a given lesson account for its utility. Therefore, gaps involved in this in any or all of these stages contribute to the poor quality of the lesson. Summarily, the utility of a quality video lesson could be perceived as the potential facilities it offers to its beneficiaries for the highest attainment of the learning objectives.

Usability of Video Lessons

Etomes (2022) defines the usability of quality video lessons as the capability of various online platforms to effectively deliver educational content that enhances the distance learning experience. Usability in this context refers to how easily students and educators can interact with video lessons within different digital platforms to facilitate learning. This involves assessing the accessibility, user interface, and functionality of the platforms to ensure that video lessons are efficient and beneficial for educational purposes. A relevant example from the findings highlights that platforms like WhatsApp, Google Classroom, and Zoom were predominantly used during the COVID-19 lockdown for remote learning in Cameroon's higher education system. Among these, WhatsApp was the most extensively used platform, with 84.5% of students utilizing it for their studies. The extent to which students were comfortable using these platforms directly influenced their learning outcomes, demonstrating the importance of usability in the effectiveness of video lessons for distance learning.

In conformity with the latter author, Akumbu, Teneng, and Ngu (2022) perceive the usability of quality video lessons as the effectiveness, efficiency, and satisfaction with which users can achieve specific learning goals when using video lessons in diverse platforms in distance education. The focus is on how well these video lessons can be integrated into different technological environments to facilitate learning during crisis, such as the COVID-19 pandemic. Usability encompasses several factors including the accessibility of the video content, the clarity of the presentation, and the ease with which users can navigate the platform to access these lessons. According to the authors it is necessity for teachers in Cameroon to develop skills in creating and using video lessons effectively on platforms like Google Classroom and WhatsApp. This underscores the challenges and the limited preparedness of teachers to adapt to online education formats without sufficient training and resources, which is essential for improving the educational landscape during emergencies.

Viewing from other lenses, Kukulska-Hulme, Foster-Jones, Jelfs, Mallett and Holland (2004) say the usability of quality video lessons in distance education is the system's effectiveness in facilitating student engagement, learning, and collaboration. Usability encompasses the clarity of the user interface, ease of navigation, and the quality of video and transcript features. A critical aspect is how well the video lessons are integrated into platforms, allowing students to access

content on-demand and engage with interactive learning activities. For instance, the DiVA system enables students to search, select, and use specific video clips, which support resource-based learning. However, challenges such as unfamiliar terminology, video quality, and workload implications need addressing to enhance usability in varied platforms. The work illustrates that students using DiVA remotely faced issues like small screen sizes and buffering, which affected their viewing experience. Despite these challenges, the platform's potential for collaborative and personalised learning experiences is evident, underscoring the need for continued refinement to improve usability in distance education.

In a nutshell, usability of a quality video lesson is the sum of the satisfaction which the beneficiaries derive from the efficiency of the factors that make quality video lessons such as accessibility, the quality of the video content, the clarity of the presentation and the ease with which users can navigate the platform to access these lessons. Usability is concerned with the results of the negative or positive experiences of the users in relationship to meeting their objectives.

Beneficiaries' Satisfaction

Like Radu et al (2021) Mehdi, Zeynali and Shahriary (2013) define beneficiaries' satisfaction as the perceived fulfilment and contentment of graduate students and faculty members with the services provided by the Centre of Postgraduate Studies at Hormozgan University. The study measures satisfaction by evaluating various dimensions of customer orientation, such as tangibles, attitude, reliability, content, and delivery method, with delivery method having the greatest impact on satisfaction. The authors’ point of view highlights the importance of the delivery method in distance education improvement, specifically through the use of video lessons on divergent platforms. This approach enhances accessibility and engagement, thereby improving the satisfaction of beneficiaries by meeting their educational needs more effectively. The study suggests that by focusing on the delivery method, educational institutions can significantly enhance satisfaction among their beneficiaries.

In another field, Onana, Sim, Bercea, David and Lakatos (2024) view beneficiaries' satisfaction in the context of the social enterprise certification process as the degree to which the applicants are contented with the administrative procedures involved in obtaining certification. Satisfaction is primarily influenced by factors such as the duration of the certification process, the behaviour

of public officials, the complexity of document preparation, and associated costs. High satisfaction levels are linked to shorter waiting times for certification, efficient administrative interactions, and the ease of handling necessary documentation. The research highlights that over 59% of respondents expressed satisfaction with the certification process, with many finding the staff interactions polite and the documentation tasks straightforward. However, there was a notable preference for the modernisation of the process through the introduction of an online platform for document submission, which supports the hypothesis that digital solutions could enhance overall satisfaction.

Looking at satisfaction from an emotional perspective Saad (2022) defines beneficiaries' satisfaction as a psychological state reflecting the degree to which an individual's needs are met, resulting in feelings of contentment, pleasure, and reassurance. It is characterised as a subjective experience linked to beneficiaries' expectations and their perception of the service they receive. Satisfaction varies among individuals, even if they receive the same service under similar conditions, making it an evolving and unstable state. In measuring beneficiaries' satisfaction with health services in rural Egypt, the study highlighted that beneficiary expectations have a strong positive effect on service quality and value, which in turn enhance satisfaction levels. This implies that understanding and aligning with beneficiaries’ expectations can significantly improve satisfaction levels, thereby fostering recommendations and reducing complaints. The study emphasises the importance of continuous improvement in service delivery to effectively meet changing expectations and improve on satisfaction.

Ewunetie, Husien, Toleha, Zewdie, Mekonen, Workneh, and Kahissay, (2024) understand beneficiaries' satisfaction as the evaluation of the quality of healthcare services provided by a health system. This evaluation encompasses all organisations, institutions, resources, and people whose primary purpose is to improve health. Beneficiaries' satisfaction is crucial because it measures the degree of contentment with services received and serves as a proxy for the quality of healthcare. In Ethiopia, satisfaction with community-based health insurance (CBHI) is affected by factors such as socio-demographic attributes, health service-related factors, and knowledge of the scheme. The cleanliness of health facilities is the only significant predictor of CBHI service satisfaction. This highlights the importance of maintaining high standards in healthcare

environments to meet beneficiaries' expectations and improve satisfaction levels, which is vital for the success of health insurance programs.

Summarily, beneficiaries' satisfaction could be said to be expectations on specific needs met and desiring the condition to remain permanent. In distance education it may highlight meeting learners learning objectives, such as facilitated learning processes, time gained, practicability of learning content, skill development, scoring, improved grades and a sense of fulfilment built in the beneficiaries. This implies that the beneficiaries are observed to be engaged and determined to ensure that the condition stay permanent for their advancement.

Information and Communication Technology

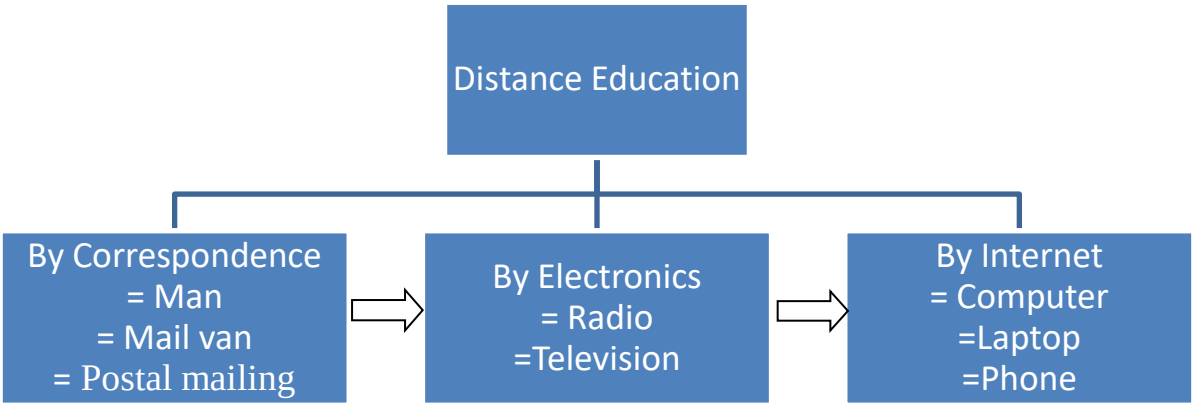
Kebritchi, Lipschuetz, and Santiague (2017) opine that each sector defines ICT in relation to their usage. Hence, by implication it is a term that stands at the centre of the world of work. These sectors could be medical, economic, political, social or cultural. However, this study relates the definition of ICT to distance education.

According to UNESCO's International Institute of Education and Planning (IIEP) ICT is Information and Communications Technology which is used in impacting student's learning when teachers are digitally literate and integrate it into curriculum. Schools use a diverse set of ICT tools to communicate, create, disseminate, store, and manage information. This however is a reflection of what takes place at the MINESEC's Distance Education Centre. In addition, Vogt, knezek, Cox, Don knezek and Brummelhuis, (2013) posit that in EDUsmmIT in the Hague, the main question debated upon was whether ICT have positive impact on teaching and learning at the primary and secondary education levels. The results were the call to action of all the seventy researchers, policy makers and practitioners to take action to ensure that ICT is successfully implemented into educational practices in every country of the world. To this effect, Ndongfack (2016) notes that there is no policy and a frame work of a national body to manage DE and experts in the field.

To this effect, it is clear when Goodwyn and Black, (2000), stated predictably that the new communication technology has brought a boom to teaching and learning of English Subjects. This suggests that there can be no effective distance education in the absence of ICT. This establishes a strong bond between distance education and ICT, as such, making ICT an engine

which enables distance education to function. This represents in history what the mail van, the postal mailing, radio and television used to do now taken over by computers and phones, using Internet. With respect to the above, Niba, Foncham and Ngwa (2022) states that among many countries in Africa the telephone is the major driver of access to technology in Cameroon with the total investment of between 28% and 29%.

Figure 2: Distance Education Evolution



Source; Teana (2020) and Saykili (2018)

Figure 2 shows the evolution of distance education over the years. It started with correspondence means and its materials, proceeded to electronic means and its own materials and presently to internet means with its own materials. Teana (2020) describes how correspondence studies have evolved from exclusively non-electronic to electronic and now with the use of internet connectivity.

Hybrid and Blended education

Hybrid and blended learning; some people use these two concepts interchangeably, notwithstanding, these are two different words and mean different things exclusively. Consequently, Otsimo (2023) opine that hybrid education entails a situation where some learners choose exclusively face to face education while the others of the same class choose distance education. This implies making a choice between either the traditional schooling system or distance learning depending on internet facilities only. So far in Cameroon this form is awaited. On the contrary, blended learning is the amalgamation of both; the same students taking a percentage of online lessons and traditional lessons following the percentages stream lined by

educational authorities. In a nutshell neither blended nor hybrid learning is practiced in Cameroon.

E-Learning

E-Learning is another important related concept, it is the act of taking a course online using a modern, wireless or cabled connection to access academic course materials from a computer, phone or other devices. Oye, Salleh & Lahad, (2012), describes E-Learning (EL) as the use of ICT such as Internet, Computer, Mobile Phone, Learning management system (LMS), Television, Radio and other electronic devices used to facilitate communication to enhance teaching and learning activities. E-learning is a unifying term used to describe the fields of online learning, web-based training and technology to deliver instructions. E-Learning has evolved in different ways in education, business and training sectors, and it has different interpretations for different sectors. In school, e-Learning refers to a learning process which uses both software-based and online learning tools, whereas in business, training and higher education sectors, e-Learning solely refers to online learning (The Evolution of eLearning from the Turn of the Millennium, 2016).

Effective Distance Education

According to Imam, Jupriantu and Widya (2021), an effective distance education resource is one that is well-prepared in terms of learning activities which are carried out in the classroom adapted to the peculiarity of the children who are present. This entails determining the content that learners are expected to learn and put into practice in that lesson, the learning interaction model consisting of the type of actions they will take to practice the knowledge in real life, the learning media which are the materials or tools learners need for action to be taken, the communicating strategy, and the assessment of how the facilitator will evaluate it. In a nutshell, this involves how to prepare an online lesson in a manner to meet the learners' needs.

Another definition of the effectiveness of distance education resources different from the previous is that of Kofi and Mable (2015) who links and divides the resources between the teacher and the learner. In this, he posits that the teacher needs to master the content, possess adequate skills to communicate both the content and skills efficiently to the learner. He also emphasises the role of the institution in supplying proper and adequate materials for effective

resources to be produced. On the part of the learner, the individual needs to have a degree of interest that allows the teacher to connect.

Additionally, Myrna (2020) suggests that the effectiveness of distance education resources is measured in terms of results and performances and not technology itself. In other words, the measurement for the effectiveness of distance learning resources is the generation of materials and tools that are useful for the individuals who are engaged in learning. For instance, the quality of video lessons produced in the MINESEC's Distance Education Centre can only prove its worth if the learners for whom the lessons are prepared are benefiting and testifying about its facilitation of both their academic and social or real-life activities.

The MINESEC Distance Education Centre, within the scope of perceived effectiveness of their resources, is mindful of the quality and quantity of video lessons in the production process. They achieve the results through a well-defined pattern, consciously designed with principles and rules to meet the optimal needs of their target beneficiaries, the Secondary School Students. The main resource is geared at meeting the global and the contextual standards needs in education.

Table 8: Conceptual Model

N.	Objectives	Modalities	Indicators	indices
1.	To evaluate the process of quality assurance of MINESEC DEC video lessons in ensuring pedagogic continuity	1, Quality video lesson preparation	-Respect of curriculum Competent NPIs, Teachers, educational technologists	Lessons comply with the programme =Step by step lesson organisation =Learners context, proper language, =relevant illustrations, =triangulated interactions, evaluation =clear and concise relevant information, = respect time limit and skill ensuring = appropriate colours and animations
		2, Quality video lesson presentation	Teachers, educational technologists	Quality assurance of the platform Accessibility, texts, images, colours. Voice quality sound and the application of R. Mayer's 12 principles
		3, Quality video lesson dissemination	DEC Director educational technologists	Respect choice of the platform, accessibility, image, slides, Font type and size, colours qualities, pedagogic rules and science
2.	To determine the beneficiaries' satisfaction of the MINESEC DEC video lessons in ensuring pedagogic continuity	1. Accessibility	Learners, teachers, parents	Clear steps to access platform Connection and data availability Platform navigation facilities
		2. Utility	Learners, teachers, parents	Quality content, downloading Facilities, screen colour and font size modifications
		3, Usability	Learners, teachers, parents	- Perceive usefulness, = interest, performance, and skills development increase in scoring grades - No of teachers and learners using the resources -Improved results in examination - Leaders motivation to use the resources. -Many learners are involved in on-line learning.

3.	To determine the project's progress against the expected outcomes	Availability of lessons on the platform and in the schools	Learners, teachers, parents	-Platform, YouTube, radio, USB keys, disk (CD Rom) No of teachers using the resources -Improved results in examination - Leaders motivation to use the resources. -Many learners are involved in on-line learning.
4.	To evaluate MINESEC DEC project's progress against pedagogic continuity	Quality of MINESEC resource, beneficiaries satisfaction and expected outcomes	Competent Teachers, Educational technologists Students, Teachers, Parents	The resources meet standards and successes in these areas Quality video lesson preparation, Quality video lesson presentation, Quality video lesson dissemination, accessibility, usability, utility and availability. The number of beneficiaries is on the increase and performances highly improved.

Source: Researcher's Field Work 2024

1.10. Table 8 shows the conceptual frame work which highlights the relationship between the objectives and the outcomes.

1.11. 2.3. Empirical Review

This section reviews literature on the elements of distance education resources which lead to pedagogic continuity. These include; quality video lessons, beneficiaries' satisfaction with the lessons and the measurement of project progress against expected outcomes leading to pedagogic continuity.

2.3.1. Quality of MINESEC Video Lesson

This section discusses the element that makes for quality video as seen by various researchers. This is done taking into consideration key aspects of quality such as lesson preparation, presentation and dissemination. These elements highlight how high-quality video lessons are arrived and their effectiveness.

Quality video lesson Preparation

Concerning quality video lesson preparation, the study conducted by Kebritchi, Lipschuetz and Santiague (2017) found that the preparation of quality video lessons for distance education can significantly enhance the learning experience and outcomes for online learners. Key findings illustrate that integrating multimedia, such as video and audio lessons into online courses can improve student engagement and participation. The study highlights the importance of using video components to complement text-based discussions, as they provide a richer communication medium that can facilitate better understanding and retention of course material. However, it is also noted that the challenges of extracting information from lengthy video comments suggests the need for a concised and focused video content. The study identifies several challenges related to content development and the role of instructors in preparing video lessons. Instructors often face lack of empowerment when dealing with predefined content, which can hinder their ability to tailor video lessons to specific student needs. It also showed that there is need for effective instructional strategies that align with multimedia content to increase learning outcomes. To address these challenges, the study recommended that higher education institutions provide professional development for lecturers, focusing on skills necessary for creating and integrating quality video content into their courses. Training programmes for learners are also suggested to help them navigate and benefit from multimedia-rich online environments. Technical support for

both instructors and students is crucial to ensure the effective use of video lessons in distance education.

In the same light, Yang and Cornelious (2005) showed that the quality of video lesson preparation for distance education could be ameliorated by implementing specific strategies and addressing key challenges faced by online instructors. The maim results include the necessity for instructors to adopt new roles, evolving from traditional lecturers to facilitators and mentors who design interactive and engaging learning environments. The study emphasises the importance of specialised training for instructors to effectively use technology, manage online interactions, and design assessments that ensure academic integrity and measure learning outcomes. Instructors are encouraged to create environments that foster student engagement through interactive and collaborative tools, such as discussion forums and multimedia resources. The study highlights that, asynchronous online discussions would promote critical thinking and deeper learning. The evidences showing improved learning outcomes in online courses compared to traditional settings are for instance, Koory (2003) found that 58% of online students received an A grade compared to 15% in face-to-face classes, suggesting a substantial improvement in academic performance. The findings also identified several barriers to quality online instruction, including technical challenges, the need for institutional support, and the adaptation of teaching styles to suit an online format. Instructors are advised to incorporate a variety of media and communication tools to cater for different learning styles and enhance the overall learning experience. They suggested that performance assessments ought to be reliable and valid, using strategies such as open-book assessments, time limits, and randomised questions to prevent academic dishonesty.

Unlike the previous fields, Jeremias and Carretero (2022) revealed that the development and use of video lessons improved the performance of Grade 8 students in mathematics at Guruyan National High School. The video lessons, focused on solving corresponding parts of congruent triangles and proving two triangles are congruent, were evaluated using the Department for Education (DepEd) Learning Resource Management and Development System (LRMDS) criteria. The study revealed that the video lessons were highly acceptable and relevant in terms of content quality, instructional delivery, technical quality, and mechanics, as validated by five experts. The pre-test results indicated that students' performance was classified as "did not meet

expectations." However, post-test results improved to be "fairly satisfactory," demonstrating the effectiveness of the video lessons in enhancing student understanding and skills. Statistical analysis using a t-test for dependent samples showed a significant difference in pre-test and post-test scores, confirming the positive impact of video lessons on student performance. The video lessons were shared via Share-it mobile application and YouTube, allowing offline and online access, respectively. Moreover, the video lessons were designed to be engaging and systematic, with duration of 10 to 23 minutes per lesson, and were integrated with Learning Activity Sheets (LAS) for comprehensive learning. Experts' comments suggested minor refinements to improve the feedback mechanism in video lessons, although they rated most aspects as very satisfactory. The results support the notion that incorporating technology-based tools like video lessons can significantly enhance learning outcomes in mathematics education.

In the teaching practice, HeuristicaEducativa and Centro de EstudiosEducativos (2017-2018) showed in their findings that the use of quality video lessons improved the quality of teaching by facilitating detailed analysis and reflection on teaching practices. The research underscored that improvement is not driven solely by the technology of video recording itself, but by the opportunity it provides teachers to critically reflect on their performances. Through systematic coding and analysis using frameworks such as TIMSS and CLASS, specific teaching strengths and weaknesses are identified, allowing for targeted improvements. The workshop designed for the Ministry of Education in Belize involved a self-training period, a face-to-face workshop, and a follow-up coaching process. Participants learned to film, edit, and code video lessons and develop plans for pedagogical improvement based on video analysis. The implementation phase required teachers to film lessons, engage in dialogue, and receive feedback, fostering continuous enhancement of instructional practices. The study also highlighted the importance of framing dialogues with teachers in a respectful and professional manner using objective evidence from video analysis to support professional development. The overall goal was to equip educators with strategies to use video lessons as a tool for the continuous improvement of teaching quality, ultimately to ensure student learning outcomes.

Similarly, Korhonen, Juurola, Salo and Airaksinen (2021) proved that during the Covid-19 crisis, teachers in Finland developed innovative practices for preparing quality video lessons for distance education. Teachers employed various digital tools and platforms, such as Teams,

Google Hangout, and Meet, to conduct video lessons and share educational content with students. They utilised cloud services, self-made video contents, and commercial learning materials to enhance their teaching sessions. The creation of video learning materials was driven by the necessity to compensate for the lack of textbooks and to provide students with resources they could revisit, which some teachers intended to continue using in the post-pandemic period. The study highlighted that teachers' digipedagogical competence was crucial for the effective implementation of these practices. Teachers with higher digipedagogical skills adapted more quickly to digital platforms, while those with weaker skills relied on self-study and peer support to bridge the gap. The use of video conferencing for lessons and meetings became a staple, with teachers innovating their approach to ensure engagement and interactive learning. While most teachers reported an increase in their digital skills, there was variation in the quality of interaction and the extent to which digital tools were used effectively. On the overall, the study underscored the importance of continuous development of digipedagogical competences and the integration of innovative digital practices in education, suggesting that these strategies could inform post-Covid educational planning.

On a positive note, Giannakos, Chorianopoulos, and Chrisochoides (2015) pointed out that video analytics can considerably add the quality of video lessons in digitalised education. The research highlighted a positive correlation between video navigation patterns and cognitive demands of video segments, with higher-order thinking segments prompting more repeated views by students. Learning performance showed slight improvement and stabilisation after the third week of a video-assisted course, indicating increased student proficiency with the video-based learning process over time. Students maintained consistently high positive attitudes towards the course's ease of use, usability, usefulness, and overall acceptance throughout the seven-week period. The empirical analysis indicated that segments of video lectures requiring higher cognitive engagement corresponded with peaks in student activity. Despite the small sample size of 11 students, the study's longitudinal nature and diverse analytics provide valuable insights into student learning behaviours. The study's practical contributions include an open-source video analytics system that facilitates further research and experimentation in video-assisted learning. The findings suggest potential improvements in video lesson preparation, such as incorporating features like annotations or slower pacing for complex segments. Future research aims to expand

on these findings by collecting additional data on student demographics, emotional states, and personalised feedback to deepen the understanding of video-based learning.

In the same manner, Lorico, Lapitan, Cristina, Tiangco, Divine, Sumalinoga, Sabarillo and Diaz, (2021) showed that the preparation of video lessons greatly improved distance education, particularly in the context of chemistry courses during the COVID-19 pandemic. The video lessons were pre-recorded using Microsoft PowerPoint, with adjustments to sound quality and the addition of introductory and end music animations done using Movavi video editor software. These videos were uploaded to YouTube for easy accessibility, with links provided to students through the Blackboards. The study emphasised the importance of keeping videos short to maintain student engagement, leading to the division of longer topics into several shorter segments. Uniformity in design was achieved by using a common PowerPoint template and font type across all videos, ensuring clarity and consistency. The results revealed that a majority of students in CHE 211 (92.3%) and CHE 216 (97.4%) strongly agreed that the videos clearly stated the learning outcomes, with mean satisfaction values of 4.44 and 4.68, respectively. Students appreciated the ability to progress at their own pace, with the ability to repeatedly view the videos at any time being particularly beneficial. The study also highlighted that the DLPCA strategy, which integrated these video lessons, led to comparable or improved student grades in online courses compared to traditional face-to-face classes, suggesting a positive impact on student performance. Also, the use of checklists and progress trackers helped students organise and manage their tasks more effectively.

In his study Beltran (2021) found that integrating video lessons with self-learning modules significantly improved the mathematics performance of Grade 5 students. Using a quasi-experimental design, the study assessed students' performance through pre-tests and post-tests. Initial pre-test results showed low scores, with male students scoring an average of 27.8% and female students 39.8%, resulting in a combined average of 33.4% for all students. However, after the intervention of video lessons, there was a noticeable improvement in post-test results. Male students’ average scores increased to 74.8%, while female students improved to 82.2%, leading to a combined post-test average of 78.2% among all students. The study applied statistical analyses, including the t-test for mean differences, which confirmed that the increase in scores was statistically significant, rejecting the null hypothesis that stated no significant difference

existed between pre-test and post-test scores. The integration of video lessons appeared to enhance students' learning experiences by providing visual and auditory stimuli conducive to better understanding and retention of complex mathematical concepts. In addition, the asynchronous nature of videos allowed students to access them at any time, catering for individual learning paces and preferences. The research also highlighted the importance of quality assurance in video lesson preparation, ensuring that content aligns with essential learning competencies. The positive outcomes suggest that when video lessons are effectively integrated into distance education, they can significantly boost student engagement and performance in subjects considered difficult, such as mathematics.

Video Quality Lessons Presentation

Correia, Liu and Xu (2020) revealed that video conferencing systems vary significantly in their ability to support quality video lessons presentation for distance education. The analysis evaluated four widely used systems Zoom, Skype, Microsoft Teams, and WhatsApp focusing on their general features, learning-related features, and usability. Zoom was found to have the highest number of learning-related features and best supports the four experiential learning modes: concrete experience, reflective observation, abstract conceptualisation, and active experimentation. Skype and Teams provided the same level of support for these learning modes, while WhatsApp offered the least support. In terms of usability, Skype ranked the highest, followed by Zoom, Teams, and WhatsApp. Factors such as efficiency, effectiveness, satisfaction, and learning ability were considered in the usability analysis, with systems evaluated on a scale from 1 (not at all satisfied) to 5 (completely satisfied) across different criteria. The study highlighted that the quality of videoconferencing systems intrinsically affects the quality of interactions and the overall learning experience, given the technological advancements over the past decade. The study suggests that educators should consider these factors when choosing a videoconferencing tool for educational purposes, as the right choice can positively influence the learning experience through effective synchronous communication. Moreover, the study provided recommendations for improving videoconferencing systems to better support learning, emphasising the need for features that facilitate real-world applications and experiential learning opportunities.

In a slightly different manner Brockfeld, Müller, and de Laffolie (2018) confirmed that video lectures are as effective as life lectures in preparing medical students for the clinical part of the medical exams. In the study, 296 participants at the University of Göttingen were divided daily into life and video lecture groups during a 41-day preparatory course. The effectiveness of both lecture formats was evaluated based on the students' performance on 301 multiple-choice questions. Results showed a negligible difference in performance, with the life group correctly answering 78.283% of questions and the video group 78.605%. Subjectively, students showed a preference for live lectures, with 48% favoring them, compared to 27% who preferred video lectures, and 25% remaining neutral. However, video lectures were rated significantly higher in terms of learning atmosphere, concentration capacity, presence of other students, and acoustic intelligibility. No feature of life lectures was rated better than those of video lectures. The study used the SPSS 24 for statistical evaluation and applied a Chi-square test to assess independence between correct/false characteristics and live/video readings. A Wilcoxon signed-rank test was used to assess preference significance, with a Bonferroni correction applied to account for multiple hypothesis testing. In summary, the study highlights that while students subjectively prefer life lectures, the objective performance and quality ratings suggest that video lectures are a viable and potentially superior alternative in certain aspects of remote learning.

Unlike the above, Choe, Scuric, Eshkol, Cruser, Arndt, Cox and Cid (2019) proved that the Learning Glass and Demo video styles received the highest ratings for perceived effectiveness in online education, although learning outcomes were equivalent across all didactic video styles. The research utilised a coding scheme called "coding online asynchronous lectures" (COAL) to analyse open-ended responses, identifying key factors such as engaging lesson design, collaboration between instructors and directors, and positive user experiences as drivers of student satisfaction. The study confirmed that adherence to Mayer's multimedia learning principles are crucial for creating effective and engaging online lecture videos. Students showed strong preferences for personal and engaging video styles, while those perceived as impersonal were rated poorly. Despite these preferences, learning outcomes measured via quizzes showed no statistical difference across didactic styles with a Kruskal-Wallis p-value of 0.3501 5. Mean scores for different styles, such as Classic Classroom (3.47), Weatherman (3.35), and Learning Glass (3.35), demonstrated no significant variance, reinforcing the idea that multiple video styles can effectively convey educational content if multimedia principles are applied. The study

highlighted the importance of engaging lessons and visuals, recommending practices like integrating real-world challenges and using high-quality images. This suggests that while satisfaction may vary, effective teaching can be achieved through diverse styles by focusing on user experience and pedagogical effectiveness.

In their research Basilaia and Kvavadze (2020) pointed out that video technologies, particularly video conferencing, have significant impacts on distance education, highlighting both opportunities and challenges. Teachers utilising video conferencing reported that it necessitated more extensive planning and preparation than traditional face-to-face courses, driven by the need to maximize limited time and ensure structured, engaging learning experiences for students. Technical limitations, such as restricted mobility and others were noted as significant constraints, impacting teachers' ability to interact freely with students and use physical teaching aids like whiteboards. Additionally, maintaining student engagement and understanding was challenging due to the difficulty of perceiving non-verbal cues and receiving immediate feedback. The study also underscored the importance of teacher training and experience in using video technologies effectively. Teachers with more training and experience in distance education employed a wider range of video tools, including more complex options like live video conferencing. Teachers' attitudes towards technology played a crucial role in their adoption and effective use of video in their teaching practices. On the overall, it was found that video technologies could bridge geographical distances, offering potential for enhanced learning experiences when integrated thoughtfully into pedagogical practices. However, the need for comprehensive teacher training and institutional support was emphasised to overcome the challenges posed by technological constraints and to maximise the educational benefits of video conferencing in distance education.

Like the previous, Shen, Chulpan, Gromova, Zakirova and Yalalov (2017) are aimed at evaluating the effectiveness of video lessons as practice-oriented teaching method in psychological courses for future teachers. Students reported positive perceptions of the video case methods, highlighting their availability, connection to practice, clarity, usefulness for professional work, and emotional appeal. The study approved three working methods with video cases: group and individual analysis of film fragments, selection of fragments reflecting children's psychological features, and creation of films about groups. Students rated these methods on a five-point scale based on availability, connection with practice, obviousness,

usefulness for professional work, and emotional attractiveness. The analysis of feature and animation film fragments was rated as available and connected with practice, though it was less frequently described as emotionally attractive. The research found that students could easily recall theoretical content but struggled to articulate the practical skills acquired, indicating the need for a shift towards practice-oriented learning. The video cases effectively bridged the gap between theoretical knowledge and practical application, allowing students to visualise and solve professional and life situations. This method was seen as a way to immerse students in a vital and professional context, enhancing their understanding of psychological concepts and competences necessary for future educators.

In the same manner, Chien, Hwang and Jong (2019) revealed that integrating Peer Assessment (PA) within a spherical video-based virtual reality (SVVR) environment significantly influences EFL students' English-speaking performance, learning motivation, and critical thinking skills while reducing their English learning anxiety. The experiment involved 69 Taiwanese high school students, divided into an experimental group using the PA-based SVVR approach and a control group using a non-PA-based approach. The results showed that the experimental group outperformed the control group in English-speaking performance, with significant improvements in dimensions such as fluency, comprehension, and maturity of language. The analysis using ANCOVA demonstrated that the PA-based SVVR approach significantly enhanced learning motivation ($F(1,66) = 5.50$, $p = 0.02 < 0.05$) and critical thinking skills ($F(1,66) = 7.97$, $p = 0.006 < 0.01$). English learning anxiety was significantly reduced in the experimental group ($F(1,66) = 5.01$, $p = 0.03 < 0.05$). The study validated the PA strategy as students' ratings were statistically correlated with teachers' ratings, indicating its effectiveness as an assessment method. Further analysis revealed that Praise feedback positively affected English-speaking performance, while Criticism and Irrelevant feedback had negative impacts. The study's findings suggest that the PA-based SVVR approach provides a safe, motivating, and effective learning environment for improving English-speaking skills among EFL students.

In agreement with the ideas of others, Dafgard (2020) showed that video conferencing offers significant potential for enhancing distance education by bridging geographical gaps and facilitating real-time interaction between teachers and students. However, it also introduces specific challenges that require careful consideration. Teachers often face technical limitations

and report difficulties in maintaining student engagement and the inability to perceive non-verbal cues effectively. The study highlights that effective use of video conferencing demands more detailed planning and preparation compared to traditional classroom settings, as teachers must meticulously plan lesson content and material distribution to remote sites. The study emphasises the importance of professional development and training for teachers, as those with more experience in using video technologies employ a broader range of video categories, including complex options like live video conferencing and enhancing the learning experience for students. Additionally, the integration of video conferencing requires teachers to adapt their teaching styles, shifting towards more student-centred approaches to reduce psychological distance. Despite technological advancements, the study notes a decline in citations related to video use in distance education between 2010 and 2015, suggesting a potential gap in current research. Moreover, the study identifies that teachers' attitudes towards technology significantly influence their adoption and effective use of video technologies in distance education. The research underscores the dual nature of video conferencing as both a promising tool for interactive learning and a complex medium that necessitates thoughtful integration and support for educators.

On the contrary, Margaryan, Bianco and Littlejohn (2015) proved that the majority of Massive Open Online Courses (MOOCs), both xMOOCs and cMOOCs, attained low scores on the instructional design principles, with none of the courses scoring above 28 out of a possible 72 points. The analysis revealed that the range of scores for xMOOCs was between 3 and 25 points, while cMOOCs scored between 0 and 28 points, indicating a general deficiency in instructional design quality. The study utilised the Course Scan instrument, which is based on the First Principles of Instruction, to assess the instructional design quality of 76 MOOCs. These principles include problem-centered learning, activation, demonstration, application, integration, collective knowledge, collaboration, differentiation, authentic resources, and feedback. The application of these principles was limited, with most MOOCs reflecting only some of them. For instance, 67 out of 76 MOOCs did not incorporate real-world problems effectively. Moreover, issues with course organisation were noted, with many courses lacking specified and measurable learning objectives. The study also highlighted the need for high-quality and expert feedback, which were generally absent from the MOOCs analyses. The researchers emphasised that improving the instructional design quality of MOOCs is crucial as their popularity grows. They

suggested that applying these principles more rigorously could enhance the learning experience and effectiveness of MOOCs. The findings underscore the importance of rethinking MOOC design models to address these deficiencies.

Quality Video Lesson Dissemination

Ndongfack (2021) conducted a study and revealed that several factors significantly influenced primary school teachers' attitudes and intentions to adopt an e-learning platform in Cameroon. The research highlighted positive relationships between the teachers' attitudes and factors such as relative advantage, compatibility, trialability, and observability. Specifically, the findings showed that relative advantage and compatibility had moderate correlations with teachers' attitudes towards adopting the e-learning platform, with Pearson correlation coefficients of r=0.383r=0.383 and r=0.364r=0.364, respectively. However, complexity showed a negative relationship with teachers' attitudes, indicating that teachers perceived the e-learning platform as difficult to use. The study further demonstrated that teachers' attitudes are the strongest predictor of their behavioral intention to use the platform, contributing to 26.5% of the variance in their intentions as per the adjusted R2R 2 value from regression analysis. To enhance the adoption of the e-learning platform, the study recommended strategies such as sensitising teachers about the platform's advantages, providing opportunities for experimentation and trial use, and creating a support system through a help desk and community of practice. These findings suggest that addressing the perceived complexity of the platform and highlighting its relative advantages and compatibility with current teaching practices are crucial to improving the dissemination of audio-video lessons and enhancing distance education outcomes in Cameroon.

In the same light, Tarasov, Turlakova and Kozmenko (n.d) in their work highlight several key challenges and opportunities associated with the use of distance learning platforms in higher education. One of the primary challenges is the lack of physical interaction, which impedes the educational process by removing direct contact with educators and peers. This issue is compounded by the absence of augmented reality technologies in some systems, which could otherwise enrich the learning experience by simulating physical presence. Additionally, there are conflicting opinions about the effectiveness of digital learning materials, as some students may find it challenging to engage with purely digital content, often resorting to printing materials for ease of use. Despite these challenges, the results noted vital opportunities for improving e

learning. The integration of cloud services and electronic textbooks provides a new quality of learning, enabling constant access to information and promoting flexible learning environments. Platforms like Moodle allow for productive independent student work, helping to develop professional competencies and adaptability. Furthermore, the potential expansion of educational materials to include multimedia elements and links as well as the creation of dedicated mobile applications, are promising areas for future development. These advancements facilitate personalised learning experiences tailored to individual students' needs, allowing for varying levels of training, intellectual abilities, and study ambitions. Moreover, the use of modern computer technologies in these platforms not only enhances educational delivery but also equips students with valuable skills for their professional and everyday life. Challenges that exist in strategic implementation of distance learning platforms present substantial opportunities for improving higher education.

Showing the same importance on dissemination of video lessons, Iniesto, and Covadonga, and Moreira, Henriques, Goulao, and Barros, (2014) proved that both the UNED COMA and UAbiMOOC platforms have substantial accessibility challenges, impacting learners' satisfaction with video lessons and overall usability. The research utilised automatic evaluation tools like eXaminator and simulation tools such as eDesigner to assess these platforms. The average accessibility compliance scores were relatively low, around 6 out of 10, indicating significant room for improvement in making these platforms accessible to users with disabilities. Specific issues identified include inadequate color contrast, lack of text alternatives for multimedia content, and improper labeling of form controls, which can hinder understanding and navigation. Moreover, the platforms have fixed font sizes and problems with the combination of background and text colors, making it difficult for users with visual impairments. Highlights were made on varying scores based on different functional limitations, such as total blindness, difficulty in seeing, and understanding challenges. For instance, the UNED COMA platform scored 6.5 for course beginning under total blindness and 5.3 under age-related limitations. These results underscore the necessity for ongoing improvements to enhance accessibility features like responsive font sizing, better color contrast, and comprehensive labeling of interactive elements to improve learner satisfaction and inclusivity in distance education platforms.

Still on dissemination difficulties, Shamsideen (2016) studied the impact of audio-visual materials in the dissemination of knowledge in some selected literacy centres in Nigeria. The research adopted descriptive research survey with focus on students attending various literacy centres in Oshodi/Isolo Local Government Area and the instrument used for the study was a questionnaire developed to cover the research questions and hypotheses. Fifty respondents were randomly selected from various literacy centres in Oshodi/Isolo Local Government Area of Lagos State for data collection. Data were analysed using frequency tables and percentages. It was concluded as was suggested in the paper that there is a great impact of audio-visual aids in the teaching-learning process in various literacy centres in the state. It also motivated students to attend lectures as they were very curious to see or hear what the facilitator is going to show them in the upcoming class, saves time of copying notes and increasing more communication skills. Hence, the similarities in both the past and the present study are the interest in the effectiveness of the product found in its quality and student perception.

Pawar, Dhapte-Pawar and Gaikwad (2021) investigated on knowledge dissemination through ICT in the post COVID-19 reality in India and found that there is limited scope for students to think in a scientific and logical manner, hence a need for teaching-learning beyond the classrooms. The adoption of Information and ICT tools will not suffice for all the requirements, as such interactive teaching-learning would help to convert bookish information into life-long knowledge. Case-based problem-solving questions would create the need for thinking. The blending of skills and knowledge will inculcate value and confidence in students along with their certificates and degrees. A pre-study perception survey was performed to understand the educational needs of students and expectations of parents and the pharmaceutical industry, followed by activities to promote interactive teaching-learning in a selected institute. Findings showed that efficacy and applications of interactive teaching and case-based problem-solving examinations in online knowledge dissemination provided a means of internally evaluating the potential of teaching-learning strategies on the overall student participation and performance.

In all, the dissemination of audio video lessons in available platforms has been proven instrumental for learning progression in several fields of studies. However, much is left to be desired in terms of organisational policies, equipment, training and a comprehensive relationship between educational authorities, distance education product producers and teachers. Training

would play an important role in online knowledge dissemination as suggested by most of the authors above.

2.3.2. Beneficiaries Satisfaction with Video lessons on the Platform**.**

This section reviews previous findings by some researchers on factors of beneficiaries' satisfaction. These includes: accessibility, utility and usability. These through more light on the relevance of beneficiaries' satisfaction in using MINESEC DEC video lessons resources.

Accessibility

On Beneficiaries Satisfaction with Video lessons on the platform, Bocevska, Savoska, Ristevski, Blazheska-Tabakovska (2018) showed that the accessibility of e-learning platforms varies significantly according to compliance with the Web Content Accessibility Guidelines (WCAG) 2.0 standards. The analysis focused on five popular platforms: Moodle, Eliademy, Docebo, Sakai, and ATutor. Moodle and ATutor were noted to perform the best in terms of accessibility, meeting most of the Level A and Level AA criteria in visual, hearing, and motor impairments. Specific features like screen reader support, keyboard accessibility, and the provision of text alternatives for multimedia content were areas where these platforms excelled. In contrast, Eliademy and Docebo were found lacking in several key accessibility features, such as adequate captioning and audio descriptions, which are crucial for users with hearing impairments. Sakai showed partial compliance, particularly in areas like accessible authoring options and prompting content authors for accessibility information. Furthermore, the work highlighted the importance of visible focus and color customisation, which are fully supported by only Sakai and ATutor for the former and Docebo and ATutor for the latter, indicating the need for improvement in these aspects for other platforms. The findings suggest that while there is a baseline of accessibility in all of these platforms, significant gaps remain particularly in ensuring that comprehensive features are available in all types of content. The study's results aim at guiding the CROSS4ALL IPA2 project in selecting an appropriate e-learning platform to enhance digital literacy in e-health for a cross-border population, emphasising the necessity of inclusive access to educational resources.

Following the same interest in using open online resources, Arthur-Nyarko, Agyei and Armah (2020) found that a significant majority of students at the College of Distance Education (CoDE) in Ghana, over 70%, reported being ready to use digitised learning materials. The study revealed

that while 82% of students had access to smart-phones, access to other digital devices was lower, with only 34.3% having laptops, 11.1% tablets, and 8.5% desktop computers. Despite the high smart-phone usage, students anticipated several challenges, including the high cost of internet data (58.5%), weak device batteries (56.2%), and small screen sizes of mobile devices (54.2%). Increasingly, about 89.9% of students had access to devices capable of connecting to the internet, which suggests a potential for utilising these devices for digital learning. The research also highlighted student expectations for the institution to provide digital devices and subsidized internet access, emphasising the need for CoDE to address these issues to facilitate effective learning. The findings suggest that while there is a general readiness and potential for implementing digital learning, significant infrastructural and financial challenges must be addressed to enhance the quality of distance education.

In more readiness to use and benefit from distance education, Shen, Chulpan, Gromova, Venera, Zakirova, Shen, Chulpan and Yalalov (2017) evaluated the accessibility of video cases as a practice-oriented teaching method in psychology courses for future teachers. Students reported positive perceptions of the video case methods, indicating their availability, connection to practice, clarity, usefulness for professional work, and emotional appeal. The findings approved three working methods with video cases: group and individual analysis of film fragments, selection of fragments reflecting children's psychological features, and creation of films about groups. Students rated these methods on a five-point scale based on availability, connection with practice, obviousness, usefulness for professional work, and emotional attractiveness. The analysis of feature and animation film fragments was rated as available and connected with practice, though it was less frequently described as emotionally attractive. The research found that students could easily recall theoretical content but struggled to articulate the practical skills acquired, indicating the need for a shift towards practice-oriented learning. The video cases effectively bridged the gap between theoretical knowledge and practical application, allowing students to visualize and solve professional and life situations. This method was seen as a way to immerse students in a vital and professional context, enhancing their understanding of psychological concepts and competences necessary for future educators.

Utility of Video Lesson Distance Education

In their work concerning utility of distance education, Akindele, Awolabi, and Adekanmbi (2023) disclosed that digital components such as physical education apps, wearable tech, and virtual classes have a significant positive impact on the teaching and learning process of physical and health education in junior and senior public secondary schools in Lagos, Nigeria. The research highlighted the utility of video lessons on platforms as a critical tool for enhancing distance education. The use of video images was found to improve and evaluate movement skills, making them an effective method for teaching physical education remotely. These video lessons, accessible on smart-phones and tablets, provide a means for students to track their progress in physical education and incorporate it into future lesson plans, thus facilitating a more interactive and engaging learning experience. The regression analysis conducted in the study indicated that virtual classes significantly influenced the teaching-learning process with an F-value of 38.658, which was significant at a degree of freedom 1 and 799 at a 0.05 alpha level. This statistical significance underscores the effectiveness of video lessons in supporting distance education. The study also noted that these digital tools, when integrated into the curriculum, can make physical and health education more engaging and impactful, thereby enhancing the overall educational experience for students. The findings suggest that using digital technologies in physical education not only supports the traditional teaching methods but also provides an avenue for continuous learning and interaction, even outside the physical classroom environment.

Also, the benefits of the video lessons as Widyasmoro, Suwarno, Surahmat, Nugraha and Al_barazanch (2022), the community service team at Muhammadiyah Elementary School in Tlogolelo, Hargomulyo Village, Yogyakarta Special Region, Indonesia, investigated the implementation of an educational FM radio station and found that it significantly supported teaching and learning activities during the COVID-19 pandemic. The program aimed to overcome challenges associated with poor cellular coverage and limited access to online learning devices in remote areas. Key results included the provision of essential radio equipment such as a 50-watt FM transmitter, antennas, portable digital FM receivers, Android smart-phones, and audio mixers which facilitated the establishment of the radio station "Radio Suara Pendidikan" at FM 107.8 MHz. Training sessions were conducted for teachers to use Android-based podcast applications like Anchor and Spotify to create educational content, enhancing their capacity to produce engaging radio-based lessons. These sessions helped teachers develop creativity in

content creation, such as producing promotional jingles, which were used to promote the school. The installation and operational support of the FM radio transmitter were carried out at Muhammadiyah Junior High School due to its better infrastructure, ensuring the sustainable operation of the radio station. The study highlighted the successful inauguration of the educational radio station, which provided a low-cost, accessible alternative to digital learning platforms, significantly benefiting students and educators in overcoming the limitations of online learning in remote settings. This initiative demonstrated the potential of FM radio as a viable medium for distance education improvement, offering a practical solution to educational disruptions caused by the pandemic.

In a slightly adverse perspective, Hebebci, Bertiz, and Alan (2020) proved that the utility of video lessons in distance education during the COVID-19 pandemic was a critical factor influencing student and teacher experiences. Students expressed concerns about the inadequacy of lesson content and time, with 33% reporting educational problems related to these issues. They emphasised the need for lessons to cater for various students' levels to prevent them from being perceived as simple or boring. Additionally, 26% of students desired the traditional classroom environment, highlighting a significant drawback of video-based learning. Teachers echoed these sentiments, stating that while the lesson content was satisfactory, there was a need to enhance interactive activities such as question-and-answer sessions, to better engage students. Despite these challenges, 44% of students acknowledged that distance education had a positive effect on their future, with some students appreciating the continuity of education during the pandemic, even if it was "better than nothing". Teachers noted the importance of strengthening technology and infrastructure, as well as improving pedagogical materials to enhance the effectiveness of video lessons. They believed that with proper adjustments, distance education could become more effective and widespread in the future. The study indicated that while distance education via video lessons provided continuity in education, significant improvements are needed in lesson delivery, interaction, and content quality to fully realise its potential. Teachers suggested that the inclusion of diverse learning environments could help capture students' attention more effectively.

Usability of Video Lesson Distance Education

Pawar, Dhapte-Pawar, Gaikwad (2021) in relation with usability of video lesson distance education revealed that the implementation of interactive teaching strategies, which included the use of video lessons on platforms like YouTube and Facebook, significantly improved open online distance education outcomes in terms of satisfaction. The document illustrated overwhelming acceptance of these methods by faculty, students, parents, and professionals, as evidenced by the high engagement levels—886 views on YouTube and more than 233 views, 21 comments, and 36 shares on Facebook. This approach was part of a broader initiative to enhance the teaching-learning process through ICT tools, which facilitated an improved framework for student learning, particularly for pharmaceutical topics. Post-study surveys confirmed that these interactive methods led to an increase in average attendance from 65% in the previous academic year to 78% in the current session. Moreover, during internal evaluations, 93.75% of the exam questions were based on case-based problem-solving, with more than 75% of students attempting these questions, indicating increased engagement and understanding. In addition, the findings recorded that about 65% of participants perceived a doubling in knowledge gain and confidence building due to these interactive strategies. The findings underscore the potential of video lessons and interactive approaches to not only improve attendance but also enhance knowledge dissemination and cognitive abilities in a distance learning environment. This study is similar to the present study given that when lessons are digitalised like with MINESEC DEC dissemination is easier through several media materials such as USB, hard disks, phones and laptops. However, while Akindele, et al (2021) use it for physical health lesson MINESEC DEC digitalises all lessons in all subjects and disseminate through all the media material available to secondary school learners in Cameroon.

In the same perspective, the investigation carried out by Bayram (2013) showed that students held positive perceptions regarding the quality presentation of video lessons in an online distance education course. The research revealed that students generally agreed with a mean score of 3.56 out of 5 that the content quality of the video segments was satisfactory, indicating effective presentation of information. The accessibility of online videos was rated highly, with the majority of students, 69 out of 86, agreeing or strongly agreeing that videos were easy to access, and 52 students noted that the videos were entertaining, highlighting the engaging nature of the content. Regarding comprehension, the study reported that 46 of the students agreed that the video format

allowed a deeper understanding of the course content, fostering better retention. The mean score of 3.65 indicated that most students felt the video lessons significantly enhanced their understanding of the material. In terms of technical aspects, the video and audio qualities were deemed satisfactory by most participants, with 51 students expressing contentment with the video quality. However, technical issues were not entirely absent, as 37 students reported encountering problems during video playback. The ability to control the instructional flow through video features like fast forwarding and rewinding received high satisfaction, with a mean score of 3.86. Overall, the results indicated that video-enhanced online courses are effective in improving the quality of distance education by enhancing student engagement, comprehension, and overall satisfaction with the learning experience.

Similarly, Basilaia and Kvavadze (2020) unveiled that during the first week of online teaching at a private school in Georgia, the transition to digital learning was largely successful in terms of attendance and the quality of video lessons. The school implemented Google Meet for virtual classes, achieving a high attendance rate of 98% for younger grades and 94% for older grades. Technical issues were minimal, with most problems related to personal computer configurations or misuse of functions. Teachers extensively used screen sharing and video/audio streaming, resulting in 78 hours of screen sharing over one week. The total video broadcast time was 513 hours, averaging 11 hours per class, while audio streaming totaled 605 hours, averaging 12.87 hours per class. An evaluation system was implemented to assess the quality of video/voice/presentation on a scale of 0 to 3, with 3 being perfect, 2 being good, 1 poor, and 0 failed. The process of teaching was also evaluated based on student behavior during online classes. The study highlighted the need for future research to ensure quality assurance in online education, as there was no time for detailed quality checks during the rapid transition. The authors suggested that new technologies should be considered for effective grading and preventing academic dishonesty in remote learning environments. The findings indicate that while the transition was successful, improvements in evaluation methodologies and integration of online tools with school management systems could enhance the quality of distance education.

Scagnoli, McKinney and Moore-Reynen (2017) in alignment with the authors above showed that students' satisfaction with video lectures (VL) is significantly correlated with their overall positive learning experiences in online education. The data analysis revealed that satisfaction

with VL explained a substantial portion of the variance in students' general online learning experience, with a regression coefficient b=0.45b=0.45 and a p-value less than 0.001, indicating a strong predictive relationship. Also, the study highlighted that familiarity with video lectures increases their perceived usefulness, as students who are more acquainted with this medium tend to watch more lectures, enhancing their engagement and learning outcomes. The integration of VL with other instructional activities was also noted as crucial for maximising learner satisfaction and educational outcomes. The study utilised both quantitative and qualitative methods, performing statistical tests such as correlation and regression analyses to assess the relationships between variables. Furthermore, graduate students generally perceived a higher impact of VL on their learning compared to undergraduates, who viewed VL as more beneficial for completing assignments. The results underscore the importance of careful planning and integration of VL into online course design to enhance learning effectiveness and student satisfaction. Proper use of VL can provide a sense of instructor presence and facilitate engagement with the content by allowing students control over the media. The study suggests that multimodal delivery with a clear relationship between VL and other course components is preferred and that gradual integration can improve familiarity and satisfaction.

In line with learners' satisfaction in usability, Nagy (2018) showed that university students' satisfaction with video lessons is significantly influenced by several factors when using videos as a supplementary educational tool in a Business Mathematics course within a Moodle environment. The research applied an extended Technology Acceptance Model (TAM), including perceived usefulness, perceived ease of use, attitude, and internet self-efficacy, as well as learner-learner and learner-teacher interactions as determinants of learning satisfaction. Results indicate that perceived usefulness ($\beta = 0.090$; $p = 0.034$), perceived ease of use ($\beta = 0.128$; $p = 0.034$), and internet self-efficacy have a direct positive effect on video usage. Learning satisfaction was directly influenced by perceived ease of use and learning performance, with a 69.8% explained variance. Notably, learner-teacher interaction exhibited a significant effect on learning satisfaction ($\beta = 0.486$; $p < 0.001$). However, learner-learner interaction did not show a significant impact, possibly because of the absence of expected group work and unexamined interaction quality. Furthermore, video usage positively affects both learning performance and satisfaction, suggesting that students who engage more with video content tend to perform better and report higher satisfaction levels. The study underscores the importance of enhancing

perceptions of video usefulness, ease of use, and fostering internet self-efficacy to improve learning outcomes and satisfaction in distance education settings. Moreso, the research highlights the necessity for effective learner-teacher interactions for maximising educational benefits in video-assisted learning platforms.

Zi-Yu Liu (n.d) also found that the use of online learning platforms significantly enhances learners' satisfaction and academic performance. The study compared three major platforms: Moodle, Open edX, and NEO LMS, focusing on features such as system capabilities, content support, and user management. Moodle emerged as the most comprehensive platform, meeting all evaluation criteria and providing extensive functionality and customisation options. Consultations with 40 university teachers from Russia and China underscored several advantages of online learning platforms. These included greater freedom of access, reduced training costs, the ability to modularize course content, and enhanced flexibility in training. Teachers also appreciated the platforms' capacity to keep educational content up-to-date and establish clear criteria for assessing student knowledge and advantages of online learning platform. The study involved testing 300 students before and after a 3-month English language course using the Moodle platform. The results demonstrated significant improvements in academic performance: the quality of knowledge increased by 7%, competency levels rose by 4%, and the average grade improved by 0.15 points. A similar test with 45 chemistry students confirmed these positive outcomes across different subjects. Furthermore, the study highlighted that more than 50% of students with initially "unsatisfactory" grades showed improvement after using Moodle. The findings suggest that distance learning systems, particularly Moodle, can improve learners' satisfaction and academic results by providing accessible, flexible, and efficient education solutions.

Emphasising on learners’ satisfaction in usability of products success, Azhar, Sheikh, Tariq, Malik, Azhar and Sheikh (2012) carried a study on a comparative study of students’ satisfaction level in distance learning and life classroom at higher education level Turkish in Turkey. The purpose of the study was to compare the level of satisfaction of graduates in distance learning educational psychology course to a traditional classroom educational psychology course taught by the same instructor. Population of the study consisted of Graduate students in course educational psychology enrolled in Allama Iqbal Open University distance learning and

International Islamic University's traditional classroom programs during fall semester 2009.The courses were taught by the same instructor. The nature of the Study was descriptive and the findings were drawn from descriptive analysis using the Likert scale to determine the level of satisfaction between both groups. On the basis of findings, it was concluded that distance learning and traditional classroom students experienced a high level of satisfaction. It determined that there was a very slight difference in the levels of student satisfaction in the distance learning and traditional classroom students. The similarity between this present study and that of Azhar et al is that both are interested in seeing the success of distance education which may be new to some learners in some contexts. Unlike this study which evaluates the satisfaction secondary school learners in Cameroon derive from the resources of online learning produced by the MINESEC Distance Education Centre in Yaoundé, they measured the degree of satisfaction between the distance education online and the traditional classroom in a comparative descriptive design in higher education. However, all the efforts are aimed at promoting distance education in learners in a contemporary world in the 21st century is not without challenges.

Like the previous, Wang, LI and Yang, (2020) found no comprehensive satisfaction scale in their comparative study. Nevertheless, appropriate solutions to the existing issues to promote the private colleges and universities' distance education service industry were devised. They carried out a study to find out what factors affecting the satisfaction degree of distance education in private colleges and universities in China. Using a cross-sectional study design without a dynamic relationship, the background of educational institutions, advertising, brand image, hardware quality, software quality, customer complaint, and social recognition were analysed. From the standpoint of pure academic research, the customer satisfaction of distance education in private colleges and universities was analysed. The quantitative analysis method of the questionnaire survey was relatively straightforward, and the research topic was not comprehensive, although innovative. Thus, some deviations and deficiencies were present in the final analysis results. Based on the validation factors, appropriate solutions to the existing issues to promote the private colleges and universities distance education service industry were devised. Meanwhile, the results provided a reference for the distance education service industry of private colleges and universities, which has crucial reference and guiding significance for both theory and practice. Like this present study they sought to find out weaknesses of distance education and

to propose solutions. However, while they used the survey design within the COVID 19 period, ours is a case study in a post COVID 19 era in Cameroon.

The findings of Stefanovic, Drapsin, Nikolic, Scepanovic, Izet and Drid, (2011) also proved that integrated model with four dimensions: instructor dimension, course dimension, technology dimension and environmental dimension is crucial for quality. A survey was conducted to investigate the potential factors which are in the field of the faculty of management and have impact on e-learner satisfaction. The questionnaire was used as an instrument for data collection and the subjects of this study were the students who were enrolled in the online learning courses. The results revealed that instructor response timeliness, e-learning course flexibility, e-learning course quality, technology quality, Internet quality, diversity in assessment and interaction in e-learning environment are the critical factors affecting e-learners' satisfaction. The results presented in their paper could help universities or faculties to adopt e-learning technology, and to reduce the risk of failing during implementation process or system exploitation. Furthermore, researchers can use the findings of this study as a basis to initiate other related studies in the e-learning area. This study aligns with the present study in that some of the factors which are investigated determines the quality of distance learning courses which our study seek to evaluate in MINISEC Distance Learning Centre. Nevertheless, while their study is carried out in the university the present one is within the production Centre for secondary schools.

Like others, Akumbu, Teneng, and Ngu (2022) found that the level of satisfaction among learners with video lessons on various platforms was mixed. The research highlighted that video lessons were perceived as a necessary tool during the COVID-19 pandemic, which disrupted traditional education modes in Cameroon. However, the report identified several issues affecting learner satisfaction. Firstly, the lack of widespread infrastructure and reliable internet connectivity significantly hampered the effectiveness of video lessons. Many students experienced difficulties accessing online materials due to poor network coverage and high data costs, limiting their ability to fully engage with the content. Also, the research discovered that the content delivery on some platforms did not adequately meet the needs of all students, like those in the peripheries. There was a noticeable gap in the technical quality of the videos, including issues with sound and visual clarity, which further decreased learner satisfaction. Moreover, the pedagogical approach within these video lessons was often not engaging or interactive, leading to decreased motivation and

interest among learners. Despite these challenges, some students appreciated the flexibility that video lessons offered, allowing them to learn at their own pace. However, the overall satisfaction was significantly influenced by the student's ability to adapt to this digital mode of learning and the support provided by educational authorities. These findings underscore the importance of addressing infrastructure issues and enhancing teacher training in digital pedagogies to improve learner satisfaction with video lessons in distance education.

On a controversial note, Markova, Glazkova and Zaborova (2017) findings which showed that Educators are not in agreement on how to evaluate quality and effectiveness of distance learning. Supporters of online distance learning (Allen Mabry, Mattrey, Bourhis, Titsworth. and Burrel2004; Shachar & Neumann, 2003) argue that learning at a distance can be as effective as or even more effective than a face-to-face pattern. It is reported that the delivery media for instructional content is unlikely to dramatically impact the learning outcomes, whereas content, teaching methods, communication, and learner support are extremely important for student satisfaction. Other opponents, however, express concerns that students in online environments tend to feel more confused, isolated, and frustrated, and as a result their learning effectiveness and satisfaction can be reduced (Zaborova & Markova, 2016 and Ni, 2013).

Such differences in approaches suggest that learning effectiveness is a complex concept with multiple dimensions and should be assessed with multiple measures. That is why certain quality indicators must be established to ensure high quality standards in distance tertiary education. The controversy suggests that research must continue until solutions are established and suggestions submitted for further research.

Contrary to the rest of authors who on a large scale agree with the learners satisfaction with distance education products Markova et al (2017) conducted a study on distance education learners satisfaction and presented the results of the survey conducted at the Ural State University of Economics and Ural Federal University (Yekaterinburg, Russia) on student-focused quality indicators: interaction and collaboration; instructional design and delivery; student assessment and student support services. Over 800-degree students (n = 830) involved in distance learning programs responded to a 26-question on-line survey to identify the areas that the university administrators, staff, and technicians can improve upon to ensure high quality of online distance education delivery. It was found that although degree students overall positively evaluate their

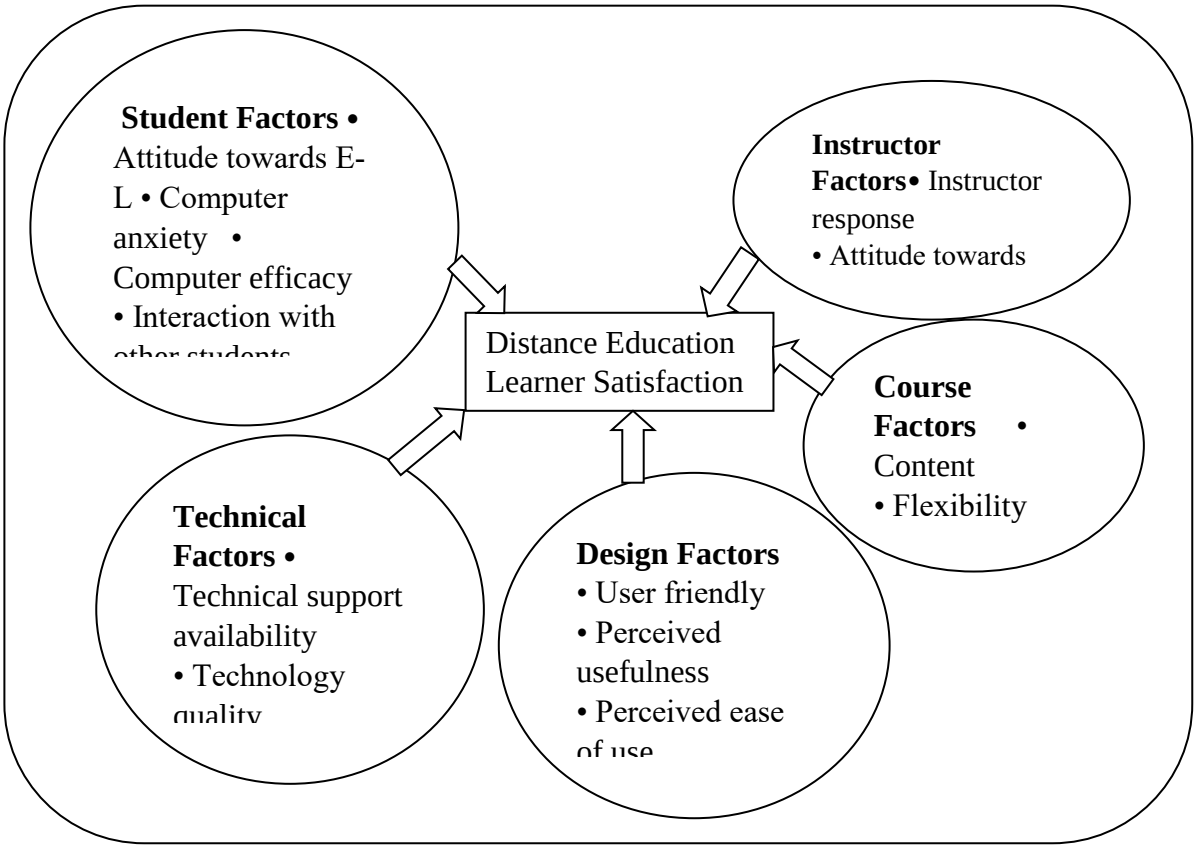
distance learning experiences; they face some learning challenges especially in regard to effective teaching practices and communication patterns. The findings support the prediction that the faculty plays a crucial role in knowledge construction and can be of use for all tertiary sector stakeholders in exploring solutions to maximize the ICT potential in distance tertiary education. Nevertheless, despite a rapid development of online tertiary education, it is clear that educators and students encounter certain barriers that affect the overall quality of distance learning deterring the overall satisfaction of learners. This is similar in many aspects to our study in that the actors it considers such as students, instructors and administration in relationship to student satisfaction with distance education are those around which our indicators are constructed. The similarities between this study and ours is that they both seek to determine how the Distance Education Centre consciously build quality lessons that meet the programmes objectives, facilitate the teachers task, satisfy the learners' learning objectives. The difference is that it a comparative study carried out among university students and not a case study.

Researchers who evaluated distance learning quality against student learning outcomes such as Ni, (2013) on the overall student satisfaction with distance learning experience, Bekele, (2010) and Bolliger & Wasilik (2009) on students' attitudes to distance learning, Salyers, Carter, Carms and Durrer (2014) and Lorenzo and Moore (2002) proposes a framework of five pillars of quality online education, where student satisfaction plays the key role. In the paper, they aim to prove the assumption that student satisfaction is impacted by the educators' ability to effectively utilise active learning techniques, integrate high-level interaction and collaboration into the instructional design, and provide high quality and timely learner support and resources. These factors, affecting students' perception of their distance learning experiences need to be understood in order to provide students with a more comprehensive educational experience and greater benefit from this pattern of education. Sourcing from literature review, special attention is given to the key challenges to maintain high quality distance learning standards, which include lack of effective teaching practices and communication pattern to address the issues.

Summarily, the research findings demonstrated relatively high students' satisfaction with the distance learning. At the same time, it was found that there are some controversies in the ways, in which students evaluate the effectiveness of the distance learning compared to other education patterns. Being positively motivated to take an online course of study, they face a number of

challenges while learning at a distance. These involve low self-organisation, lack of control on the instructor's side, lack of effective interaction and sense of isolation, which obviously decrease their satisfaction with the online learning experience. These findings prove that to be highly successful and effective in distance learning requires considerable attention and commitment on the part of instructors and administration. The role of faculty is manifested in the way the instruction is designed and delivered as well as in the management ability to incorporate relevant course content with the emphasis on student support, interaction and assessment techniques as these are the key issues in effective distance learning. Therefore, instructors are to design educationally effective high-quality programs, and maximise the ICT interaction potential in the virtual learning environment. This goal can be attained if instructors are subject to extensive training on how to utilise new technologies and adapt teaching methods to distance learning environment as well as monitor and assess students' progress. Given all three actors - students, instructors and administration make joint efforts, the overall student satisfaction with online learning is bound to increase. This will lead to higher quality of distance education. These conclusions are consistent with those provided by other authors. It is also suggested that researches must be conducted by the faculty to survey and identify beneficiaries' perception of distance learning issues. Such research will assist the university stakeholders in spotting the ways to reveal distance students' full learning potential. The various factors which are responsible and contribute to a successful distance education according to Malik (2009) are represented in the diagramme below as follows:

Figure3: Practical Model



Source: Malik (2009)

Figure 2 shows that for distance education learners to be satisfied with lessons delivered in distance education classes some of the factors to be properly met include: course design by the instructors, design factor by both the instructor and the educational technologists, technical factors by the education technologist and students perceived usefulness. This diagram reflects the concerns and elements which the distance education Centres need to integrate in the process of lessons production

2.3.3. Measure Project's progress against expected outcomes

This section reviews findings on Project's progress against expected outcomes by previous researchers to show its relevance to pedagogic continuity.

Concerning Measuring the Project's progress against the expected outcomes De Villa and Manalo (2020) conducted a study and found that audio-video lessons in distance education as critical for improving the quality of learning. Secondary school teachers in the Division of San Pablo City The study highlighted the need for comprehensive training and resource provision to

achieve these outcomes. Teachers emphasised the importance of audio-video lessons in bridging the digital divide and enhancing teaching effectiveness through familiarisation with digital tools. The research revealed that while teachers are generally open to utilising audio-video resources, there is a significant gap in skills and access to necessary technology, which impedes the full potential of these tools. The expected outcomes from audio-video lessons include improved student engagement, personalised feedback, and equitable access to quality education materials. However, challenges such as inadequate digital literacy among teachers and students, unreliable internet access, and limited availability of devices were noted as barriers to achieving the desired outcomes. Teachers noted that successful implementation of audio-video lessons could help address assessment complexities by providing diverse and flexible evaluation methods. To achieve these outcomes, teachers suggested that enhanced training programmes focusing on digital tools, greater institutional support in providing necessary devices, and improved internet infrastructure be put in place. The study underscores the necessity for collaboration between education authorities and teachers to develop effective audio-video lessons that meet educational objectives in the new normal.

In conformity with De Villa and Manalo opcit, Tarasov et al. (2020) revealed that the integration of audio and video lessons in distance education platforms like Moodle significantly enhances the learning experience by providing methodical support through multimedia capabilities. The researchers highlighted that these elements facilitate a more engaging and comprehensive learning environment, allowing for individualised student interaction and independent work. The study emphasises the need for educational content to include structured information with complete course fragments, enriched with hypertext, illustrations, audio, and video comments that correlate with the training course's structural elements. Moreover, the research suggests that electronic textbooks should not only contain text but also integrate video and audio recordings relevant to the study materials, enabling students to print necessary text fragments and adapt the font according to user needs. The incorporation of multimedia elements is viewed as essential for forming professional competence, enhancing mobility, and fostering the ability to acquire new knowledge. Moreover, this approach allows for a flexible learning framework, supporting lifelong education and continual access to information, which is critical for modern higher education. The study also identifies the lack of physical interaction as a typical shortcoming of distance learning systems, while suggesting that future developments should focus on integrating

augmented reality technologies to bridge this gap. The findings underscore the importance of refining and expanding educational materials with multimedia components and links, alongside developing mobile applications to facilitate more effective use of platforms like Moodle.

In the same vein Kruk et al. (n.d.) disclosed that the integration of audio and video lessons considerably improve on distance education at the Siberian State University of Telecommunications and Information Sciences (SibSUTIS). The research highlighted that educational video materials were rated the highest among e-learning resources, scoring an average of 8.9 out of 10 in terms of quality, surpassing theoretical materials (6.8), study guides for tests and projects (7.1), and virtual laboratory works (7.7). This high rating underscores the effectiveness of video materials in engaging students and enhancing their learning experience. Moreover, students evaluated the usability of training video materials at 9.8 out of 10, indicating a high level of satisfaction with these resources. The degree of interest in these video materials received a score of 8.8, reflecting their capability to maintain student engagement. The study also noted that the video lectures allowed students to pause and review content, thereby increasing both cognitive and motivational aspects. The research also explored the use of videoconferencing in distance learning, which facilitated various educational activities, including online lectures, workshops, consultations, and remote defenses of graduation projects. The availability and convenience of the distance learning website were rated at 8.5, supporting the overall effectiveness of the online learning infrastructure. The findings indicate that the implementation of video lectures and videoconferencing at SibSUTIS has significantly improved student motivation and satisfaction, positioning video materials as an vital component in the enhancement of the distance education experience.

Still on a positive note, Mustafa, Börekci, and Demirel (2022) in their findings revealed that the integration of audio and video lessons in distance education at Balıkesir University significantly impacts the learning experience and outcomes. The research highlighted that video lessons with the camera on had a duration that was only half of those conducted with the camera off, and screen sharing was utilised in less than 10% of live sessions. This lack of visual engagement, such as camera use and screen sharing, was identified as a factor potentially hindering effective learning outcomes. It was suggested that instructors should improve on the quality of video lessons by maintaining eye contact, using a warm tone, and ensuring their facial expressions

which are visible to students to foster a more engaging and interactive learning environment. Furthermore, the study revealed that 18.4% of students accessed the Learning Management System (LMS) exclusively through mobile devices, emphasising the necessity for course materials and activities to be mobile-compatible to ensure equitable access and participation. The findings also indicated that the diversity of educational resources, such as providing content in various formats like video and audio, could positively influence academic success by accommodating different learning styles. The research recommends optimising content for mobile devices and increasing the use of synchronous communication tools like video and screen sharing to improve interaction and engagement in distance education.

In a similar way, Lucky, and Rubin (2022) proved that the rapid transition to remote online instruction during the COVID-19 pandemic necessitated the creation of high-quality audio-visual educational resources to enhance distance learning outcomes. The work highlighted key technical aspects necessary for improving instructional video quality, including clear audio, engaging visuals, and effective editing techniques. The authors emphasised the importance of using external microphones to reduce background noise and enhance audio clarity, which was found to significantly boost video quality. Also, the use of high-resolution images and thoughtful lighting were recommended to improve visual appeal, with specific guidance on camera positioning to avoid unflattering angles. The study also detailed the incorporation of video content types such as lectures, labs, demonstrations, and guest interviews, each serving specific educational purposes. For example, labs and demonstrations were prioritised for OER due to their reusability in different learning environments. Moreover, asynchronous video formats were preferred by students, as they allowed for flexible pacing and reduced reliance on stable internet connectivity, which was particularly beneficial given the network issues reported during synchronous sessions. Student feedback indicated a strong preference for video tutorials and lectures as a learning method, with 78% of students initially favoring this approach, increasing to 91% by the end of the course. The study underscores the potential of well-designed audio-visual resources to not only support remote education but also enhance teaching methodologies and student engagement in a post-pandemic world.

Still on the weaknesses, Serhan (2020) showed that university students had a predominantly negative attitude towards using Zoom for remote learning during the COVID-19 pandemic. The

research revealed that 22.58% of students enjoyed using Zoom, and a mere 19.36% expressed a desire to use it in other classes. In addition, 9.68% of the students agreed that Zoom improved their learning or helped develop their confidence. Furthermore, Zoom was perceived to have a detrimental impact on classroom engagement and interaction, with 12.91% saying it helped them to participate more and19.36% feeling it increased interaction with their instructor. The study identified flexibility and convenience as the main advantages of Zoom, allowing students to attend classes remotely. However, significant drawbacks were reported, such as increased distractions, reduced quality of interaction and feedback, and an overall perception of poorer educational quality. Distractions were noted by 42.11% of the students, while 36.84% cited the quality of interaction and feedback as a disadvantage. Contrarily, technical difficulties were not regarded as a major issue, with only 5.26% of students reporting them as a disadvantage. The findings highlighted a preference for traditional face-to-face classes over Zoom, indicating a need for better preparation by instructors and institutions for remote learning, including training and redesigning instructional activities to suit online formats. The study underscores the importance of addressing equity and access issues to enhance the quality of distance education in future scenarios.

In the same vein, Siti and Mohd (2020) carried out findings with the objective to develop the instrument that measures the effectiveness of distance education (DE) in ensuring sustainability among distance learners as the researchers have observed that there is the absence of comprehensive and contextually appropriate measures for the effectiveness of distance education in nurturing sustainability. A mixed method research design was employed by following the six-phase sequential exploratory instrument development process. The quantitative validation of the instrument was done through a survey on 663 learners from the selected public universities in Malaysia. The SmartPLS 3 used by the researchers, produced a new 61-item measure of the effectiveness of distance education as regards sustainability such as course content quality, instructor attitude and distance education learners' disposition. The findings have enabled the establishment of a comprehensive and contextually appropriate measurement tool applicable to a larger population of distance learners. It also provides an evaluation tool for practitioners in determining the effective distance education programs and courses that have led to the attainment of sustainability outcome among learners. This result is relevant to the present study in that one of the four indicators is the measurement of the effectiveness of the distance education in relation

to the expected out comes. Thus, it is important to stay abreast with elements that account for effectiveness of DE.

Still showing the importance of technology in distance education, Wessel, Ryan, Anisa, and Richelle, (2019) studies have modelled the evaluation of the positive outcomes of distance education in nurturing awareness regarding sustainability and behaviour through several factors, one of which is the distance learning experience of its learners. Ana Pinto de Moura et al. (2010) found that an extremely high level of learners' motivation and satisfaction with the online programmes changed their attitudes about the environmental domains. This contributed to others also changing their attitudes and behaviours. Besides, the study also found that online students were equally satisfied with their courses and revealed general expectations and acquired competencies which indicated that online education was as effective as traditional education.

Like the latter, Figueiro and Raufflet (2015) reviewed several aspects which contributed toward the positive outcomes and sustainability in distance education namely, the pedagogical challenges, teaching techniques and curriculum orientation. Students' motivation, satisfaction, and issues pertaining to quality were also found to be strongly linked to the effectiveness of distance education in delivering the sustainability message (Goulimaris, 2015; Markova et al., 2017). In order words, to gauge the effectiveness of distance education programmes and courses with regard to sustainability, a comprehensive and contextually appropriate measure is required by highlighting the important and relevant indicators and items.

Also, with most researchers having positive view for online distance education and technology as good drivers for development, Nielson (2011) investigated two widely marketed self-study foreign language programmes which are Rosetta Stone (RS) and Auralog's TELL ME MORE (ATMM). The assessment of learning outcomes included both achievement tests and oral proficiency assessments, but due to extremely high attrition rates the assessment results could not be generalised. In the first phase of the study, using RS, only 1 out of 150 participants completed the full study protocol, and in the second phase, using ATMM, only 4 out of 176 participants did so. The author concludes that "this method of language training yielded very limited proficiency gains in only a handful of learners" (p. 125) and suggests that these products should be used "as supplements to instructor-mediated training rather than stand-alone products" (p. 126). According Nielson opcit DeWaard (2013) offers a critical assessment of Rosetta Stone in light of current

research in second language acquisition but does not provide any empirical data. However, both studies challenge the validity of self-study approaches, in line with White's (2006) observations showed that "the ideal of the independent language learner is being rapidly replaced by the ideal of a collaborative learning community where learners indicate support for and develop control of their learning in interactions and exchanges with peers, learners, teachers, and native speakers" (p. 260). Some researchers have positive view for distance education and technology as good drivers for development. This counts as strength for the future of Distance education and ICT. Distance education is treated as a supplementary tool for learning as it is in Cameroon.

Still in alignment with the above, Burns (2023) showed that distance education programmes should focus on aligning expectations with clear, measurable learning outcomes to improve efficacy. Evaluators and educators are advised to develop specific learning outcomes reflected in course activities and evaluation designs to moderate expectations about what can be achieved within a set timeframe. The findings highlights that evaluations often fall short due to high expectations, ambiguous outcomes, and resource constraints, which can obscure both the proximal and distal effects of educational interventions. It was noted that audio and video lessons should be supported with interactive elements and proper coaching to enhance completion rates and learning outcomes, especially in rural settings where technological limitations exist. Furthermore, the study emphasises the importance of integrating content, pedagogy, and technology through frameworks like TPACK, which helps educators operationalise teaching and learning under specific conditions. The research underscores the gradual benefits of technology in education, suggesting that while immediate results may be limited, the long-term impact can be significant if supported by continuous evaluation and improvement measures. The study also, suggests employing user-friendly data collection and analysis tools, such as Web-based data visualisation applications, to present findings effectively and engage stakeholders in the evaluation process. The research advocates for a holistic approach to evaluating distance education by considering all stakeholders and using evidence-based practices to foster continuous improvement and achieve desired educational outcomes.

In contrast to the above, Lassoued, Alhendawi, and Raed (2020) discovered several weaknesses in technology use during the COVID-19 pandemic, the main obstacles in achieving quality in distance learning were; weak internet infrastructure, lack of training, and unsuitability of home

environments for learning. The research involved a sample of 400 participants, including 100 university professors and 300 students from Algeria, Egypt, Palestine, and Iraq. It identified several key obstacles affecting both professors and students, categorised into personal, pedagogical, technical, and financial/organisational groups. Personal obstacles included weak motivation for distance learning (44.3%), difficulty in understanding subjects without classroom interaction (58.8%), and reliance on face-to-face learning (39%). Pedagogical challenges highlighted the difficulty of teaching applied courses remotely (16.3%) and lack of clarity in evaluation methods (23.8%). Technical issues were dominated by weak internet speed (59%) and concerns over data security and confidentiality (32.3%). Financial and organisational barriers were significant, with 59.3% of participants citing a lack of remote communication capabilities, including devices and internet access, as a primary concern. The study suggests that improving internet infrastructure, providing continuous training for faculty, and enhancing remote learning environments are vital for overcoming these challenges. Moreover, the use of diverse electronic media without uniform controls was identified as an obstacle by 52% of professors, compared to only 14% of students, indicating a discrepancy in the perception of media multiplicity. This insight underscores the need for coordinated efforts and standardised practices in distance education allover Arab universities.

2.3.4. Ensuring Pedagogic Continuity of DEC Resource

This portion reviews literature carried both in and out of Cameroon aimed at insuring pedagogic continuity. It also highlights efforts put in place by Cameroonian education authorities in collaboration with external support to combat learning disruption during challenges.

Béché (2020) in his study on Cameroonian responses to COVID-19 in the education sector: Exposing an inadequate education system reveals that the Cameroonian education system is plagued by disorganisation, educational inequalities and exclusion problems which affect learners' daily lives individually. The structural and pedagogical deficits revealed by the findings of the study demonstrate that Cameroon must insist on integrating distance-learning technologies; and improving access to essential socio-educational services if it wants to guarantee educational normality in the event of other similar crises.

According to the United Nation Education Scientific Cultural Organisation UNESCO (2020) in search for solutions for educational continuity during disruption established distance education as

the most secure mode of learning. The training of educators in alternative educational services (tele-education, digital education, online learning/teaching, etc.) was therefore essential to ensure continuity. The Cameroonian Government has thus, in collaboration with its partners, developed and adopted a national response plan to the impact of Covid-19 in the education and training sector. The contribution of the audiovisual channels enabled many learners at various levels of education to complete their end of year evaluation. The covid-19 crisis through its harmful effects has ended the virtual monopoly of the traditional mode of the education system in Cameroon. In addition to broadcasting lessons and activities on radio and television, educational resource formats (digitalised school lessons, video clips) have been put online on platforms such as monecolenligne, myschoolonline, distance-learning Education and Sukuluonline..UNESCO (2020) observes that distance education in all its forms has had a considerable impact on educational policies in Cameroon: The discovery and appropriation of digital tools (distance learning platform, chats, discussion forum, collaborative spaces) and new teaching and learning models by the educational community; Strengthening the multi-risk resilience of the education system in the face of crises with the provision of modern recording studios for the design of course materials; Capacity building for teachers; Providing schools with digital equipment; The involvement of the Ministry of Posts and Telecommunications in improving the Internet access offer for the benefit of establishments; The involvement of other related ministries such as the Ministry of Water and Energy, the Ministry of Decentralization and Local Development, the Ministry of Scientific Research and Innovation has improved on distance education in Cameroon.

Mukum and Matsida (2021) study on Hybrid Education, Pedagogical Continuity and Instructional Efficiency amid the COVID-19 Pandemic in Cameroon Universities examining the opportunities and challenges relating to distance education showed that the COVID-19 pandemic period is both a curse and blessing to Cameroon university instructors and students. It was revealed that both instructors and learners were not adequately prepared to cope with the situation. It proved that there is an acute shortage of technological infrastructures and facilities to sustain effective teaching and learning. However, the period was disruptive in the positive sense and innovative as it has improved skills and brought some changes to their previous practices. The study used mixed design involving interviews and questionnaires. The content analyses approach was used with the help of Homi Bhabha’s Hybridity theory ensuring reliability of results. Their study and the present share much in common as their main objective of all the

activities are geared towards ensuring pedagogic continuity. There are similarities in several results such as pedagogic discontinuity may still be a threat in challenges despite all the efforts put in place.

In the same vein, Coulange, Kariand Train (2021) studied Pedagogical continuity: myth or reality? and found that the unprepared move to distance learning impeded the implementation of digital practices. The socio-economic situation of the teaching was identified as a determining factor in the teachers' different interpretations of the term pedagogical continuity. While those working in remote areas tended towards practices which focused on maintaining pupils' links with school, on the contrary consolidation of knowledge and providing social and affective support was given to those teaching in privileged public schools. Tools and practices which allowed them to focus on the disciplinary content of their teaching were available. This caused inequalities in teaching and learning. A review of the literature situated the study within the field of mathematics teaching practices. The study was carried out through a multidimensional analysis using multiple correspondences of the responses of 368 French secondary school mathematics teachers to an online questionnaire.

The Global Partnership for Education (GPE) Secretariat Cameroon (2022) reveals that to ensure continuity of learning during the health crisis posed by COVID-19 for vulnerable children in at-risk regions the Cameroon Government adopted several measures including the opening her doors for external guidance and support. In this light, some results have been achieved. Concerning ensuring continuity of learning for all vulnerable children; GPE designed and guided the Ministry of Education to prepare for the reopening of schools and organise classes in a safe and protective environment and at the same time also building the resilience of the education system to cope with future crises. The program focused primarily on students at the pre-primary, primary and lower secondary levels of public education institutions. Also, 1,800 secondary, kindergarten and primary school teachers from all 10 regions in Cameroon received training in teaching methods, and have benefited from psychosocial support. Among resources offered tablets were provided for students preparing for exams to ensure learning continuity. The provision of training to a number of participants in the education chain in the production of pedagogical resources for distance education was also put in place. The creation of a bilingual online learning platform such as My Online School provides a variety of learning resources in

English and French for students from kindergarten to secondary school, and allows teachers to create learning spaces.

Similarly, Motala and Kirti (2022) conducted a research on continuities and discontinuities in the new pedagogies and how these affect universities in South Africa and found that that academic staff were able to draw significant gains in the transition to emergency remote teaching (ERT) that may offer new opportunities and possibilities for learning in an uncertain future. The exploration of hybrid models of teaching and learning, with radical changes in traditional face-to-face teaching brought in many challenges. These challenges prompted discussions about pedagogic shifts, academic continuity and the future of teaching and learning. The research was based on data collected from interviews with 15 senior academic leaders at the University of Johannesburg (UJ) about how they negotiated pedagogic continuity during the transition to ERT and online teaching and learning. The results of the findings proved a successful attempt by the senior academic leaders unlike many African countries which registered mediocritic results.

Still on efforts made in Cameroon Ndifon CRTV "Press Hour" (2024), reports that during the press conference, the Minister of Secondary Education outlined three key areas of focus as regards her reforms in modernising education in MINESEC: The digitalisation of the teaching and learning process, the introduction of the Unique Identification Number and the notion of Clean School. The setting up of the Distance Education Centre of the Ministry of Secondary Education and that MINESEC has recorded advancement in online teaching and learning process. This is evident through digitalised lessons and pedagogic materials which can be accessed nationwide by all students and teachers. The Distance Education Centre hosts a state-of-arts with modern technological infrastructure which eases the digitalisation of lessons and the sharing of the said lessons across the national territory. Adjaba B., Inspector Coordinator General for Sciences and Coordinator of the Distance Education Centre stated *"… equipment and infrastructure in very important… our Minister has helped Distance Education in terms of equipment infrastructure…"* thus, as a testament to the importance of the digitalisation of learning, Alida Wvemnyuy, former student of GBHS Yaoundé who succeeded in the 2024 session of the GCE Advance Level with five papers recounted that the online lessons from the Distance Education website (www.distancelearning.cm) gave her access to some lessons she did

not understand and she said “The distance learning lessons can be accessed everywhere… I encourage my younger ones to follow up with distant learning lessons.”

In addition, the introduction of the *Unique Identification Number* system for all secondary school students in Cameroon which will go operational from 2024-2025 school year and is an added value which modernizes the education system in Cameroon secondary school. This new reform facilitates the payment of school fees either through phone or bank deposit will streamline administrative procedures, track students’ progress, transfer of students’ record between schools, ensuring continuity in students’ educational journey and improve data collection for better policy-making. The Unique Identifier will enhance disciplinary measure within schools as students will become aware that track record of their behaviour is recorded and can be accessed by all.

1.12. 2.4. Research Gaps

Identified gaps existing in literature

Based on the comprehensive review of existing literature across the four domains: the quality of distance education resources, beneficiaries’ satisfaction in distance education, the evaluation of input and outcome in maintaining pedagogic continuity, several significant research gaps have been identified. This study aims to address one of them specifically limited evaluation in distance education with focus on Cameroonian context within secondary schools concerning pedagogic disruption.

The reviewed studies provide valuable insights into various aspects of distance education there is a notable lack of specific research that examines the interplay among resource quality, expected outcomes within the unique context of Cameroon. This study aims to bridge this gap by conducting an investigation tailored to the Cameroonian distance education. This is realised through using a mixed method in collecting data that may reveal valuable perspectives of lived experiences of diverse stakeholders, including learners, teachers, administrators, and community members. It engages and involves stakeholders through participatory research methods, ensuring that their voices, needs, and insights are integrated into the research process and the resulting recommendations. By addressing this identified gap, this study has the potential to make

significant contributions to the understanding and advancement of distance education in Cameroon and the improvement of MINESEC DEC resources.

1.13. 2.5. Theoretical Framework

This study uses three complementary theoretical frameworks to provide a conceptual foundation for evaluating the interplay among resource quality, dissemination strategies, learners' satisfaction, and project outcome programmes evaluation in the context of distance education in Cameroon.

2.5.1. Empowerment Evaluation Theory: David Fetterman and Wandersman (2007)

Empowerment evaluation theory: David Fetterman; improved by Wandersman in 2007 is an evaluation which involves the project stakeholders in the process of evaluation with the goal to promote learning and capacity building to ensure the use of the results to improve on the project outcomes (Fetterman and Wandersman 2024). The interest is to develop the skills and knowledge of the stakeholder in order to participate and use the findings for informed decision making. Their participation includes question development, collecting and using the results. This helps in promoting social change and empowers communities and organisations. Hence, the Distance Education Centre authorised this research in their Centre and participated in the questionnaire formulation process. One of the supplementary theories that may also align with empowerment theory is the Theory of Change (ToC). The Theory of Change: Drucker (1954) and (Muthle, 2021) is a management by objectives theory in which a project may identify and follow high and low goals to meet its objectives. The ToC is a structured method for outlining how and why a program or intervention is expected to lead to desired outcomes and impacts. It is essentially a roadmap that explains the causal links between activities, input, outputs, outcomes, and ultimately the intended impact. ToC is used in designing programs, implementation, and evaluation to clarify the change process and ensure interventions are well-planned and are effective (Taplin, Clark, Eoin, and Colby, 2013). This fits well with the MINESEC DEC Project as it would meet expected outcomes only if its objectives and activities are clearly articulated, well planned and carried out. In alignment with the Empowerment Theory, the ToC seeks to ascertain intended change to realise planned objectives through examining the quality of

MINESEC DEC Resources, beneficiaries' satisfaction and the project expected outcomes at all levels.

2.5.2. Diffusion of Innovations Theory: Roger (2003)

Diffusion of Innovations Theory: Roger (1962, 2003) offers a useful perspective for understanding the adoption and dissemination of digital resources and innovative pedagogical practices within distance education contexts. The theory explains how new ideas, technologies, or practices spread through social systems over time, influenced by factors such as relative advantage, compatibility, complexity, and observability. By applying the Diffusion of Innovation Theory, this study investigates the factors that influence the adoption and dissemination of high-quality digital resources and innovative teaching practices among distance educators in Cameroon. Additionally, the theory provides insights into strategies for effective dissemination, such as influencing opinion leaders, addressing potential barriers, and creating conducive environments for adoption. This study is adapted to the Cameroonian context and culture. As a supportive theory Equity Theory: Adams, (1963), (Davlembayeva and Alamanos 2023) is a socially dependent theory and involves complex psychological and cognitive processes. It helps in understanding how the fairness of exchange between an employer and employee is formed and proposes ways to regulate the outcome of relations. On the one hand, the theory had commercial importance for organisations in terms of reducing financial consequences resulting from the negative behaviour of employees. On the other hand, it had social importance in terms of promoting social justice (Adams, 1963; Adams & Freedman, 1976). This theory relates also to objective two of the work beneficiaries' satisfaction with MINESEC digital Lessons with respect to the social background from which learners emerge. Hence, access to video lessons is highly determined by the possession of media materials and the purchasing power of individual learners which the project needs to consider at all stages to ensure success. This theory aligns with the Diffusion Innovation Theory which takes into account the constraints that may significantly deter the process of innovative endeavours such as MINESEC digitalised video lessons towards ensuring pedagogic continuity.

2.5.3. Connectivism Learning Theory: Siemens and Downes (2004 and 2005):

The Connectivism Learning Theory is related to objective two and three beneficiaries' satisfactions and project expected outcomes. Connectivism Learning Theory: Siemens and Downes (2004 and 2005) is a relatively new learning theory which suggests that students combine thoughts, theories, and general information in a useful manner to build their own knowledge. It argues that technology is one of the major parts of the learning process and that constant connectedness to it gives the opportunities to make choices about learning. The theory emphasises the role of networks connections in learning. Connectivism promotes learning that happens outside of an individual, such as through social media, online networks and information databases. The publications of the two authors address the important role technology plays in the learning process and how the digital age has increased the speed at which students have access to information.

However, Siemens tends to focus on the social aspects of connectivism like Vygotsky in his social interaction, cultural tools, and the zone of proximal development in learning on one hand. On the other hand, Piaget is known for cognitivism and the world around the subject and Downes for connecting with non-human appliances like machine to learn. Hence, these theories align with diffusion innovation and culturally responsive theories and inform MINESEC DEC project of the necessity to meet beneficiaries' satisfactions in order to achieve expected outcome.

The integration of these three main complementary frameworks empowerment theory, Diffusion of Innovation Theory and Connectivism Learning Theory provides a conceptual foundation for this study. The framework focuses on creating effective online learning experiences, the Diffusion of Innovations Theory addresses the adoption and dissemination of digital resources and innovative practices, and the Connectivism Learning Theory relevance and responsiveness throughout the evaluation process. By the strengths of these frameworks, this study aims to generate comprehensive insights and actionable recommendations for enhancing learner satisfaction, optimising resource quality, implementing effective dissemination strategies, and conducting Connectivism Learning Theory of distance education programs in Cameroon.

Evaluation Model

The evaluation model chosen for the research is the Context, Input, Process and Product (CIPP) model propounded by Stufflebeam in (1983), it provides a systematic way of looking at the different aspects of the curriculum development process (Aziz, Mahmood and Rehman 2018). It is found most appropriate for this research process considering its systematic nature which is reflected in the process in which lessons are produced in the Centre involving a series of criteria to be observed in order to meet the expected quality of the required product. It begins with the selection of relevant lessons, their preparation and presentation principles, editing and publication on the platform and finally consumption by beneficiaries. The C stands for Context in CIPP. Context includes goal, objectives, history and background of the object of evaluation which in this study is analysed within the demographic information. I, in CIPP, depicts Input which are materials, time, human and financial resources from stakeholders that may determine the efficacy of the resources. These inputs would be examined to see the role they play in realising expected outcomes in the current research. The first P in CIPP stands for the Process, which in this study is the production process activities carried out by MINESEC DEC. The researcher in the course of this evaluation monitors the production process through questionnaires, interviews and observation instruments. Questionnaires and interviews are administered to sample respondents drawn one school from each of the 7 Sub Divisions in Mfoundi. An observation of the production process is carried out at the Centre through both the step by step production activities and the exploitation of platform information. Field visits to collect data may also enable the verification of the effectiveness, adherence and challenges of DE in the Cameroon context.

The second P for Product entails weighing its quality, outcomes and its usefulness to beneficiaries through data collection to use its results to inform various stakeholders in decision making. In the teachers' instrument quality assurance occupies the first position. It aligns with the Empowerment Evaluation theory which involves the project stakeholders in the evaluation process as it is in this research**.** Consequently, CIPP model focuses on the content quality, availability, utilisation, impact on learning outcomes and stakeholders' feedback of MINESEC DEC resources. This model has been chosen based on the fact that one of its components is a determinant of the quality content. In MINESEC DEC context they are content relevance, instructional materials, structure and infrastructure. Hence, the need to examine them in the evaluation process with teachers and educational technologists at the base is an imperative. All of

the above when systematically aligned and implemented constitute a process which may result in either poor quality or better-quality product considering all the other production activities put together.

The relevance of CIPP model is that apart from being a holistic approach, decision orientated and flexible tool, it has an important consideration of stakeholder involvement leading to valid data collection. Consequently, this research involves stakeholders who provide access and facilitation during observation in the Centre and remain open to answer questions at any stage of the research. Therefore, this is the most appropriate model compared to other evaluation models like Goal-Free and Utilization-Focused model. Goal-Free model by Scriven (1970) as the name implies is not goal focus, it evaluates everything about the project avoiding to know the objectives of the project, relying on observations, analysing all potential outcomes planned and unplanned (Youker and Ingrahan 2014). Utilisation-Focused approach by Micheal Q. Patton is based more on the intended primary users (Global Evaluation initiative, 2021-2022), whereas using CIPP focuses both on the product and the beneficiaries. Besides, it is said to be flexible and holistic. It emphasises on the efficacy of the resource quality first. and the beneficiary's satisfaction second leading to effective pedagogic continuity as per this study.

CHAPTER THREE

RESEARCH METHODOLOGY

This chapter describes the method and procedures used by the researcher in carrying out the study. The chapter presents the research design, area of study, and population of the study: target population, accessible population, sample population; and the sampling techniques, instruments for data collection, administration of instruments, data analysis plan, and ethical consideration.

1.14. 3.1. Research Design

This study employed a Survey, Descriptive and Ex-post Facto research design in which we surveyed, observed and described the characteristics of the population involved, the activities of the project leading to its products. It answered the what, where, when and how questions of the project without manipulating the variables. This may be useful in exploring new areas and understanding existing situations for further research.

Approaches

The both quantitative and qualitative approaches were used to provide a logical structure and a comprehensive understanding of the interplay among learners, teachers, parents and supervisory chains perception of the MINESEC DEC resource quality, beneficiaries' satisfaction and project expected outcomes leading to pedagogic continuity. These approaches were selected based the fact that information collected using only one approach may be limited and partial hence unreliable.

Method

The mixed method used was supported by observations which allowed for a wide variety of information to be collected through questionnaires, interview guide and observation tools. The tools were practical and tangible steps carried out to collect a wider information. It explores statistical and experiences and the factual aspects of the project. These processes enabled the triangulation of the results. Consequently, the production, dissemination strategies and beneficiaries' satisfaction geared at ensuring resilience in pedagogic continuity was being evaluated.

1.15. 3.2. Area of Study

The study Evaluation of MINESEC DEC Resource in maintaining Pedagogic Continuity is carried out in the MINESEC DEC in Yaoundé the capital city of Cameroon. The Centre is located between Carrefour EMIA and ENS (Ecole Normale Superieure) de Yaoundé opposite the back entrance into Government Bilingual Practicing High School (GBPHS) Yaoundé, in the Mfoundi Division, in the Centre Region. The Centre was created in the year 2020 to prepare and digitalise video lessons for secondary school learners in Cameroon. This is aimed at better combating learning disruption caused by COVID 19 as well as any subsequent similar challenges. Hence, the study is based on the evaluation of Distance Education Resource in MINESEC DEC in Cameroon to weigh its sustainability level.

1.16. 3.3. Population of the Study

The target population for this study is distance education stakeholders within the Mfoundi Division in the Centre Region of Cameroon. These include seven educational supervisors in MINESEC DEC, all general secondary schools in the seven subdivisions of Mfoundi, Teacher, administrators and learners.

Table 9 shows the target population of beneficiaries from all the 29 general schools in Mfoundi made up of 4,319 teachers and 85,353 students giving the sum of 89,672 beneficiaries. The accessible population is one school each drawn from the seven sub divisions, one among those aware and using MINESEC Distance Education Centre video lessons. These made a total of seven schools in the Division. It summed up to 1468 teachers and 28180 students making 29.648 from which the samples of 156 and 226 respectively were drawn making a sample of 382. Borrowing the Goal free theory of Scriven (1970) which encourages the collection of supportive elements during data collection the number of Pedagogic Supervisors was added to the population summing up to 389 sample. Hence, the number of instructional designers worked with is not included on the table.

Table 9: Population

SN.	Type of Population	Number
1.	Target	89.672
2.	Accessible	29.648
3.	Sample	382

Source: Researcher's Findings 2024

Table 10: Accessible Population of the Study

No.	Name of schools	Number of Teachers	Number of Students
1.	GBHS Emana	239	3618
2.	GHS Cite Verte	185	2224
3.	GBPHS (LBA) Yde	219	2986
4.	GBHS Ekounou	**270**	5571
5.	GHS Ngousou	168	3842
6.	GBHS Mendong	287	6719
7.	GHS Nkolbisong	100	3220
	Totals	**1468**	**28180**
	Grand Total		**29.648**

Source: Divisional Delegation of Secondary Education Mfoundi 2024

Table 11: Sample Size Population

No.	Name of schools	Teachers sample	Students sample
1.	GBHS Emana	27	31
2.	GHS Cite Verte	21	25
3.	GBPHS (LBA) Yde	25	28
4.	GBHS Ekounou	30	38
5.	GHS Ngousou	18	35
6.	GBHS Mendong	33	40
7.	GHS Nkolbisong	15	29
	Totals	**156**	**226**
	Grand Total		**382**

Source: Field Work 2024

1.17. 3.4. Sampling Technique

The purposive sampling technique used in this research is the technique in which only those who meet the required criteria are selected for the exercise. Hence, in this study only some of the institutions which meet the required conditions of having knowledge about MINESEC DEC video lessons platform, and are using it are shortlisted for the exercise. The purposive sampling technique was most appropriate techniques used for case study. This technique helped in ensuring that the data was trustworthy and relevant to this study.

Inclusion Criteria

In both the quantitative and the qualitative components, a purposive sampling technique is adopted to identify information-rich cases and ensure the inclusion of focused but diverse perspective. Respondents are selected based on their experiences, roles, and potentials to provide valuable insights into the research questions. Within each selected institution, a proportionate discriminative sampling approach is utilised to include participants who are educators, administrators and the students' populations from one selected school within each sub division in Mfoundi Division.

Following the purposive sampling technique used only Teachers and students who admitted that they have knowledge or access to Distance Education video lessons were included among respondents. Teachers who are interested in distance education and must have attempted using the facility were included. Students who admire and anticipating using the distance education to facilitate their academic progression took part in the exercise. In the process some teachers disclosed that because of scarcity of media material and skills they have given up struggling to implement DE in their carrier. Some said; the disgrace they endured when they were sent back from the seminar because their school had not paid the minimum package has caused them to become passive and resistant to change against the innovation in MINESEC DEC resources. Those who are negative and express any type of bias are not included not included among respondents.

1.18. 3.5. Instrumentation

The following instruments were used to collect data

1. Questionnaires
2. Interview guide
3. Observations
4. Ex-post-facto

The instruments used for data collection are questionnaires, interview schedule, observations guide. In addition, an ex-post-facto design was applied; the MINESEC DEC video lessons platform was visited several times to view how many lessons are produced so far and how many beneficiaries are viewing them. These are used to triangulate the results of the findings, thereby ensuring the validity and reliability of the study.

3.5.1. Quantitative Data Collection Tool Questionnaire

The quantitative component involves numerical values data collection. The instrument used is the questionnaires to collect information related to beneficiaries' perception of MINESEC DEC video lessons resources, dissemination strategies, and product accessibility. The tools used for teacher and students include a combination of Likert-scale items, multiple-choice questionnaires and semi open-ended prompts to gather varied data to guarantee validity. This approach enables the examination of relationships among variables, the identification of gaps in the study, and the generalisation of findings to the broader population. Complementing the quantitative component, the qualitative aspect employs a phenomenological approach.

3.5.2. Qualitative Data Collection through Multiple Methods

The use of open-ended questions for interviews guide and observational techniques tool to gain deeper insights into the lived experiences, perceptions, and contexts of the various stakeholders involved in distance education programmes. This approach allows for the exploration of subjective experiences, cultural nuances, and unique challenges faced by participants, providing rich and context-specific understanding of the problem in alignment with CRE, our third theory.

3.5.3. Interview

Brief Interviews: interviews are conducted with distance education teachers, administrators, and community members to explore their experiences, perspectives, and insights related to the research questions. Interviews are also carried out with teachers and students during field trips to

administer questionnaires to the same population. The number of those interviewed is generally fewer because it is a time-consuming exercise.

3.5.4. Observations

Observations are effected in the Centre during internship; the reception and the screening of lesson and the process right to the studio are observed. The platform is also observed, the various classes visited during field visits, learners and teachers' attitude and response to technology issues are also followed up.

3.5.5. Platform Accessibility Observation

For the qualitative and observational components, data collection is continued until theoretical saturation is achieved, wherein no new significant insights emerge from additional data collection. Hence, all the 17 technological instructional designers at the MINESEC DEC are targeted.

3.5.6. Ex-post-facto

Relevant documents, such as, platform information like Tips on how to use the MINESEC DEC distance learning site found online, course materials, and program evaluation reports, are analysed to supplement the data obtained from other sources.

The integration of these three approaches facilitates the triangulation of data, enhancing the validity and reliability of the findings. The quantitative data provide objective measurements and statistical analyses, while the qualitative data provide detailed explanations, nuances perspectives, and contextual understanding. Observation and the Ex-post facto tool findings provide factual information. Several instruments were purposefully used in order to ensure validity and reliability.

1.19. 3.6. Validity and Reliability of Instruments

This section describes the procedures that were used in ensuring that the instruments were appropriate for the study. The validity of the instruments used for this study was determined through content validity as follows;

Test Re-test

Prior to the administration of the instrument a test Re-test which measures the stability of the test over time was carried out with 15 students and 8 teachers. The instruments were used with 15 students and 8 teachers to verify validity and ensure appropriate language. The results obtained from the answers helped to evaluate the relevance of each item in the instruments to the objectives of the study. It was proved that the language used was easily understood and few corrections were made. The results showed that12/15 students and 7/8 teachers disagreed with efficacy pedagogical continuity. The overall results were indicative of the persistence of the problem of weak resilience in pedagogical continuity.

Content Validity

In order to achieve content validity for the study, questions were carefully chosen, and were designed to address the objectives of this study. Validity of the instruments was obtained by presenting the draft to the professionals in the Department and the Supervisor of the research. The expert, my Supervisor reviewed the items on the instruments and provided feedback. The feedback indicated that the instruments were relevant and comprehensive to investigate all aspects relating to MINESEC Distance Education Resource.

3.6.1. Face Validity

In the same vein, the instruments were conducted following the format prescribed APA and checking other recent works. Finally, the last product was presented to my supervisors for further corrections which were effected and maintained.

3.6.2. Reliability of the Instruments

Reliability of the instruments was done after establishing the validity of the instruments. This was done using a test-retest procedure where respondents who were tested at different times using the same instrument got the same result. The synchronous reliability which measures the consistency of results of same items of the same construct at the same time using different instruments was also carried out. Test-retest reliability was also used because the respondents were available.

3.7. Data Analysis Techniques

In this study, the quantitative data statistical analyses were performed using the appropriate software Statistical Package for the Social Sciences (SPSS). Descriptive statistic, such as means,

standard deviations, and frequencies, are calculated to summarise the characteristics of the sample and provide an overview of the data.

Qualitative data are analysed using thematic analysis techniques, aided by qualitative data analysis. The analysis process involves familiarisation with the data, initial coding, identification of recurring themes and patterns, and the development of a thematic framework. Constant comparative methods are employed to identify similarities, differences, and relationships within and across the various data sources. Interpretative approaches, such as phenomenological analysis and discourse analysis, is utilised to capture the essence of participants' lived experiences and the underlying meanings and contexts associated with the research phenomena.

The integration of quantitative and qualitative data achieved through a convergent parallel mixed-methods design, wherein the results from both components are merged, compared, and synthesised to provide a comprehensive understanding of the research questions and to generate actionable recommendations.

1.20. 3.8. Ethical Considerations

Informed consent is obtained from all participants, ensuring that they understand the purpose, procedures, potential risks, and benefits of the study. Respondents have the right to withdraw from the study at any time without consequences knowing that the information they provided serves only for the realisation of the study and nothing else. Confidentiality and anonymity of participants is strictly maintained by assigning coded identifiers and removing any identifying information from the data. All data is securely stored and accessed only by authorised researchers.

Potential risks to participants, such as psychological discomfort or breach of confidentiality, are minimised through careful study design, rigorous data protection measures. Ethical approval is sought from the relevant institutions and local administration before commencing data collection. By adhering to these ethical considerations, the study ensures the protection of participants' rights, the maintenance of ethical standards, and the generation of trustworthy and socially responsible research findings.

CHAPTER FOUR

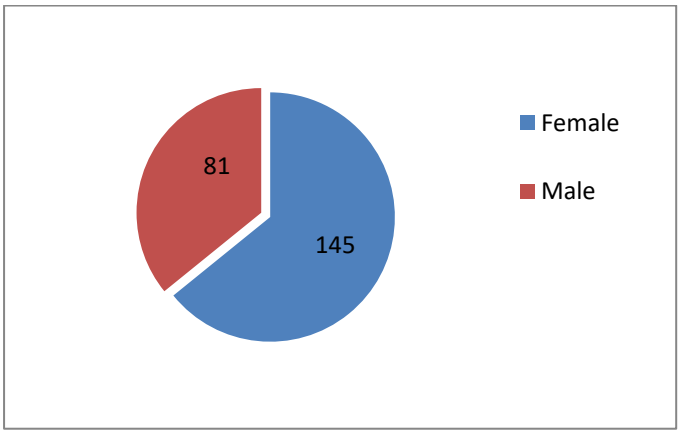
PRESENTATION OF FINDINGS

This chapter presents a detailed descriptive and interpretative analysis of the findings from demographic information on teachers/parents and students. Data collected through various instruments such as questionnaires, interviews, observations and ex-post factor are presented in tables and described in two sections for teacher and students. The students section does not include observations.

1.21. 4.1. Teachers' Analyses

The teachers' section displays demographic information and four key evaluation tables related to the MINESEC DEC platform and its video lessons. The tables assess various dimensions, such as quality of digital resources, beneficiaries' satisfaction, the effectiveness of project processes against expected outcomes, and pedagogic continuity. The analyses aim at illuminating critical insights into the strengths and weaknesses of the video lessons, highlighting areas for potential improvement. The results provide a comprehensive understanding of the current DE and guide future enhancements to better meet the needs of the beneficiaries and stakeholders alike.

Figure 4: Gender Demographic Information

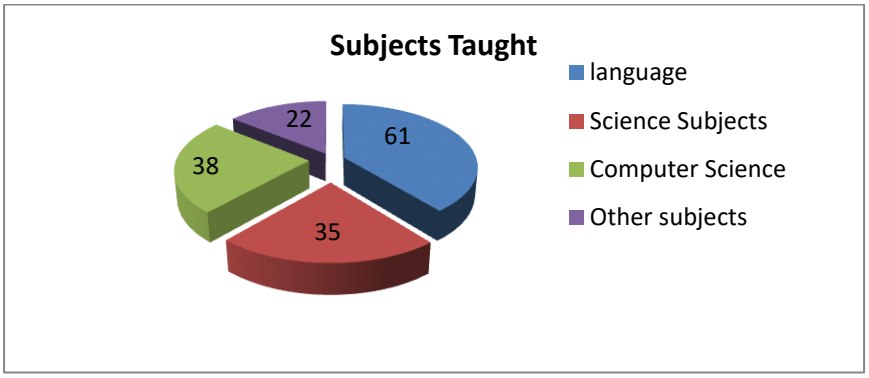


Source: Field Work 2024

The results of figure 4 demographic analysis reveals that the study sample consisted of 156 participants, with a notable gender distribution showing female dominance at 63.46% (99/156 participants) compared to 36.54% (57/156 participants) male respondents. The female dominance

may be due to the fact that there are generally more female teachers in many schools than men. It is also observed that by nature the female folk are more compassionate towards children thereby leading to more vocation into the teaching profession.

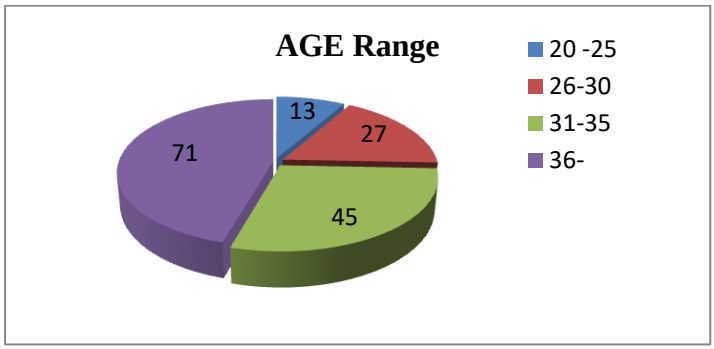
Figure 5: Subjects Taught (Persons involved in teaching)



Source: Field Work 2024

Figure 5 results in terms of subject specialisation, Language teachers represented the largest group at39.1% (61/156 participants), followed by Other Subjects at 24.4% (38/156 participants), Science Subjects at 22.4% (35/156 participants), and Computer Sciences at 14.1% (22/156 participants). These results showing language teachers the majority reflects the reality of the Cameroon system of Education where the official languages are English and French. It is these dual languages used for administration and study that inflates the number of language of teachers. Also, the fact that learners from all disciplines must study language which is the only means of communication is one of the main causes the language teachers' dominance in the results.

Figure 6: Age distribution analysis



Source: Field Work 2024

The results of figure 6 age distribution analysis show that the majority of participants were 36years or older, comprising 45.5% (71/156 participants) of the sample. The 31-35 age group represented 28.8% (45/ 156 participants), while 26-30 years accounted for 17.3% (27/156 participants), and the youngest group of 20-25 years made up 8.3% (13/156 participants). The results show the highest age group at 36 and above suggest that many learners in Cameroon after secondary or high school break to look for fees or study further to become a teacher or spent time to gain employment hence, this may be suggested to be responsible for the pre dominance of the later age among teachers. This may be a disadvantage in the teaching field as must elderly people reluctant or ignorant in digitalised learning innovation.

Table 12: Reliability Statistics

Alpha de Cronbach	Number of elements
0,764	14

Source: Field Work

Table 12 shows the reliability of the instruments using Alpha de Cronbach counting above seven which is a positive reading. This is because the rules of sampling were respected as could be seen in chapter three.

Table 13: Evaluation of the Quality of Produced and Digitalised Resources

Items	N	SD	D	A	SA	Mean	Std. Dev.
Q5. The MINESEC video lessons align with curriculum standards.	156	4 2.6%	9 5.7%	75 48.1%	68 43.6%	3.33	0.702
Q6. The content quality of video lessons is satisfactory in terms of relevance.	156	7 4.5%	12 7.7%	91 58.3%	46 29.5%	3.13	0.734
Q7. The MINESEC video lessons content are well structured ensuring quality presentation.	156	4 2.6%	15 9.6%	102 65.4%	35 22.4%	3.08	0.648
Q8. The platform is adequately responsive to the needs of beneficiaries.	156	33 21.2%	78 50.0%	27 17.3%	18 11.5%	2.19	0.902
Total		**30.9%**	**73.1%**	**188.9%**	**107%**	**11.73**	**2.986**
Average		**7.7%**	**18.3%**	**47.2%**	**26.8%**	**2.9**	**0.747**
Combined Average		**26%**		**74%**		**2.9**	**0.747**

Source: Field Work **2024**

Table 13 evaluates the quality of the resources produced and digitalised for the MINESEC platform. A high average percentage of respondents (47.2%) agrees and 26.8% strongly agrees in a combined total average of 115/156 (74%) that MINESEC DEC products meet the quality standards: aligning with the curriculum, content relevance and the structure. The total average of only 40/156 (26 %) disagrees or strongly disagrees. This produced the mean of score of 2.9/4 and the standard deviation of 0.747. Nevertheless, question 8 out of the cluster of sub variables of table 1, the combined total of 71.2% of respondents (111/156) indicated dissatisfaction, with 21.2% strongly disagreeing and 50.0% disagreeing that the platform meets their needs adequately. The high percentage of dissatisfaction and low mean score indicate a critical area for improvement. The overall, responses suggest a generally positive evaluation of quality resources, particularly in alignment with curriculum standards and content quality relevance, though there is a notable concern regarding the platform's responsiveness. The high-quality results are realised by the strict observation of quality measures implemented by all stakeholders.

The interview with pedagogic supervisors reveal that MINESEC DEC respects prescriptions for quality production from MINESEC on digitalised lessons production which ties with the standard practice around the world such as Richard Meyers 12 principles of multimedia learning. They closely respect these principle and excerpts of some key portions can be read on several screen to guide the teachers during lesson preparation.

Observations prove that the quality of MINESEC DEC resources cannot be doubted given that tasks are assigned to personnel according to their area of specialisation. Also, production rules like one slit must not exceed six lines, one lesson is maintained between 25-30 minutes, Richard Mayer’s 12 principles of multimedia instruction in lessons presentation, simulation, lessons preparation, and presentation steps are strictly respected. All stakeholders such as UNESCO, UNICEF and EVO SOLUTION bring inputs and offer resources like 1500 tablets by EVO SOLUTION and 5000 From UNESCO. However, the number of Staff is observed to be very few compared to the work load. Nevertheless, they work very hard despite the tight working conditions. They work sometimes late into the night even on Saturdays. It is also observed that teachers who come to deliver lessons many may withdraw because of inadequate allowances to allow them work efficiently.

Table 14: Evaluation of Beneficiaries Satisfaction

Items	N	SD	D	A	SA	Mean	Std. Dev.
Q9. I have participated in an interactive class on the MINESEC platform lessons.	156	51 32.7%	52 35.3%	32 20.5%	18 11.5%	2.11	0.994
Q10. Teachers are efficiently participating in professional development using distance education tools to transfer the skills to their learners.	156	37 23.7%	49 31.4%	47 30.1%	23 14.7%	2.36	1.003
Q11. Accessibility to the platform is satisfactory.	156	35 22.4%	75 48.1%	34 21.8%	12 7.7%	2.15	0.856
Q12. The lessons taught on the platform integrate Competency Based Approach (CBA).	156	18 11.5%	38 24.4%	60 38.5%	40 25.6%	2.78	0.959
Total	**156**	**90.3%**	**139.2%**	**110.9%**	**59.7%**	**9.4**	**3.812**
Average	**156**	**22.6%**	**34.8%**	**27.7%**	**14.9%**	**2.35**	**0.953**
Combined Average	**156**	**57.4%**		**42.6%**		**2.35**	**0.953**

Source: Field Work 2024

Table 14 measures the satisfaction of beneficiaries. The results show relatively low levels of strong agreement and agreement across all questions except question 12 confirming lessons taught on the platform integrate Competency Based Approach (CBA) with a high score of 100/156 (64.1**%**). The overall results prove that 22.6**%** respondents strongly disagree and 34.8% disagree making the total of 57.4% that beneficiaries are satisfied with MINESEC DEC platform video lessons. Only 42.6% agree or strongly agree that beneficiaries are satisfied with the resources. These results in an average mean of 2.35/4 and the average standard deviation 0. 953.These findings indicate that users are not fully satisfied with the platform's interactivity, teachers' professional development in the domain and accessibility issues.

The interview proves several constraints which account for beneficiaries' dissatisfaction with MINESEC DEC platform video lessons. These include 54/127 respondents interviewed who indicate limited training and skills required in managing technology to access the platform, 55/127 interviewed say irregular network availability both at home and in schools is a problem, 91/127 point out limited access to media materials, 15/127 highlight limited number of lessons found online, 41/127 lament the cost of data to access the network is high, 16/127 complain of

irregular power supply, 7/127 state that students show more interest in images and neglect the lesson proper, 5/127 complain that cost of down loading is high. There is a lot of distraction during the lessons. The large size of the classrooms does not encourage the implementation of the digitalised lessons, 24/127 reveal that classrooms are not adapted to digitalised learning (no sockets, no wifi, no materials), 17/127 talk of saturated network (slow access slow down loading), 14/127 remark that students struggle to get use to different articulations causing low interest and distractions, 5/127 are of the opinion that lessons on the platform are highly summarised, 7/127 talk of accessibility procedure into the platform being long and cumbersome, 5/127 mention low interest level from learners and parents in using video lessons, 9/127 note poor interaction between teacher and learners, 7/127 point out that the level of understanding of various learners not respected, 10/127 say questions asked are answered so fast that learners still do not understand and 19/127 reveal that students get confused after watching video lessons, they struggle between what is said and what is written.

Seeking to know what teachers would suggest towards realising a successful digitalisation system in Cameroon secondary schools: they pointed out that the stakeholders should start by; insuring network in schools and homes, improve infrastructural facilities in schools, provide free connection for teachers and students, subsidies media materials for students and teachers, give adequate training skills to teachers and students on accessing MINESEC video lessons, and make the participation in digital lesson available for all learners.

Observations and ex-post facto on beneficiaries' satisfaction showed that video lessons are published in platform and YouTube, 6179 tablets and 1000 radios were distributed in the 10 regions in 2020. Indirect follow up is done through the National Pedagogic Inspectors (NPI) and they do give feedback to DEC. The cumulative number of those who access the platform is on the upward trend 2.000.015 by 2024, including 283 learner viewers only. Life Video Lessons Revision was facilitated in 2023. Feedback available recorded the total number of viewers **1.051** from 5 major towns with the highest from Yaoundé **683**, Douala **227**, Bertuoa**129**, Buea **12** and Bamenda 10, the least.

Table 15: Measurement of Project Process against Expected Outcomes

Items	N	SD	D	A	SA	Mean	Std.Dev
Q13. I have taught learners in my classes to access the platform.	156	44 28.2%	54 34.6%	42 26.9%	16 10.3%	2.19	0.965
Q14. Students' engagement in video lessons is leading to higher completion rate.	156	40 25.6%	62 39.7%	38 24.4%	16 10.3%	2.19	0.938
Q15. The computer lab has good computers.	153	39 25.5%	51 33.3%	36 23.5%	27 17.6%	2.33	1.045
Total		**79.3%**	**107.6%**	**74.8%**	**38.2%**	**6.71**	**2.948**
Average		**26.4%**	**35.9%**	**24.9%**	**12.7%**	**2.2**	**0.983**
Combined Average		**62.3%**		**37.6%**		**2.2**	**0.983**

Source: Field Work **2024**

Table 15 assesses the project process against expected outcomes using three questions addressed to 156 respondents. The level of disagreement is high in all the questions while agreement is low. The high combined total average of agreement is 97/156 (62.3%) with **26.4% who** strongly disagree and 35.9% disagree with MINESEC DEC platform video lessons meeting expected output against the minority of the total combined average of 58/156 (37.6%): 24.9% agree and 12.7% strongly agree who concur. These culminate to the average mean 2.2/4 and standard deviation 0. 983.The results suggest that the project is not yet meeting its goals in terms of improving learning outcomes. This is because the quality lessons are available on the platform but cost, skills, media materials and sensitisation for beneficiaries to actually engage is proving weak.

The Interview with the Pedagogic Supervisors to investigate what the current challenges in meeting the expected outcomes, reveal that time/material factors and funds which are responsible for the maximisation of the quality and quantity production are insufficient. Storage facilities for varied lessons produced are limited. They suffer limited resources to sell the Centre and its resources. They also lack adequate means to measure the impact of our resources. Another setback is the reluctance of some actors such as teachers and school heads to implement distance education in their schools. They need more efforts to realise their objectives. On seeking to find out what strategies could be put in place to address the situation educational technologists hold

that voluntary services and donations from local, external population or partners, individuals and groups or associations are encouraged.

Sourcing from ex-post facto; in 2023 records on the platform DEC loaded some Lessons on the hard drives (HD) brought from some Schools from the National Territory**.** The monthly records of the exercise registered the maximum of 70 hard drives in January and the least 1 in August with the exception of July with null record. The rest of the months served 3x3, 7, 8, 17, 18, 23 and 35, the sum of 188 HDs in 2023. It was also observed that some subjects recorded very few or no lessons on the platform within form 1-5. These include philosophy 0, literature 1, only 10 lessons for form 5, Economics 13 and 19 lessons, for form 4 and 5 respectively, French 9, 20 and 10 for form 2, 4 and 5 respectively, English language 4, 9, 5, 6 and 7 for form 1-5 respectively Physics 20 and 20 for form 1and 3 respectively, for the rest of the classes null. The maximum number of lessons 29 came from Form 4 Logic subject and the minimum 1in Physical Education/Sport and Manual Labour. The total number of lessons completely absent from different classes was 30 and the total number available lessons for each class was: form 1 with the highest total 137 lessons from 11/17 subjects, Form 3, 125 lessons from 10/17 subjects, Form 5, 123 lessons from 15/17 subjects, form 4, 122 lessons from 11/17 subjects and form 2, the lowest with 106 lessons from 10/17 subjects. These summed up to the total of 613 lessons for first and second cycles general schools. The ex-post facto also revealed that counting of visitors in the platform is indiscriminate.

Table 16: Measuring Pedagogic Continuity

Question	N	SD	D	A	SA	Mean	Std.Dev
Q16. The MINESEC video lessons greatly improved learning continuity during crises that there would be no fear of learning disruptions in any future crisis in Cameroon again.	156	36 23.1%	65 41.7%	35 22.4%	20 12.8%	2.25	0.955
Q17. The MINESEC video lessons feedback systems are efficient between learners and teachers.	156	42 26.9%	58 37.2%	44 28.2%	11 7.1%	2.16	0.905
Q18. Learners are encouraged to bring phones to class in order to learn the skills to use them in order to ensure continuity.	156	101 64.7%	40 25.6%	8 5.1%	7 4.5%	1.49	0.791
Total		**114.7%**	**104.5%**	**55.7%**	**24.4%**	**5.9**	**2.651**
Average		**38.2%**	**34.8%**	**18.6%**	**8.1%**	**2.0**	**0.884**
Combined Average	**156**	**73%**		**26.7%**		**2.0**	**0.884**

Source: Field Work 2024

Table 16 focuses on pedagogical continuity interrogating 156 respondents to assess the level of resilience MINESEC DEC platform resources have secured so far. Unfortunately, the greatest majority about 114/156 (73%) respondents 38.2% strongly disagree and 26.7% disagree to pedagogical continuity guaranteeing Cameroon secondary education. Conversely, the minimal respondents 41/156 (26.7%) with (18.6% strongly agree and 8.1% agree) to the guarantee of pedagogical continuity in Cameroon. This ends with the average mean of 2.0/4 and the standard deviation 0.884. These results suggest that a key aspect of the project's strategy for maintaining learning during disruptions such as significant concerns regarding the efficacy of pedagogic continuity, feedback systems and the encouragement of technology use in classroom is not being implemented effectively.

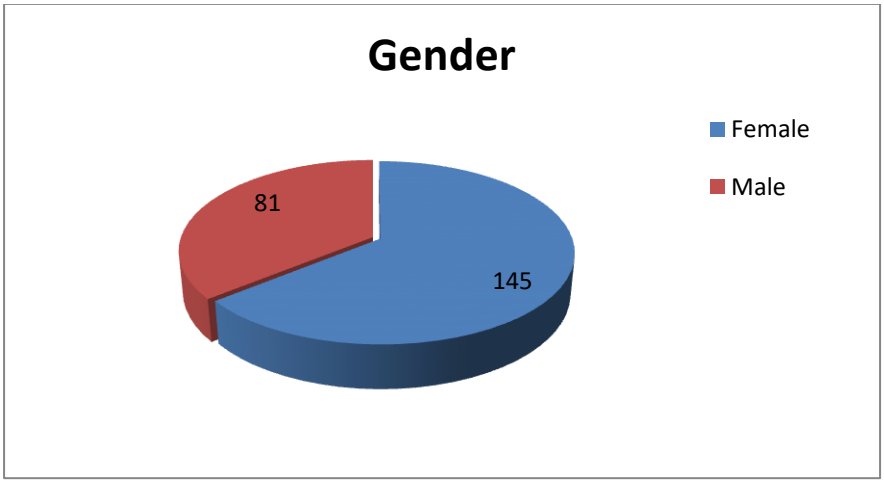
The results from the four tables reveal concerns regarding the quality and effectiveness of the MINESEC DEC platform video lessons. While a statistically significant portion of respondents in a total average 139/156 (89.1%) acknowledge that the video lessons align with curriculum standards, content quality of video lessons is satisfactory in terms of relevance and structure ensuring quality presentation, 100/156 (64.1%) concur lessons taught on the platform integrate Competency Based Approach (CBA). On the contrary, 111/156 (67.3%) express dissatisfaction with the platform's responsiveness. In terms of beneficiaries' satisfaction, (57.4%) respondents strongly disagree or disagree that beneficiaries are fully satisfied with the platform resources against 42.6% who strongly agree or agree resulting in an average mean of 2.35/4 and the average standard deviation 0.953. Concerning the project process against expected outcomes, all the three questions strongly disagree or disagree with a statistically significant respondent 97/156 (62.3%) against 58/156 (37.6%) who strongly agree or agree that the project is meeting its goals in terms of improving learning outcomes with mean 2.2 and standard deviation 0.983. with respect to maintaining learning during disruptions 114/156 (73%) respondents strongly disagree or disagree to pedagogical continuity being guaranteed in within the Cameroonian context. Conversely, the minority 41/156 (26.7%) strongly agree or agree the effectiveness of pedagogical continuity. These results in the average mean of 2.0 and the standard deviation 0.884**.** Collectively, these findings indicate a critical need for improvements in interactivity, accessibility, and overall support to enhance the learning experience on the MINESEC platform.

It was also noticed that dissemination and facilitation strategies were limited. There was also disparity noticed in the number of lessons produced presented in French 4,351 and those in English 2,323 in Regional representation. These figures were drawn from the platform showing all the secondary schools levels and from both technical and general education in both systems.

1.22. 4.2. Students' Analyses

This section provides a comprehensive analysis of a set of pie charts highlighting demographic information of respondents and two sets of tables evaluating the MINESEC platform, focusing on accessibility, usability, user engagement, and support systems as perceived by learner beneficiaries. The first set of tables examines the platform's accessibility and pedagogical practices, highlighting respondents' experiences with accessing video lessons, the integration of technology in teaching, and the perceived impact on academic performance. Through a detailed look at these dimensions, the analysis aims to uncover both the strengths and weaknesses of the platform in facilitating effective learning experiences. The second set of tables examines user engagement metrics, including the frequency of platform use, awareness of support resources such as the help line, and the types of devices utilised by learners. This dual approach seeks to elucidate critical areas where the platform succeeds, such as the degree of technology integration, while also identifying significant barriers to effective engagement and support. By synthesising these insights, the analyses aim to impact potential enhancements to the MINESEC platform, ultimately striving to create a more inclusive and effective educational environment for all users.

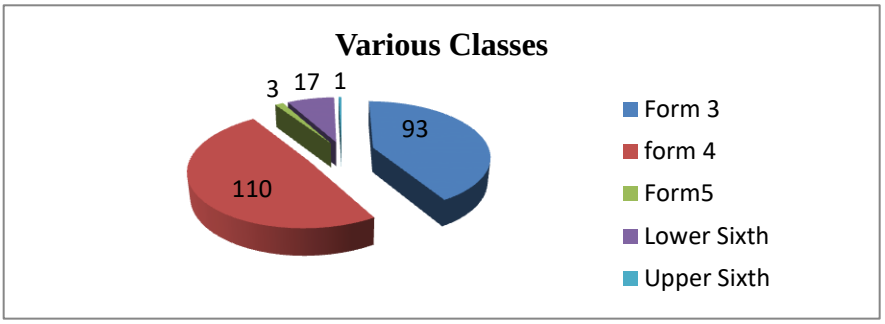
Figure 7: Student Gender



Source: Field Work 2024

Figure 7 results show that the majority of respondents 145/226 (64.2%) are female, while 81 /226 (35.8%) are male. This could be because it has been severally observed that there are more women than men in the teaching profession in many schools.

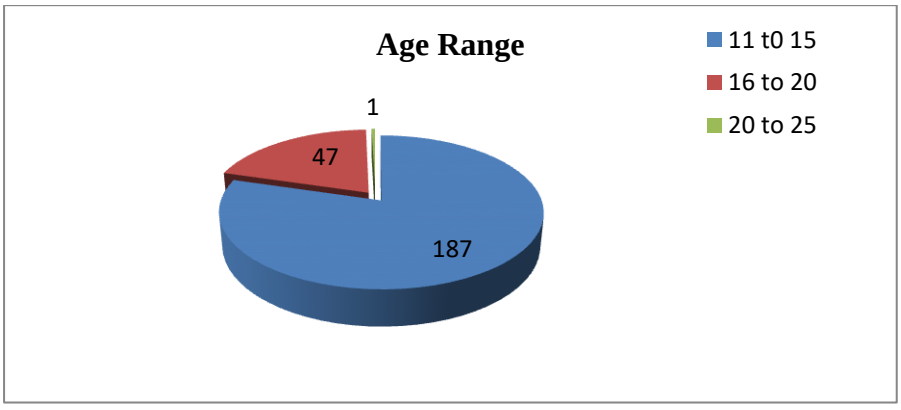
Figure 8: Various Classes



Source: Field Work 2024

Figure 8 results indicate that the majority of respondents are from Form 4, 110/226 (48.7%) and Form 3, 95/226 (42.0%), accounting for the total of 90.7% of the total sample. The remaining respondents are from Form 5 3/126 (1.3%), Lower Sixth 17/226 (7.5%), and Upper Sixth 1/226 (0.4%) constituting a total of 10%. Hence, this distribution suggests that the sample is predominantly composed of students from form three and four because examination classes are usually very busy and exempted from other activities.

Figure 9: Students Age Range



Source: Field Work 2024

Figure 9 results show that the majority of respondents 187/226 (78.7%) fall within age range 11-15 years, while 47/226 (20.9%) are between 16-20 years old. Only 1, (0.4%) of respondents is

between 21-25. This age distribution suggests that the sample is predominantly composed of early to early adolescents, who meet the secondary education age stipulated in Cameroon.

Table 17: Platform Accessibility (Questions 4-6)

Items	N	Strongly Disagree	Dis agree	Agree	Strongly Agree	Mean	Std. Dev.
Q4. I access MINESEC video lessons platform without any assistance.	224	81 35.8%	72 31.9%	37 16.4%	34 15.0%	2.24	2.257
Q5. I easily find the video lessons I plan to watch on the platform.	225	77 34.1%	47 20.8%	64 28.3%	37 16.4%	2.27	1.103
Q6. I download them easily when I need to review them.	225	87 38.5%	52 23.0%	41 18.1%	45 19.9%	2.20	1.156
Average	**674**	**36.09%**	**25.23%**	**20.94%**	**17.12%**	**2.24**	**1.505**
Total Average		**61.23%**		**38.06%**		**2.24**	**1.505**

Source: Field Work 2024

The results in table 17 question 4 indicate that a significant proportion of respondents 153/226 (68%) disagree or strongly disagree that they can access the MINESEC video lessons platform without any assistance against 41/226 31.4**%** who agree or strongly agree being able to access the platform independently. Results of question 5 indicate that a significant proportion of respondents 124/226 (55.1%) disagree or strongly disagree that they can easily find the video lessons they plan to watch on the platform while 86/226 (44.8%) of respondents (28.4% agree and 16.4% strongly agree) being able to easily find the video lessons they need. Question 6 indicate that a statistically significant proportion of respondents 139/226 (61.5%) disagree or strongly disagree that they can easily download lessons when they need to review them. against 86/226 38**%** who agree or strongly agree being able to download lessons. The total average percentage results in table 16 show that a significant majority of respondents 140 (62%) disagree or strongly disagree that accessibility to the MINESEC video lessons in the platform is satisfactory. Contrarily, a minority of respondents 87 (38.06%) agree or strongly agree that access into the platform is easy. This gives the total average percentage mean of 2.24/4 and the standard deviation 1. 505.These poor of results concerning accessibility are due weak skill transfer to teachers and consequently to the learners. There is also the insufficiency of media materials, limited number of lessons in the platform as revealed by the interviews and the ex-post factor design used.

The interview with educational technologists on accessibility into the platform is facilitated through publishing lessons not only in the MINESEC DEC platform but also made available on YouTube, saved in hard disk USB keys and can be saved on a host of other devices. Seventy-four learners were questioned and they revealed the lack of data to access internet.

Table 18: Platform Usability in Pedagogical Practices (Questions 7-8)

Items	N	Strongly Disagree	Dis agree	Agree	Strongly Agree	Mean	Std. Dev.
Q7. Teachers teach us to use our phones or computers to access video lessons on MINESEC platform.	226	95 42.0%	62 27.4%	39 17.3%	30 13.3%	2.02	1.062
Q8. Teachers give us assignments that require accessing video lessons on MINESEC platform to complete.	226	66 29.2%	63 27.9%	47 20.8%	50 22.1%	2.36	1.123
Average		**35.66%**	**27.65%**	**19.03%**	**17.66%**	**2.19**	**1.093**
Total Average		**63.31%**		**36.69%**		**2.19**	**1.093**

Source: Field Work 2024

The results in table 18 question 7 shows that the majority 157/226 (69.5%) of respondents (42.0% strongly disagree and 27.4% disagree) do not regularly use video lessons on the MINESEC platform in class with their teachers on one hand. On the other hand, a total of 69/226 (30.6%) of respondents (17.3% agree and 13.3% strongly agree) using video lessons on the MINESEC platform in class with their teachers. The results of question 8 prove that 129/226 (57.1%) of respondents (29.2% strongly disagree and 27.9% disagree) do not regularly receive assignments that require access to video lessons on the MINESEC platform. However, 97/226 (42.9%) of respondents (20.8% agree and 22.1% strongly agree) receiving assignments that require access to video lessons on the MINESEC platform. The results in table 17 indicate the total average percentage of the statistically significant number of respondents 143/226 (63.31%) disagree or strongly disagree the platform meets its usability needs while the total average of 82/226 (36.69%) minority agree or strongly agree that the platform meets its usability needs and pedagogical practices. This gives the average mean 2.19 /4 and the standard deviation 1.093. The causes of the poor results revolve around the same issues weak skills transfer and the absence of limited media materials.

Table 19: Lesson Presentation: Questions 9-11

Items	N	Strongly Disagree	Disagree	Agree	Strongly Agree	Mean	Std. Dev.
Q9. Teachers use things I know to give examples during platform courses.	226	69 30.5%	43 19.0%	77 34.1%	37 16.4%	2.36	1.084
Q10. It is easy to ask and answer questions on the platform as in the classroom.	226	64 28.3%	67 29.6%	51 22.6%	44 19.5%	2.33	1.088
Q11. Thanks to using video lessons on MINESEC platform, my performance has improved.	226	83 36.7%	49 21.7%	44 19.5%	50 22.1%	2.27	1.175
Average		**31.87%**	**23.47%**	**25.37%**	**19.34%**	**2.32**	**1.116**
Total Average		**55.34**%		44.71%		**2.32**	**1.116**

Source: Field Work 2024

The results in table 19 question 9 show that 112/226 (49.6%), of respondents (30.5% strongly disagree and 19.0% disagree) that teachers use relevant examples during lessons on the platform on one hand. On the other hand, 114/22 (50.5%) of respondents (34.1% agree and 16.4% strongly agree) that teachers use relevant examples during lessons on the platform. The results of question 10 show that the majority of 131/226 (58.0%) of respondents (28.3% strongly disagree and 29.6% disagree) it is easy to ask and answer questions on the platform, similar to a classroom setting. Conversely, the minority 95/226 (42.0%) of respondents (22.6% agree and 19.5% strongly agree) concurred it is easy asking and answering questions on the platform. The results of question 11 show 132/226 (58.4%) of respondents (36.7% strongly disagree and 21.7% disagree) that their performance has improved due to the use of video lessons on the MINESEC platform. On the contrary, 94/226 (41.6%) of respondents (19.5% agree and 22.1% strongly agree) that their performance has improved thanks to the use of video lessons on the platform.

The total average results in table 17 shows that 125/226 (55.34%) of respondents strongly disagree and or disagree that presentation of lessons on the MINESEC platform attains efficiency. On the reverse 101/226 (44.71%) of respondents strongly agree or agree presentation of lessons on the MINESEC platform attains efficiency. Despite the dissatisfaction the majority 114/226 (50.5%) respondents strongly agree or agree teachers use things they know to give examples during platform courses. Summarily, this gives the total average mean of 2.32/4 and

standard deviation1.175. This occurs mostly because learners have not been adequately orientated.

The interview with educational technologist highlighted that direct interaction is limited to three periods of the year during live presentation which come up during Christmas, Easter and revision periods towards promotion examinations. The sixth question on assessing the learners understanding reveal that at the end of each lesson an assignment is given and it is corrected before the next class begins. This permits the students to auto check if they were right or not and correction is taken. This shows limited effective interaction between the teacher and the learner compared to a face to face classroom interaction where the teacher actually checks the learners book. Also, the question on the assessment of students' skill acquisition in video lessons takes a delayed relay pattern in which Feedback is gotten through pedagogic inspectors who visit the field and come into direct contact with the teachers.

During interview 16/25 respondents from different schools said they do not know about MINESEC DEC video lessons. During interview some students suggested that parents and educational stake holders could provide them with phones, data, skills and time to enable them work.

Table 20: Help Line (Question 12)

No.	Items	No.	Percentage
1.	Several times	15	6.6%
2.	Once	18	8.0%
3.	Never	59	26.1%
4.	I did not know it existed	134	59.3%
	Total	**226**	**100%**

Source: Field Work 2024

The results in table 20 question 12 show that the majority of respondents 134/226 (59.3%) are not aware of the MINESEC helpline, while 59/226 (26.1%) have never called the helpline. Only 33/226 (14.6%) of respondents have called the helpline, with 15/226 (6.6%) calling many times and 18/226 (8.0%) calling once. These results suggest that the MINESEC helpline may not be

well-promoted or widely known among students, which could limit its effectiveness in providing support for students' study progression.

Table 21: Frequency of Platform Use (Question 13)

No.	Items	No.	Percentage
1	Daily	23	10.2%
2	Weekly	22	9.7%
4	Occasionally	49	21.7%
5	Not at all	130	57.5%
	Total	**224**	**100%**

Source: Field Work 2024

Results in table 21 question 13 show that the majority of respondents 130/226 (58.0%) do not use the video lessons on the MINESEC platform at all, while 49/226 (21.9%) use them occasionally. Only 23 (10.3%) of respondents use the video lessons daily, and 22 (9.8%) use them weekly. Responding to the major difficulties learners face in accessing MINESEC DEC platform to view video lessons respondents list the following: 21/27 contacted point out lack of skills, 20/35 allege that their parents forbid phone usage for them, 5/8 find digital learning time consuming, 4/7 learners interviewed say they do not understand, 8/10 complain about current inconsistency, 10/30 fear to become addicted to social media, 7/9 prefer traditional method,

Table 22: Devices Used (Question 14)

No.	Items	No.	Percentage
1	Smartphone	81	35.8%
2	Tablet	6	2.7%
3	Computer	15	6.6%
4	Laptop	10	4.4%
5	Desktop Computer	3	1.3%
6	Radio	15	6.6%
7	No device	96	42.5%
	Total	**226**	**100%**

Source: Field Work 2024

The results in table 22 question 14 shows that the majority of respondents 96/226 (42.5%) do not have access to a device to use the MINESEC platform, while 81/226 (35.8%): use a Smartphone. Other devices used to access the platform include tablet 6 (2.7%), computer 15 (6.6%), laptop 10 (4.4%), and desktop 3 (1.3%). Interestingly, 15 6.6% of respondents' report using a radio, which is not a typical device for accessing online video lessons. These results show that both parents and learners are not well enlightened about the importance of distance education.

In an interview with 96 students drawn from various schools in Mfoundi say they lack of media materials inhibit access to technology in general.

The findings from the evaluation of the MINESEC DEC video lessons in the platform reveal a dual narrative of successes and challenges that highlight critical areas for improvement. The general results prove that despite some successes recorded learners are not satisfied with the resources and do not adequately engage in exploiting the product notwithstanding good quality is affirmed by teachers. Basically, beneficiaries' satisfaction in using the lesson is evaluated through the following: platform accessibility, usability and presentation. In addition, the Helpline Service support, frequency of platform uses and the device used by respondents are also used to determine the degree of beneficiaries' satisfaction.

In a nutshell, the results showed that a significant majority of respondents 140/226 (62%) disagree that accessibility to the MINESEC video lessons in the platform is satisfactory against 87/226 (38.66%) who concur, with the mean 2.24 and standard deviation 1.505. Interviews show that access to the platform is limited You Tube and other secondary devices**.** Platform Usability in Pedagogical Practices indicate the average respondents 143/226 (63.31%) disagree the platform meets their usability needs while of 82/226 (36.69%) minority agree. These results to the averages mean 2.19 and the standard deviation 1.093. Beneficiaries satisfaction with presentation on the platform shows 125/226 (55.27%) of respondents disagree presentation attains efficiency, yielding the total average mean of 2.32/4 and standard deviation 1.175. However, despite the dissatisfaction the majority 114/226 (50.5%) respondents agree teachers use things they know to give examples during platform lessons.

Interview with educational technologist highlight that direct platform interaction is limited to three seasons of the year causing online direct skill assessment deficiency compared to a face to face classroom interaction. Respondents, 16/25 say they do not know about MINESEC DEC

video lessons and that their present awareness demands media material to get engaged. Inquiring about MINESEC DEC Help line the majority 134/226 (59.3%) reveal do not know about it, 59 have never called DEC Help line while only a total of 33 have attempted calling it. Regarding the frequency of the platform use; majority respondents 130/226 (57.5%) have never used at all whereas few others use daily, weekly and 49/226 (21.7%) occasionally. Majority express difficulties in accessing MINESEC DEC platform to view video lesson due to the following barriers: lack of skills, parents forbid the use of phone for their children, some find digital learning time consuming, some say they do not understand, others complain about energy inconsistency, fear to become addicted to the social media and others prefer the traditional method. A majority of respondents 96/226 (42.5%) do not have access to any device while 81/226 (35.8%): use smart-phones. The minority is spread among the use of tablet, computer, laptop, radio and desktop.

On the whole, the demographic analyses of the study's respondents highlight a distinct profile among students and teachers/parents. Among 156 (40.10%) teachers, 226 (58.10%) students and 7 (1.80%) pedagogic supervisors making the total of 389 respondents statistically significant majority are female. The predominant respondents' age range for teachers is 36 years (45.5%) or older, students 11 to 15 years (78.7%) and educational technologists 20-35 years 57.1%. The largest group of student respondents came from Form 4 (48.7%) and Form 3 (42.0%) Among diverse subjects taught Language is predominant 46/156 (29.5%) the rest are 35 and below.

In summary, a high average of teacher respondents 115/156 (74**%)** agree that DEC products meet the required quality with the exception of an outright dissatisfaction 111/156 (71.2%) respondents recorded against the platform responsiveness with regards to quality. The good quality results are further supported through interviews with educational technologists who reveal that DEC respects the principles of quality production. Observations also affirm the strict application of several rules to ensure quality. With respects to beneficiaries' satisfaction 100/156 (64.1%) agree lessons taught on the platform integrate CBA, on the contrary respondents in 3/4 questions disagree 90/156 (57.4%) that beneficiaries are satisfied with MINESEC DEC platform video lessons. Similarly, dissatisfaction is proved 97/156 (62.3%) respondents measuring project process against expected outcomes and 114/156 (73%) respondents disagree with pedagogic continuity being guaranteed. The interview shows several constraints which account for

beneficiaries' dissatisfaction with MINESEC DEC platform video lessons similar to those of the students. These among others are limited training and skills required in managing technology; access the platform, irregular network availability, limited access to media materials, and limited number of lessons online. Observations: video lessons are published on the platform and media materials were distributed in the 10 regions in 2020. Sourcing from interview challenges encountered among others are limited resources, the reluctance of some actors such as teachers and school heads to implement distance education in their schools and limited lessons on the platform / French 4,351 and those in English 2,323 disparity and to address the situation educational technologists hold that voluntary services and donations are encouraged.

The overall summary of students results show that a significant majority of respondents disagree that platform accessibility140/226 (62%), usability 143/226 (63.31%) and presentation 125/226 (55.27%) is satisfactory with the averages mean 2.25 and standard deviation 1.258. despite the dissatisfaction the majority 114/226 (50.5%) respondents agree teachers use things they know to give examples during platform lessons. Interview with educational technologists' highlight that direct platform interaction is limited to three seasons of the year causing online direct skill assessment deficiency compared to a face to face classroom interaction. Student respondents say they do not know about the following: MINESEC DEC video lessons 16/25 and MINESEC DEC Help line the majority 134/226 (59.3%) and that their present awareness demands media material to get engaged. Regarding the frequency of the platform use; majority respondents 130/226 (57.5%) have never used. Majority express difficulties in accessing MINESEC DEC platform to view video lessons due to the following barriers: lack of skills, parents forbid the use of phone for their children, some find digital learning time consuming, some said they do not understand, others complained about energy inconsistency, fear to become addicted to the social media and others prefer the traditional method. A majority of respondents 96/226 (42.5%) do not have access to any device while 81/226 (35.8%): use smart-phones.

Conclusion

The overall results of the study show that MINESEC DEC video lessons in the platform are of a high quality yet much is still left to be desired regarding platform responsiveness, beneficiaries' satisfaction, project process and expected outcomes and resilience in pedagogic continuity. Teachers affirm distance education stakeholders need to improvement on the project. Similarly,

according to students' platform accessibility, usability, presentation, frequency of the platform use and absence of media materials need further enhancement to attain its objectives.

CHAPTER FIVE

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

The objective of the study is to evaluate the effectiveness of the MINESEC DEC resources (video lessons in the platform) in maintaining pedagogic continuity throughout beneficiaries' study period. This may be very instrumental during incapacitation, pandemics, natural disasters, strikes and other challenges. The project under evaluation was initiated as a resilience response to pedagogic discontinuity at the outbreak of COVID 19 in Cameroon. The major gap this case study needs to fill is to watch out against the challenge of continuing to invest in a project which may not breach the disruption of pedagogic continuity. In order to achieve the objective, the research seeks to answer these questions: do lessons on the platform meet quality standards? Are beneficiaries satisfied using the platform, does the project's progress meet the expected outcomes guaranteeing pedagogic continuity? Some key evaluation areas developed within the three questions include resource availability and accessibility, usability and presentation. The questions were administered to various beneficiaries through questionnaires, interview guides, observation supported by ex-post facto instruments. It is considered that if the three main variables meet expectations then the objectives of MINESEC DEC are attained in solving one of the major educational problems in Cameroon secondary schools. The CIPP evaluation model was found to be one of the most appropriate models as it systematically focuses on the context, inputs, process and product in which our research activity progression found a logical procedure for the attainment of its results. The findings at the end of the research activities are communicated in the following discussions.

1.23. 5.1. DISCUSSIONS

This section discusses results findings under demographic information, the quality of MINESEC DEC Resources, the beneficiaries' satisfaction and the project progress against expected outcomes leading to pedagogic continuity. The CIPP evaluation model guided the research procedure throughout and some three theories. Hence, the discussions begin with the Context which includes the demographic information, the population and their needs, followed by the Theoretical framework, the quality of the resource which involves the input and process, beneficiaries' satisfaction based on the product and expected outcome related to the objective.

Demographic Information

The population of the study consists of the three groups with a total of 389 respondents made up of the pedagogic supervisors, students and teachers as beneficiaries of MINESEC DEC resources. Pawar, Dhapte-Pawar, Gaikwad (2021) in their study in interactive teaching in DE used the same groups of the population to ensure more comprehensive results. Regarding MINESEC DEC, it is also important to be familiar with the population to be guided to weigh their responses and draw informed conclusions.

The predominant age range for teachers is 36 and above signifying that there may be limited hope for them to get engaged in DE for a better future. The majority students' age 11-15 represents the right range for first cycle secondary school level. The Pedagogic Supervisors age range 20-35 indicates the Android age. Considering subjects taught by teacher respondents, Language teachers formed the majority showing that in carrying out innovations in distance education through more language teachers may reach out to more beneficiaries. Better still, since language cuts across all classes and subjects in schools the preliminary stages may be conveyed faster through them. All the respondents were drawn from all the seven subdivisions in Mfoundi where the MINESEC DEC is located to ensure proper representation. The intent was to avoid assumptions that characterise DE in remote areas and ensure authentic results. One school was selected from each subdivision and only schools that admitted they are integrating DE were involved in the exercise. Forms 3-5 formed the targeted group. However, the reality on the field shows that Form 5, an examination class was not readily available hence, unlike 3 and 4, 5 was not representative.

The Theoretical Framework

The stakeholders such as the Pedagogic Supervisors and Administrators at the Centre were included in the population of the study in order to render the study useful to the project at the end. More so, the observation of the activities was done at the centre. This is why the Empowerment Evaluation theory of David Fetterman; improved by Wandersman (2007), (Fetterman and Wandersman 2024), implies the involvement the project stakeholders in the process of evaluation with the goal to promote learning and capacity building in order to render the results of the study useful to the project at the end. Parents were supposed to be involved at the beginning based on Coleman (1966). James researched on Coleman's Equality of Educational Opportunity and

revealed that one of the major factors relating to students' performance in school depends on factors related to the socioeconomic status of the families of students than teachers' qualification and school set up. Unfortunately, we were not able to get to many parents thus we dropped them. The previous is supported by Diffusion of Innovations Theory: Roger (1962, 2003) related to DE which explains how new ideas, technologies, or practices spread through social systems over time, influenced by factors such as relative advantages, compatibility, complexity and observability. This may be largely influenced Connectivist theory which emphasises the role of networks connections in learning through social media, online networks and information databases. Other supplementary theories such as the theory of Change and Equity, were highlited as they could effectively influence the research.

Lesson Quality Process in Ensuring Pedagogic Continuity

Lesson Quality Process is guided by the CIPP evaluation model in which 'I' stand for input encompassing some of the questions that have to do with the quality in the production process. In DEC lesson production processes include: content relevance, structure and curriculum alignment. These items were considered in variable A, B and C in both the teachers and the learners' instruments respectively. The results in A generally do not only prove with a very high percentage score that the quality of MINESEC DEC resources on the platform meets the standards but also integrates CBA. The positive results of MINESEC DEC resources on the platform in meeting quality assurance contradicts Fomunyam (2019) and Hebebci et al (2020) who cites lack of content relevance among the challenges hampering DE in Cameroon.

On the contrary, the present results blend with the study of Jeremias and Carretero (2022) in Philippines which reveals that the video lessons were highly acceptable and relevant in terms of content quality validated by five experts. Nevertheless, while all their four variables proved positive, in the present study is only 1/3. The single positive variable results were backed by interview responses from Pedagogic Supervisors who revealed that in the Centre, production principles such as Richard Meyers 12 principles of multimedia learning are strictly implemented. This aligns with Mondong and Agao-Agao (2022) who perceive the preparation of video lessons as the process of creating educational content delivered through video platforms exploring novel design principles for effective distance education. Better still, learners also affirmed teachers use examples of teaching aids they are familiar with when teaching on the platform. The researcher

through observation at the DEC beginning from the reception room to the staff rooms, simulation room, studio, editing and publishing room, affirms the scrupulous practice. Also, as observed the assignment of task according to personnel's specialisation and capacities leads to quality assurance. In addition, sourcing from ex-post facto stakeholders such as UNESCO, UNICEF and EVO SOLUTION bring technical inputs and offer resources like 1500 tablets by EVO SOLUTION and 5000 from UNESCO (activity report MINESEC DEC, 2021). The above differences and similarities in the different spaces and time is influenced by the Diffusion Innovation and Culturally Responsive theories and the ToC determined by the socioeconomic and cultural standard of the people.

Beneficiaries' Satisfaction with Video Lessons

Contrary to the fact that the findings on quality resources proved positive, the evaluation results on beneficiaries' satisfaction for both teachers and learners reveal serious dissatisfaction with using MINESEC DEC video lessons on the platform. The findings indicate that users are not fully satisfied with the platform's interactivity, professional development in the domain, accessibility and, usability. Process in CIPP which is the first 'P' involves monitoring the procedures of the implementation of the programme, activities and adherence to the plan. Process also includes explaining how the product is used by the beneficiaries who are teachers/parents and students outlining challenges. It considers the observance of teaching practices such as classroom interaction, students' engagement, communication flow between teacher, students and Centre, professional development, platform availability, accessibility, usability and reliability. These form a large part of determinants of beneficiaries' satisfaction.

Observations in the above areas show the availability quality resources; video lessons are published on the platform and YouTube, nevertheless, they are plagued by insufficiency. Teachers and students interview and questionnaires results also highlight this fact. Observations of the lessons on the platform, in the Centre and in various schools visited by the researcher proved the insufficient.

Considering accessibility, all the beneficiaries expressed high level of dissatisfaction exhibited in limited skills due to weak strategies in skill transfer to teachers and consequently to learners, poorly equipped computer labs and space in several schools, the dominant absence of media materials among teachers and students, phones are forbidden in class, and there is no policy

guiding phone bound assignments in schools. This agrees with Ndongfack (2016) which highlights the constraint of clear policies governing distance education practices in Cameroon. In addition, the cost of access into the internet, inconsistent network and power availability among teachers and students lead to passive reliability on digital approach in teaching and learning.

Concerning usability, both teachers and learners in section B of the questionnaires reveal that they do not readily fine the choice of the lessons they wish to study on the platform. Downloading also poses problems in terms of cost and time given the saturated network. The platform is not responsive to the needs of beneficiaries as video lessons are not always interactive. This leads to poor output in MINESEC DEC video lessons. Contrarily, Bayram (2013) conducted a similar work and showed in the findings that students held positive perceptions regarding the quality presentation of video lessons in an online distance education course and ability to control the instructional flow through video features like fast forwarding and rewinding, and so received high satisfaction. This might have been enabled by the contextual factors. This is why the Culturally Responsive Evaluation (CRE) theory by Frierson, et al (2002) was chosen to guide this study.

The results of the elements evaluated showed the need for serious improvement in the area. In addition, findings from interview with teachers and learners reiterated dissatisfaction in relation to accessibility/usability which are long and cumbersome procedures required to access the platform. Akumbu et al (2022) concurred that the accessibility of the video contents is the ease with which users can navigate the platform to access these lessons without which learners become discouraged. In line with the above, it was observed that to access the platform a code was needed which is not available to all. A constraint on usability is that students show more interest in images neglecting the lesson proper as well as struggle to get use to different articulations causing low interest and distractions.

The results from questionnaires show that the highest device used in accessing the platform is the smart phone, though the majority is made up of those who have no devices. Arthur-Nyarko et al (2020) in his study found that a significant majority of students at the College of Distance Education (CoDE) in Ghana, with 82% of students having access to smart-phones but reported a host of challenges that watered down the high possession of phones. This may call for a debate on why establishing a school of DE before adequately minimising the challenges. The challenges

range from high cost of internet data to weak batteries and more. In relation to media material possession in DEC, an ex-post information showed that tablets and radios were distributed in the 10 regions of Cameroon in 2021 compared to 2.200.000 secondary learners (UNESCO institute for statistics 2016-2017) in the country, with 30.000 beneficiaries in general public schools in Mfoundi alone proves highly insignificant for the whole nation and cannot positively affect resilience in pedagogic continuity.

Also, from observation of the platform, despite the growing statistics of those accessing the platform by October 2024 being cumulative and does not distinguish between parent, teacher, student and the same person key in several times and does not distinguish from which school and region the user is viewing the lesson also render the MINESEC DEC attendance evaluation complex.

Another weakness needing improvement is facilitated life Video Lessons Revision which ought to be delivered more regularly to familiarise students with the new technological culture, could only be afforded three times annually. Results also revealed the unawareness that even within Mfoundi a large majority of respondents from questionnaires and interviews said they do not know about MINISEC DEC video lessons. The majority revealed that they do not use the video lessons without assistance. The available feedback on the platform observation on life lesson revision for 2023 recorded of only a few viewers from major towns with the highest viewers from the whole of Yaoundé. This shows passive participation and poor valorisation of MINESEC DEC resources leaving much to be desired in terms of sensitising beneficiaries and the improvement of dissemination strategies. In this line Shamsideen (2016) studied the impact of audio visual materials in the dissemination of knowledge in some selected literacy centres in Nigeria and found that there is a great impact in audio-visual aids in the teaching-learning process in various literacy centres in the states. This motivated students to attend lectures as they were very curious to see or hear what the facilitator was going to show them in the upcoming class. This saves time of copying notes and increasing more communication skills. This may cause DEC to examine more of what is still left to be done to attain the degree of success similar to Shamsideen**'**s. The above weaknesses outlined show the relevance the Empowerment theory in which if these lapses are not well apprehended by the project holders and actors the research may not be useful.

Measuring Project's Progress against Expected Outcomes

The results which measured the project process against expected outcomes indicate a clear perception of inadequacy related to platform usage, quality of media resources in many school labs and students engagement leading to weak influences towards completion rate. The results suggest that the project is not yet meeting its goals in terms of improving learning outcomes through accessibility to its available quality resources. The focus here is on how the product is perceived and used by the target population with respect to the CIPP evaluation model. The majority of students and teachers prove that their good performances are not influenced by video lessons in the platform indicating that despite the available quality lessons and usefulness of the product, its intent as a strategy for ensuring efficacy and resilience to strengthen pedagogic continuity is still a dream to be met. This is unlike Zi-Yu Liu (n.d) in China who found that the use of online learning platforms significantly enhances learners' satisfaction and academic performance. The interview and observation with MINESEC DEC educational technologist reveal that time/material, funds, storage facilities, quality and quantity of production are all insufficient. In the same interview some immediate solutions suggested were voluntary services from well-wishers and donations.

Another setback is the reluctance of some actors such as teachers and school heads to implement distance education in their schools. The platform observation results show that the dissemination strategy by the Centre is still weak given that by 2024 only the total of 188 hard drives were served to the education community in the country with about2.200.000 in 2023. In the same vein, Lassoued et al. (2020) intheir study involving several countries also lamented the lack of devices and internet access. This echoes the universality of digital divide which remains a cause for concern around the world in some countries. This information may be a serious indication that the DEC Project needs serious strategies put in place to attain its objectives.

Through observation and interviews, it was found that very few lessons are found in the platform because some subjects like Philosophy had no lessons, literature had only one. Form 1 is the class with the highest total number of lessons in all subjects 137. Lesson insufficiency is a cause for concern. It is therefore required that all stakeholders of distance education to strategise the means of promoting this innovative vehicle of education to achieve pedagogic continuity. This may constitute one of the reasons for reluctance of some actors such as teachers and school heads to

implement distance education in their schools. Sourcing from others to solve a similar problem Widyasmoro et al (2022) in their study project in Tlogolelo, Hargomulyo Village, Yogyakarta Special Region, Indonesia provided essential radio equipment such as a 50-watt FM transmitter, antennas, portable digital FM receivers, Android smart-phones, and audio mixers which facilitated the establishment of the radio station "Radio Suara Pendidikan" at FM 107.8 MHz which then met the need of the beneficiaries. Here again is where the empowerment theory is the ToC is very useful as only the project holders can make use of this information to improve on the functioning the project.

Measuring Project Expected Outcome in Guaranteeing Pedagogic Continuity

Concerning ensuring pedagogic continuity the main objectives of MINESEC DEC resource the goal during its initiation was first to breach the pedagogic discontinuity which was brought about by the global pandemic COVID 19. However, after the pandemic the Ministry saw the need to continue developing the resilient strategy in order to maintain learning continuity and watch against any subsequent challenges. Nevertheless, to answer the question as to whether the project is realising its goal, the results suggest that out of three variables only one; quality assurance was validated as successful in the project. On the contrary beneficiary's satisfaction and the measurement of expected outcome fell below average in meeting the objectives. The cause for beneficiaries' dissatisfaction as proven by the data collected stems from limited kills among teachers, parents and students. Another is the insufficient gadgets supply in schools and at home. The number of lessons produced by the centre is too few compared to the number of subjects with respects to the number of lessons stipulated per subject per year. The number of gadgets such radios, televisions, USB keys and functional computers distributed by MINESEC and those bought by school administration in various schools are insufficient compared to the number of schools and enrolment of 4,138,775 of secondary school age learners in Cameroon, World Bank (2025). Also, the use of phones by students in schools is bringing violence and thus forbidden, hence, the encouragement of technology through the use of phones in classrooms in order to learn and to familiarise learners with the media material is strictly prohibited. Talking about the average number of homes with ICT gadgets, household survey in computer and TV by other researchers showed that nationally the percentage of internet users is 34.0%. The limited number of those who are using the platform since they started shows that many people are not aware of

its existence as revealed findings. These show poor dissemination strategies consequently the predominant use of the chalk board in classrooms. Internet availability and accessibility, the use of Internet goes with high cost per mega bit and battery drain, thus, discouraging beneficiaries from using it as proven by both teachers and students. Therefore, resilience in pedagogic continuity may not be achieved without serious improvement in the above sighted areas of weaknesses in the project process. These types of results necessitate sourcing inputs from De Villa and Manalo (2020) who in their study emphasised on the importance of comprehensive training and resource provision to achieve these outcomes. Burns (2023) showed that distance education programs should focus on aligning expectations with clear, measurable learning outcomes to improve efficacy. Burns opcit advocates for a holistic approach to evaluating distance education by considering all stakeholders as used in this work and using evidence-based practices to foster continuous improvement and achieve desired educational outcomes. The findings highlight that evaluations often fall short due to high expectations, ambiguous outcomes, and resource constraints, which can obscure the effects of educational interventions. With respect to the above the Empowerment theory is still very instrumental as inspired by Burns views it could be combined with Connectivists' theories to guide the success of the project.

In summary, among all the three variables examined only the quality factors results proved in favour of guaranteeing pedagogic continuity. The rest of the results disagreed with the fact that MINESEC DEC resources can be counted upon for the efficacy of pedagogical continuity in Cameroon secondary schools. However, it stands out clearly to a great extent that the MINESEC DEC resources is of a satisfactory quality. Notwithstanding, it requires improvement in the area of dissemination strategies, beneficiaries' satisfaction and better means of measuring project progress against expected output leading to ensured resilience in situations of pedagogic discontinuity. Both interviews with teachers, students and pedagogic supervisory chain and observations within the Centre and in the field with teachers and students support the findings through questionnaires from all the respondents that only one variable, the quality of MINESEC DEC resources supports the realisation of pedagogic continuity.

5.2. Implication of Findings

This section discusses implications of the findings from the evaluation of MINESEC DEC resources focused on video lessons produced and published on the platform. The study determines the quality of the resources and the complementary factors in maintaining pedagogic continuity amid challenges faced by beneficiaries. By utilising the CIPP evaluation model, the researcher identified critical areas requiring attention to enhance the overall impact of the MINISEC DEC initiative using three variables. Here the key areas of the findings are outlined and their implications for stakeholders in education highlighted the amelioration of resources for further fruitful actions.

Demographic Insights and Implications

The demographic analyses reveal a significant female representation among teachers and students respondents. This may imply that any decision based on these results may be considered gender biased.

Concerning the predominance of teachers aged 36 and above may indicate resistance to change or a lack of familiarity with digital tools essential for effective distance education skill enhancement easily acquired at an earlier age. This situation necessitates targeting professional development programs aimed at enhancing digital competencies among older educators. By equipping them with the necessary skills, educational institutions can foster a more inclusive environment where all educators can effectively engage with distance learning technologies.

The majority of students surveyed are in the early to mid-adolescent age range in compliance with the normal age stipulated for secondary education. This demographic insight implies that instructional strategies of DE be tailored to meet the developmental needs of younger learners. Perhaps this may solve one of the problems mentioned which is that, learners get more interested in images than the lesson proper.

Forms 3-5 were the targeted group for the study but at the end only 3 and 4 were gotten. This shows that success at this area is average. Among educational technologists and parents the predominance of teachers and students is satisfactory considering that they are the key beneficiaries of MINESEC DEC resources. The fact that language teachers formed the majority among other subjects respondents teach is indicative of their usefulness in channelling DE

products to reach out to more audiences. Engaging this age group effectively requires incorporating interactive and relatable content that resonates with their experiences and interests.

The evaluation results of MINESEC DEC resources meet expected standards, yet beneficiary satisfaction is notably low suggesting that high-quality resources alone are not sufficient to guarantee effective learning outcomes. This discrepancy points to critical implications for the effectiveness of pedagogic continuity strategies. Hence, there is a need for a holistic approach that integrates quality assurance with adequate implementation strategies. For instance, educational leaders may consider prioritising not only the development of high-quality materials but also the training of educators in utilising these resources effectively in their teaching practices, increase the number of quality functioning computers, radios, televisions, hard disks, funding and free internet connection in schools. This alignment is essential for ensuring that students can fully benefit from the available quality resources if not the project might be wasting the resources and the chalk board would continue to dominate teaching.

The evaluation results reveal serious discontent among beneficiaries regarding the platform's interactivity, accessibility, and usability. These challenges highlight significant implications for user engagement and educational effectiveness. This means that disengagement and the exacerbation of existing inequalities in educational access cause the policy of inclusive education to be compromised. This situation necessitates an urgent review of the platform’s design and functionality to enhance user experience. Educational authorities need to invest in user-friendly interfaces and provide comprehensive training to both educators and learners to improve engagement with the MINESEC DEC digital platform. Addressing these issues is imperative for promoting inclusivity in education. Stakeholders ought to work collaboratively to improve infrastructure, such as providing reliable internet access and increasing the accessibility of devices for students in not the may never attain the objectives.

The evaluation of project outcomes reveals that the MINESEC DEC initiative is yet to meet its goals, particularly regarding the learning continuity. This situation carries important implications for future project planning and implementation. The lack of alignment between the quality of resources and their actual utilisation suggests that evaluation methods must be refined to better measure the effectiveness of distance education initiatives. Developing clear, measurable learning outcomes and regular assessments can provide valuable insights into the project's impact on

student learning. Educational policymakers may prioritise establishing feedback mechanisms that allow for continuous improvement based on stakeholder input.

In a nutshell, the implications drawn from the evaluation of MINESEC DEC video lessons underscore the need for a multifaceted approach to enhancing pedagogic continuity in Cameroon's secondary education system. The findings highlight the importance of addressing demographic factors, quality assurance, beneficiary satisfaction, and project evaluation processes and outcomes measurements. By focusing on these areas, stakeholders can develop strategies that promote resilience in educational delivery, ensuring that the MINESEC DEC initiative successfully meets its objectives and enhances learning outcomes for all beneficiaries. Ultimately, fostering an adaptive and inclusive educational environment will be decisive in overcoming the challenges posed by disruptions in the learning process.

Conclusion

The purpose of this evaluation is to determine the quality of MINESEC DEC video lessons and beneficiaries' satisfaction leading to pedagogic continuity. The questions answered in the process in order to achieve the objectives were based on: the quality of MINESEC DEC video lessons, beneficiaries' satisfaction with the resources and the product process meeting the expected outcome to maintaining pedagogic continuity. The results show a statistically significant majority of respondents in agreement with the resource quality on one hand, and on the other hand reveal dissatisfaction with platform's accessibility, interactivity, and usability affecting utility, expected outcomes and weakening resilience in pedagogic continuity. These results suggest that high-quality resources alone are inadequate to guarantee effective learning outcomes which are indicative of pedagogic continuity. With respects to these below average results educational authorities may consider prioritising, not only the development of high-quality resources, but also communicating and training all the beneficiaries in utilising these resources effectively in their teaching practices for better results. The study acknowledges the limitations in terms of parents sample representation that according to Coleman (1966), play a major role in a child's education. It is suggested that empowerment evaluation may be made a permanent part of MINESEC DEC video lessons production activity to ensure the attainment of their goals. Hence, a follow up evaluation to this one would be useful to the project for continuous improvement of the project and correct present mistakes.

5.3. Recommendations

These practical suggestions based on the findings of the study are to guide the continuous improvement of MINESEC DEC resource production process aimed at realising resilience in pedagogic continuity in Cameroon Secondary Schools through digital lessons published online. It is hoped that these suggestions will bridge the gap between the research outcomes and the real world application.

The findings on questioning the quality of MINESEC DEC resources show a statistically significant attainment in quality assurance as against a below average score results in other aspects. Nevertheless, there are still some weaknesses the Centre needs to strengthen in order to maximise quality assurance. These include: the number of staff at the Centre needs to be increased and teachers who come to facilitate the lessons stipends requires increment following the observation at the Centre. In this light, HeuristicaEducativa and Centro de EstudiosEducativos (2017-2018) highlighted the importance of framing dialogues with teachers in a respectful and professional manner using objective evidence from video analysis to support professional development. In line with this, it may be suggested that at this point where the product attains quality the project may consider carrying out more sensitisation activities than production. This may strengthen a more informed and rich production with feedback coming from the beneficiaries actively consuming the product.

In addition, more open dialogue could be carried out between producers and teachers/parents to suggest more practical strategies to employ towards positive outcomes and the achievement of goals in using DEC resources. This would also keep teachers satisfied and happy to carry out tasks. To achieve this, a platform or forum could be created and made open to all stakeholders for a period of time aimed at collecting ideas to guide production. It is supposed that this may provide a suitable way of integrating one of our theories, the Culturally Responsive Evaluation by Frierson et al (2002) leading to people focussed successes.

The results measuring beneficiaries' satisfaction proved with statistically significant majority respondents indicating that they are not satisfied with MINESEC DEC resource for several reasons.

A good number of teachers and students through all the instruments used indicated poor interactive class managements in the MINESEC platform especially during life lessons, limited accessibility and usability of the resources, skill building, and platform responsiveness. These concerns and related issues could be addressed through extending the publishing of lessons to other more accessible platforms like WhatSapp and face book as suggested by Sokeng (2022) where down loading, forwarding and voice texting would be possible to meet the needs of more users. In order to render the practice more functional loading lessons on more accessible platforms could encourage teachers to access and also direct learners towards them. Students have noted that teachers do not give them assignments which require them to go online. As such, easy feedback on such platforms would help correct issues like students getting confused after watching video lessons and struggling to assimilate what is written and what is said.

Many Cameroonian writers on DE like (Beche, 2020) have suggested that improved infrastructural facilities in schools, the provision of free connection for teachers and students, subsidised media materials for students and teachers, and adequate training skills for teachers and students on accessing MINESEC DEC video lessons, make the participation in digital lessons more available for many learners. Teacher respondents have reiterated these realities in the interview.

Results of beneficiaries' satisfaction through observations show that video lessons are published on the platform and YouTube. Also, ex-post tool reveals that tablets and radios were distributed to schools although they were not sufficient for the target population. The platform attendance is on the upward trend in 2024 with a few learner viewers compared to the target. Concerning facilitated life Video Lessons Revision; available feedback in 2023 record limited number of viewers from 5 major towns with the highest number from Yaoundé. This is inadequate for the whole nation. It is therefore recommended that to reduce some of these weaknesses a pilot centre with young talented and inquisitive learners may initiated toward repairing, assembling and producing Android phones. In addition, centres in the neighbourhood could also be created where learners visit to complete their homework. This could raise more interest in home products, build human resources in the domain and ensure resilience in pedagogic continuity.

The findings on measuring the project process against expected outcomes reveal a clear perception of dissatisfaction in teachers transferring skills to learners. Skills transfer is related to

platform access and the engagement of students leading to improved performance and higher completion rate. Concerns regarding the quality of resources available for learning in the labs also demand serious intervention. The results suggest that the project is not meeting its goals in terms of improving learning outcomes. The insufficiency of time, material, funds and lack of adequate means to measure the impact of resources factor which are responsible for the maximisation of the quality and quantity of production and beneficiaries' satisfaction were revealed. The insufficiency of lessons on the platform, reluctance of some actors such as teachers and school heads to implements distance education in their schools, in response De Villa and Manalo (2020) underscore the necessity for collaboration between education authorities and teachers to develop effective audio-video lessons that meet educational objectives in new areas. Also, storage facilities for varied lessons produced at the Centre are limited. Here, the first recommendation is borrowed from the personnel of the MINESEC DEC themselves. They suggested that voluntary services and donations from local, external population or partners, individuals and groups or associations are encouraged. Secondly, it is suggested that policies like the implementation of blended studies be implemented in all classes in secondary schools. This could begin with a lower percentage of about 5 percent mandatory.

The results from measuring Pedagogic Continuity suggest that a key aspect of the project's strategy for maintaining learning during disruptions such as significant concerns regarding the efficacy of pedagogic continuity, feedback systems and the encouragement of technology through the use of Android phones in classroom is not being practiced. The policy of permitting the use of Android phones in class during some specific days for learning may be instrumental in maintaining pedagogic continuity. This aligns with a student respondent during the interview who suggested that if they are allowed to bring phones to class they will share knowledge with their peers who do not have any devices. Also, the frequently use of the phone for learning guided by the teacher would facilitate interaction between teacher and learner during life lessons. Consequently, the use of phones in class may break the myth of children phone addiction for some parents who forbid their children from using phones except exclusively for calls. Hybrid and blended education policies and pilot projects need to be initiated to ensure improvement.

Observations further disclose that there is a disparity in the number of lessons produced and presented in French and in English; more lessons in French than in English. The recommendation

here is that decentralisation of production into regions may ensure greater achievement of the goal.

Students' results on the frequency of calls to MINESEC Help Line, visits on the MINESEC platform and the type of device used in accessing the platform are inadequate. MINESEC may consider training many talented learners in phone repairs within schools during holidays. The technology related activities may help to foster DE progression in the country leading to pedagogic continuity. With the above it is hoped that a lot can change and that resilience in pedagogic continuity can be progressively attained.

5.4. Limitations

This section discusses the weaknesses that may affect the interpretation and the generalisation of findings.

5.5. Data Collection Method

The purposive data collection design was used in collecting quantitative and qualitative data which are analysed. This approach is discriminative in selecting only items that meet the criteria. The schools that met the criteria were those within Mfoundi division which acknowledged that they were implementing DE, limit generalisation. The fact that there is only one DEC in Cameroon for Secondary Schools located in Mfoundi makes it difficult to compare with another Centre of the same level. Considering that the target population was limited to general public secondary school, first cycle Form 3 – 5. However, at the end the predominant sample came from 3 and 4 only. This indicates that though all the seven sub divisions in Mfoundi were represented through one school, each of the schools was represented by a small fraction of students from the two classes only. This therefore, may limit our results from being generalised.

Another limitation occurred in the arrangement of questions in the teachers' instrument which is the questionnaire. It was discovered that even though the misplacement of questions did not affect the results, it affected the interpretation. One of the glaring examples is Question Eight inquiring about the platform responsiveness which evaluates satisfaction instead of quality. In the same manner Question 12 CBA ought to measure quality and not accessibility. In the same teachers' questionnaire, Question 10 is a double barrel question. This mixed up was only discovered during analyses.

It is also observed that the Help-line which is a free call line opened to students in the entire nation which is one of the strong arms supporting dissemination process in DEC, was not adequately studied compared to the resource quality and the rest of the three variables. This weakens the reliability of our results though to a limited extent.

Limited relevant literature on evaluation reports about Secondary Schools by Cameroonians are found in the library as compared to those from abroad and at the DEC none was found to facilitate the writing progression. This resulted in delayance and led to frustration. However, literature on DE by Ndongfack (2016 and 2021), Sokeng (2022), Akumbu et al (2022), Beche (2020), Fomunyam (2019) and Ngameleu (2020), and others were available online but were pure research work and not evaluation research.

Also, due to the fact that this study included the role of good computer labs in schools, they were supposed to be visited to support the responses. Nevertheless, only two computer labs were visited due to time constraint. Hence, we could not report on them.

5.6. Suggestions

This portion of the work is aimed at suggesting subsequent areas of research topics in order to ensure continuous informed decisions in improving DE in MINESEC DEC, especially in efforts in resource production. It also suggests strategies to overcome the weaknesses revealed in the present study. Hence, after evaluating MINESEC DEC product in maintaining pedagogic continuity, we suggest the following as follow up research according to Diffusion of Innovations Theory by Rogers (1962, 2003). It is hoped that through different approaches of evaluations at different times by different people DE would gradually fit in the Cameroonian context. This is in alignment with the Culturally Responsive Evaluation (CRE) model, propounded by Frierson et al (2002).

1. **A Comparative study of MINESEC DEC Resources and Traditional Education or another successful Centre out of the country**

It is considered that after the purposive data collection technique was used in this first research an experimental approach could be used in the next where by two or more groups are compared, one that is adequately administered with proper digital learning strategies using required media materials and the other with nothing. The results are analysed comparing learning outcomes, learners' satisfaction and other relevant factors and compared with those undertaking traditional

education or another successful Centre out of the country. This is known as quasi-experimental method of evaluation.

2. **Formative Evaluation of MINESEC DEC Resources Based on Stakeholder Feedback**

This entails gathering feedback from various stakeholders who are learners, teachers, parents and administrators. This would keep the project management informed about due improvements. Using inclusive instruments for data collection may be paramount to results and resource improvement leading to programme development.

3. **Assessing Pedagogic Continuity in MINESEC Video Lessons Resources in the Platform**

To realise this, the instruments may aim at answering whether MINESEC lessons effectively maintain a consistent and coherent learning experience in various modules and learning activities. Data source may include media materials, online interactions and learners' feedback through interview, observations and questionnaires. This may be largely a qualitative study but may be supplemented with quantitative measures if possible.

4. **Evaluating the Effectiveness of Accessibility Enhancement**

This may assess the impact of specific interventions designated to improve accessibility for example captioning screen reader, mobile responsiveness and platform type.

5. **Evaluating the Efficacy of Computer labs in Cameroon Secondary Schools in Maintaining Pedagogic Continuity**

This study highlighted the role of good computer labs in schools but did not plan to observe them in various schools visited. Only two computer labs were visited due to time constrain. Considering that those labs may constitute relevant instruments in maintaining pedagogic continuity through distance education, this 5^{th} topic could be researchable.

5.7. Suggestions to the Weaknesses in the Study

Help-line one of the strong arms supporting dissemination process in DEC was not adequately studied to highlight its contribution to DEC resources. This to a smaller extent weakens the reliability of our results. Hence, it is suggested that subsequent research may consider this aspect which could be a boaster to the dissemination strategies.

The misplacement of questions in the questionnaire under different variables affected interpretation. It is advisable to construct the instruments early enough and give out to several people for review in order to minimise mistakes.

References

Abanda, Maga, M. F., Kamdjoug, K. J. R., Fosso, Wamba, S., &Tcheuffa, N. (2019*). Factors affecting adoption and use of e-learning by business employees in Cameroon.InÁ. Rocha et al. (Eds.), World CIST'19* 2019, AISC 932, pp. 216–226. Springer Nature Switzerland AG.

Adams P. & Freedman, G. (1976). On Political Character of Social Service Work. *Social Service Rewiew, 54*(4)

Adams, J.S. (1963). Towards an understanding of Inequity. *The Journal of Abnormal and Social Psychology, 67*(5)

Adriana, Di B. (2021*). Student engagement in distance learning environment: the experience of language certification preparation courses during the Coronavirus pandemic a University of Foggia*. Via Gramsci pp. 87-89, Foggia

Akindele, Ogunsemore, M., Ladi, Awolabi, H., Omolabake, Adekanmbi, B. (2021). *Digitalization of Information Dissemination on Teaching-Learning Process of Physical and Health Education in Junior and Senior Public Secondary Schools. Advances in Social Science, Education and Humanities Research*, 589, ATLANTIS PRESS.

Akumbu, T., Teneng, F., &Ngu, E. (2022). *Technological development and distance learning during disease outbreak in Cameroon: The COVID 19 experience.*

Alemnge, Lekeaka, F. (2018). *Distance Education in Cameroon: Evolution and Challenges.* Scholars Academic and Scientific Publishers (SAS Publishers) (An International Publisher for Academic and Scientific Resources) DOI: 10.36347/sjahss. 2018.v06i11.001

Allen, I. E. & Seaman, J. (2011). *Going the Distance Online Education in the United States*. Babson Survey Research Group and Quahog Research Group. WwwwOnlinelearningsurvey .com

Allen, M., Mabry, E., Mattrey, M., Bourhis, J., Titsworth, S. and Burrel, L. (2004). Evaluation of Distance Learning: A Comparison Using Meta-analysis. *Journal of Communication 54*(3)

Amiti, F. (2020). Synchronous and Asynchronous E-Learning**.***European Journal of Open Education and E-Learning Studies*, *5*(2)

Anderson, T. and Wiley, D. (2014). *Online Distance Education: Issues in Distance Education*. AU Press, Athabasca University, at aupress@athabascau.ca.

Anja, Simon, Ngwo, (2019). *Information and communication technology as synergy for sourcing distance education: the feasibility in Cameroon education system*.

Anzaku, F. (2011). *Library Experts Speaks on Audio-Visual Material. A paper presented at the United Nations Educational, Scientific and Cultured Organization (UNESCO) World Day for Audio-Visual Heritage*. Lafia.

Arthur-Nyarko, E., Agyei, D. D., & Armah, J. K. (2020). *Digitizing distance learning materials: Measuring students' readiness and intended challenges. Education and Information Technologies,* https://doi.org/10.1007/s10639-019-10060-y

Ayega, D. (2020). Pandemics and Education in Sub-Saharan Africa: Invest in Education technology. *American Journal of Education Research 8*(8), 581-586

Azhar, M., Sheikh, Tariq M, MALIK, Allah, B., (2012). A Comparative Study of Student Satisfaction Level in Distance Learning and Live Classroom at Higher Education Level. *Turkish Online Journal of Distance Education-TOJDE, ISSN 1302-6488 13*(1) Article 7

Aziz, Islamabad S., Mahmood, M. and Rehman, Z. (2018). CIPP Model for Quality Evaluation at School Level: A Case Study. *Shamsa Journal of Education and Educational Development, 189*, DOI: 10.22555/joeed. v5i1.1553

Aziz, S. Mahmood, M. and Rehman, Z. (2018). Implementation of CIPP Model for Quality Evaluation at School Level a Case Study. *Journal of Education and Educational Development 5*(1)

Aziz, S., Mahmood, M. and Rehman, Z. (2018). Implementation of CIPP Model for Quality Evaluation at School Level: Case Study. *Journal of Education and Educaional Development 5*(1)

Basilaia, G., &Kvavadze, D. (2020). Transition to Online Education in Schools during a SARS-CoV-2 Coronavirus (COVID-19) Pandemic in Georgia.*Pedagogical Research, 5*(4), em0060. https://doi.org/10.29333/pr/7937

Bayram, L. (2013). Enhancing an online distance education course with video. *Procedia - Social and Behavioral Sciences, 83*, 463-467

Beche, E. (2020). Cameroonian Responses to COVID 19 in the Education Sector: Exposing an Inadequate Education System. *International Review of Education, 66*(2-3). DOI: 10.1007/s11159-020-09870-x

Bekele, T. A. (2010). Motivation and Satisfaction in Internet-Supported Learning Environment: A Review. *Educational Technology and Society, 13*

Beltran, R. S. (2021). Effectiveness of Modular and Video Lessons in Mathematics to the Performance of Grade 5 Pupils. *International Journal of Advanced Multidisciplinary Studies, 1*(4).

Blomgren, C. (2021). *The International Review of Research in Open and Distributed Learning.* **DOI:** https://doi.org/10.19173/irrodl.v22i2.5805, *22*(2)

Bocevska, A., Savoska S., Rostovsky, B., Blazheska-Tabakovska, N. (2018*). Analysis of Accessibility of the e-Learning Platforms According to the WCAG 2.0 Standard Compliance*. DOI:10.20544/AIIT2018.P06

Bolliger, D.U. &Wasilik,O. (2009). Factors Influencing Faculty Satisfaction with Online Teaching and Learning in Higher Education. *Distance Education, 30*(1) doi.org/10.1080/01587910902845949

Bratitsis, T., Barroca, A., Bessi, M., &Guccione, S. (2016). Educational Continuity and Distance Learning at the European Level: A Multi-perspective Examination.*Research on E-Learning and ICT in Education*, https://doi.org/10.1007/978-3-031-34291-2_16

Brockfeld, T., Müller, B., & de Laffolie, J. (2018). Video versus live lecture courses: A comparative evaluation of lecture types and results. *Medical Education Online, 23*(1), 1555434. DOI: 10.1080/10872981.2018.1555434 Empowering Education: The Transformative Role of Technology in Africa

Burns, M. (2023). Distance Education for Teacher Training: Modes, Models, and Methods. *Education Development Center*

CESA (2016-2025). https//ECOSSOC.au.int

CESA (Continental Education strategy for Africa) (2016-2025). *Strategic Objectives* (SO) number 3.2.3 SO. 3 a)

Cheo, Ngu, V. &Akumbom, V. (2022). *The Influence of Learning Management System (LMS) Platform on Students' Academic Performance at the University of Bamenda*. DOI:10.1187/cbe.18-08-0171

Chien, S.-Y., Hwang, G.-J., & Jong, M. S.-Y. (2019). Effects of peer assessment within the context of spherical video-based virtual reality on EFL students' English-speaking

performance and learning perceptions. *Computers& Education*, 103751. *Journal Pre-proof*

Chioma, Oriaku A., Olushola T., Ojonoma, Akagu G., (2015). Open & Distance Education in Nigeria: Benefits and Challenges, Investigation of some aspects of the history of distance learning Diverse Practices of the Distance Education Period in Finland. *CEPS Journal, 11*

Choe, R. C., Scuric, Z., Eshkol, E., Cruser, S., Arndt, A., Cox, R., ... & Cid, M. (2019). Student satisfaction and learning outcomes in asynchronous online lecture videos. *CBE—Life Sciences Education, 18*(ar55).

Cole, L. **(**2024) *Empowering Education: The Transformative Role of Technology in Africa*. iicba.unesco.org/en/node/116

Coleman, J. S. (1966). Equal Schools or Equal Students. *The Public Interest 4*(70)

Coleman, V. (2021). *Digital Divide in UK education during COVID-19 pandemic: Literature review*. Cambridge Assessment Research Report. Cambridge Assessment.

Correia, A. P., Liu, C., &Xu, F. (2020). Evaluating videoconferencing systems for the quality of the educational experience. *Distance Education*, *41*(4), 429-452.

Coulange, L., Kari, S. and Train, G. (2021). *Pedagogical continuity: myth or reality*? ahead-of-print (ahead-of-print). *Journal of Research in Innovative Teaching & Learning*. DOI: 10.1108/JRIT-11-2020-0077

Crawford, R. (2016). *Rethinking teaching and learning pedagogy for education in the twenty-first century: Blended learning in music education*. Music Education Research.

CRTV (June 2020). CRTVweb

CRTV NEWS, (2022). CRTVweb

Dafgard, L. (2020). *Digital Distance Education - A Longitudinal Exploration of Video Technology*. Sweden Brand Factory. *Science direct, 35*, 116-131. http://www.elsevier.com/locate/ece

Dahler-Larsen, (2011). *Afterwards Evaluation as a Field and as a Source of Reflection: Comments on how QAE Restructures Education Now and in the Future.* The Evaluation Society

Darkwa, Fentim,B. , Darko, Agye, D. . (2021). Developing Technology Pedagogical and Content Knowledge in Pre-Service Accounting Teachers with the Use of Audio-Visuals: A Ghanaian Perspective. *Open Journal of Social Sciences***,** 9(7)

Davlembayeva, D. & Alamanos E. (2023). *Social Exchange Theory*. Open.ncl.ac.uk

Davlembayeva, D. & Alamanos, E. (2025). *Equity Theory: A review*. In S. Papagiannidis (Ed), TheoryHub Book. https://open.ncl.ac.uk / ISBN: 9781739604400

De Villa, Jennilou, A. and Franz, Kevin, Manalo, B. (2020). Secondary Teachers' Preparation, Challenges, and Coping Mechanism in The Pre-Implementation of Distance Learning. *In the New Normal*

Delcker, J. and Ifenthaler, D. (2022). Digital distance learning and the transformation of vocational schools from a qualitative perspective, *Frontiers in Education 7*, 90 80 46

Dike,Virginia, K. (1993). *Literacy Without Libraries: Promoting Literacy Among Children in Nigeria*. Eric.ed.gov

Djeumeni, Tchamabe, M. (2022) *La Pédagogie deS Urgence à l'ère de Numérique et Contexte de COVID 19*. Emergence Africaines

Drucker P.F. (1954). *The Practice of Management*. Harper and Row

Dzhanda, H. (2022). The Organisational Pedagogical Conditions for Ensuring Pedagogical Continuity of Professional Training of the Future Primary Grates Teachers in the College University System. *Pedagogy and Education Management Review 3,* 21-31, https//doi. Org/10.36690/2733-2039-2022-3-21, Pedagogy and Education Management Review 3. *Centre for Learning Technology*

Etomes, F. (2022). Challenges faced by students during the Covid-19 lockdown: Rethinking the governance of higher education in Cameroon. *Journal of Education and Learning, 11*(6), 33-36.

Evolution of eLearning from the Turn of the Millennium, (2016). *Journal of Sagepub.com*

Ewunetie, M. B., Husien, N., Toleha, H. N. Zewdie, S. Mekonen, A.M., Workneh, B. D. and Kahissay, M. H. (2024). Beneficiaries' satisfaction with community-based health insurance services and associated factors in Ethiopia: A systematic review and meta-analysis. *Cost Effectiveness and Resource Allocation, 22*, 73

Fetterman, D. and Wandersman, A. (2007). Empowerment Evaluation Theory. *Journal of Evaluation*.

Figueiro, P. S., &Raufflet, E. (2015). Sustainability in higher education: A systematic review with focus on management education. *Journal of Cleaner Production, 106*, 22.

Fomunyam, K. G. (2019). Theorising the Use of Educational Technology in Engineering Education in Cameroonian Higher Education. *Mevlana International Journal of Education*.

Fredricks, J.A., Blumenfeld, P.C. and Paris, A.H. (2004). "School engagement: potential of the concept, state of the evidence." *Review of educational research, 74*59-109. [18] C. Jones, LinkedIn, 2020. URL: https://www.linkedin.com/in/cerijoneselt

Gene, G. V. and Ellett, F. S. (1980). Evaluation Research. *Annual Review of Psychology, 31*,doi. Org/10.1146/annurev.ps.31.020180.001235

Giannakos, M. N., Chorianopoulos, K., & Chrisochoides, N. (2015). Making sense of video analytics: Lessons learned from clickstream interactions, attitudes, and learning outcome in a video-assisted course. *International Review of Research in Open and Distributed Learning*, *16*(1), 260–283.

Glass, G. V., & Ellett, F. S. (1980). *Evaluation research: Annual Review of Psychology*. *31*, pp. 211–228. https://doi.org/10.1146/annurev.ps.31.020180.001235 Sunday 04/04/2024

Global Education Agenda Sustainable Development Goal 4 (2017)

Global Evaluation initiative, (2021-2022). *Annual Report* https://www.globalevaluationinitiative.org

Global Partnership for Education (GPE) Secretariat Cameroon, (2022). *Building the Resilience of the Education System to Cope with Crises*

Goodwyn, A. and Black, C. (2000) *English in the Digital Age: Information and Communication Technology (ITC) and the Teaching of English*. Cassel Education

Goulimaris, D. (2015). The Relation between Distance Education Students Motivation and Satisfaction. *Turkish Online Journal of Distance Education*

Growth of Online Education in Africa is on the Rise (2019). Amazon

Guiake, M. (2022) Regional Disparity: Analyses of Policy Responses Towards Educational Inequalities in Cameroon. *International Journal Institute for Science Technology and Education (IISTE)* : E-Journals ISSN.

Gunawardena, Charlotte, N. (2013). *Culture and Online Distance Learning: Handbook of distance education (3rd Edition)* (pp. 185-200). Routledge.: https://digitalrepository.unm.edu/ulls_fsp

Haji, S. A. (2020). Exploring Frequent Use of the Learning Management Systems (LMS) Features and Learners 'Interactions in Higher Education. *European journal of open Education and E-Learning Studies.5*(2), 212-228.

Hebebci, S., Bertiz, Y., & Alan, S. (2020). Investigation of views of students and teachers on distance education practices during the Coronavirus (COVID-19) pandemic. *International Journal of Technology in Education and Science, 4*(4), 2651-5369

HeuristicaEducativa and Centro de EstudiosEducativos. (2017-2018). *Using video-lessons to improve the quality of teaching: A workshop for Belize's Ministry of Education, Youth, Sports, and Culture*.

Hybrid Learning Hybrid Education (March, 30, 2023). www.otsimo.com/educationOye, N.D.,

IEEE Communications Surveys & Tutorials (2015) https://www.researchgate.net/publication/272376917 DOI: 10.1109/COMST.2015.2401424

Imad, S. and IIham, B. (2021). Online Assessment: A Case Study of Ecole NormaleSuperieure Ismail University. *Journal of world English and Education Practices*, ISSN: 2707 -7586, DOI10.32996/jweep

Imam, K., Jupriantu, J., and Widya, K. (2021). A Systematic Literature Review on the Effectiveness of Distance Learning Problems and Opportunities and a Challenges and Predictions. *Internation Journal of Education 14*(1). Doi**:10.17509/ije.29191**

INEE Report (2022). *Inter-agency Network for Education Emergencies (INEE).*INEE.educacion.es

Iniesto, F., Covadonga, R., and Moreira, Teixeira, A. (2014). *Accessibility analysis in MOOC platforms. A case study: UNED COMA and UAbiMOOC*. In: V *Congreso Internacional sobre Calidad y Accesibilidad de la Formación Virtual* (CAFVIR 2014). pp. 545–550. https://oro.open.ac.uk/45192

Institute of Electrical and Electronic Engineering Program (IEEE, 2024). Visualisation and Visual Analytic Conference. IEEE Xplore

Jeremias, J., & Carretero, K. (2022). Quality video lesson preparation for distance education improvement: An analysis of effectiveness in Grade 8 Mathematics. *United International Journal for Research & Technology, 3*(11), 88-96

Jeremy D. and Finn (1989) "Withdrawing from school*." Review of educational research*. https://journals.sagepub.com/doi/10.3102/00346543059002117

Jitzi, Maguachee and Ru, (2019). *Distance Education Programme*. Research Gate

Kebritchi, M., Lipschuetz, A., and Santiague, L. *(2017).* Issues and challenges for teaching successful online courses in higher education: A literature review. *Journal of Educational Technology Systems, 46*(1), 4-29, DOI: 10.1177/0047239516661713

Kentnor, H. E. (2015). Distance Education and the Evolution of Online Learning in the United States. *Curriculum and Teaching Dialogue, 17(34).*

Khasawneh, Y. J. A., Alsarayreh, R., Al Ajlouni, A.A., Eyadat, H.M., Ayasrah, M.N., and Khasawneh, M.A.S. (2023). An Examination of Teacher Collaboration in Professional Learning Communities and Collaborative Teaching Practices. *Journal of Education and E-learning Research, 10*, doi .org/10.20448/jeelr.v10i3.4841

Kisirkoi, F., Kamanga, A. (2022). Lessons from online learning during Covid-19 pandemic for building education resilience in secondary schools in Kenya: A case study case study. *International Journal of Educational Policy Research and Review, 9*(2). DOI: 10.15739/IJEPRR.22.006

Kofi, Boahen, G., and Mable, O. (2015). *Assessing the Effectiveness of Distance Education Within the Context of Traditional Classroom*. Creative Education, doi.org/10.4236/ce.68072

Koory, M. A. (2003). Differences in Learning Outcomes for the Online and F2F Versions of An Introduction to Shakespeare. *Journal of Asynchronous Learning Networks 7*(2)

Korhonen, T, Juurola, L, Salo, L & Airaksinen, J (2021).' Digitisation or Digitalisation: Diverse Practices of the Distance Education Period in Finland '. *CEPS Journal, 11*(21): Education in the Covid-19 Era, pp. 165-193.

Korthagen, F., & Buitink, J. (2006). Pedagogy of teacher education.https://doi.org/10.26529/cepsj.1125

Kruk B.I.,Zhuravleva,O. B.,Meteleva,E.V. (2016). Using Video in Distance Learning. *European Journal of Natural History*

Kukulska-Hulme, A., Foster-Jones, J., Jelfs, A., Mallett, E., & Holland, D. (2004). Investigating digital video applications in distance learning. *Journal of Educational Media, 29*(2), 125–137.

Lafia. Dike, V. W. (1993). *Library Resources in Education*. ABIC Publisher.

Lassoued, Z., Alhendawi, M. and Raed, B. (2020). *An Exploratory Study of the Obstacles for Achieving Quality in Distance Learning during the COVID-19 Pandemic*. education sciences

Lassoued, Z., Alhendawi, M., Raed, B. (2020). An Exploratory Study of the Obstacles for Achieving Quality in Distance Learning During the COVID 19 Pandemic. *Education Sciences, 10*(9)

Latchem, C., (2014). Online *Distance Education: Quality Assurance in Online Distance Education*. p. 311. AU Press, Athabasca University, at aupress@athabascau.ca.

Lockhart, L. (2023). *Water Quality Report, City of Lockhard*. PWS# 0280001, Lockhart, Water Department 512 -398- 3615

Loera, Armando, V.(2018). HeuristicaEducativa and Centro de EstudiosEducativos. (2017-2018). *Using video-lessons to improve the quality of teaching: A workshop for Belize's Ministry of Education, Youth, Sports, and Culture*. Researchgate, DOI:10.13140/RG.2.2.17412.78727

Lorenzo, G. and Moore, J. (2002) Five Pillars of Quality Online Education. Sloan Consortium to the Nation, 15-09

Lorico, DS., Lapitan Jr., Cristina E., Tiangco, a., Divine Angela G., Sumalinoga, Noel, S., Sabarillo, a., Diaz, Joey, M. (2021). *An effective blended online teaching and learning strategy during the COVID-19 pandemic*. Science Direct

Lucky, S., & Rubin, J. E. (2022). Video Design in Education: Enhancing Learning through Multimedia Tools. *KULA, 6*(1), 1-15.

Malik, A., Azhar, M. and Sheikh Tariq M. (2012). A Comparative Study of Students Satisfaction Level in Distance Learning and live Classroom at Higher Education Level. *Turkish Online Journal of Distance Education, 13*(1).

Malik, Mahwish W. (2009). *Student Satisfaction Towards E-Learning: Influential Role of Key Factors.* mah.wish@aiou.edu.pk mah.wish9@yahoo.com 051-9057250

Maphosa, C. and Bhebhe, S. (2020). Examining the learning styles of open and distance education learners in one Southern African university. *Asian Journal Distance of Education 15* (1), 257-268,

Margaryan, A., Bianco, M., & Littlejohn, A. (2015). Instructional quality of Massive Open Online Courses (MOOCs). *Computers & Education, 80* (77-83)

Markova, T., Glazkova, I. and Zaborova, E. (2017). *Quality Issues of Online Distance*. Learning. Online/ www.sciencedirect.com

Mayer, R. E. (2022). The future of Multi Media Learning. *The Journal of Applied Instructional Design, 11* (4), 69-704

Mayne, J. (2017). "Theory of change analysis: Building robust theories of change". *Canadian Journal of Program Evaluation.* 32(2), 155–173. doi:10.3138/cjpe.31122

Mbabngong, F. &Yaro, L. (2023). Course Content Organisation in Distance Learning Programs in Cameroon Higher Education Institutions. *GPH-International Journal of Educational Research, 6*(07), 77-91. https://doi.org/10.5281/zenodo.8265357

Mbangwana, M.A. (2008). *Introduction of ITC in Schools and Classrooms in Cameroon: ICT and Changing mindsets in Education*. Science and Education Publisher

Mehdi, E., Zeynali, S., & Shahriary, E. (2013). The relationship between dimensions of customer orientation and beneficiaries' satisfaction in higher educational system: Case study: Center of Postgraduate Studies in Hormozgan University. *Higher Education Letter, 6*(23), 39-93.

Mohammadi, R., Eshaghi, F. and Mahbobeh, A. (2012). *Improvement of Management in Departments at Universities (The Case of Iran).* Sciencedirect, Elsevier, doi:10.1016/j.sbspro

Mondong, A., &Agao-Agao, J. (2022). The Untold Stories Behind the Preparation of Video Lessons: A Phenomenology. *Psych Educ*, Document ID: PEMJ0, doi: 10.5281/zenodo.6894527, ISSN 2822-4353

Moore, Michael, G. (2022). *Transaction Distance Theory*. ScienceDirect.com, 08/01/2024

Moreira, J., Henriques, S., Goulao, M. and Barros, D. (2014). Digital Learning in Higher Education: A Training Cause for Teaching Online. *International Council for Open and Distance Education*, doi. Org/10.5944/ openpraxis.9.2.539

Motala, S. and Kirti, M. (2022). Pandemic Leadership in Education: NewHorrisons Risk and Complexities. *Education as Change, 25*(1)

Motala, S., Kirti, M. (2022). Pedagogical Continuities in Teaching and Learning During COVID-19: Holding up the Bridge. *A journal dedicated to the scholarship of teaching and learning in the 'global south', 6*(1), 7-32

Moukouri, D. and PARTNERS UGGC Africa, (n.d). https//Moukourilaw.com

Mukherjee, Hasan, D., Khandakar, K., and Saha, M. (2021). Learning continuity in the realm of Education 4.0: Higher education sector in the post-pandemic of COVID-19.Fundacja Pro Scientia Publica. *Journal of Education Culture and Society, 12*(1), 335-354

Mukum, Engwari, C. and Matsida, Kamta, Marcelle, A. (2021). Hybrid Education, Pedagogical Continuity and Instructional Efficiency amid the COVID-19 Pandemic in Cameroon Universities. *International Journal of Research and Innovation in Social Science (IJRISS) 5*(6), DOI: 10.47772/IJRISS.2021.5632

Mustafa, S. T., Börekci, C., & Demirel, S. (s.d). Quality Assurance in Distance Education through Data *MiningIJTES6* (3).https://doi.org/10.46328/ijtes.396

Muthle, C. (2021). *Theory of Change: A Practical Guide To Social Impact Paperback*. https://a.co/d/14HIeup 10 pm 11/05/2025

Myrna (2020). *Effectiveness of Distance Education*. malat-webspace. Royalroads.ca

Myrna, O., (2020). Competition in Online Land Lease Auctions in Ukraine: Reduced form Estimation. *Land Use Policy* 125,106481

Nagy, J. T. (2018). Evaluation of online video usage and learning satisfaction: An extension of the Technology Acceptance Model. *International Review of Research in Open and Distributed Learning, 19*(1).

Ndifon CRTV "Press Hour" (2024), CRTVweb

Ndifor, K. CRTV "Press Hour" (*2024*).

Ndongfack, (2021). Towards a Resilient Model of Education in Cameroon. *International Journal of Educational Research Review, 6*(3), 208-217.

Ndongfack, Nkwenti, M. (2015). Mastery of Active and Shared Learning Processes for Techno-Pedagogy (MASLEPT): A Model for Teacher Professional Development on Technology Integration.*Creative Education, 6*, 32-45. http://dx.doi.org/10.4236/ce.2015.61003

Ndongfack, Nkwenti, M. (2016). *Baseline Study on the Current State of Open and Distance Learning in Cameroon*. http://oasis.col.org/handle/11599/2490

Ndongfack, Nkwenti, M. (2017). Factors That Motivate Students' Acceptance and Use of Online Course Platform in the Faculty of Education in the University of Yaoundé 1. *Human & Social Science Series Syllabus Review, 7*(1).

Ndongfack, Nkwenti, M.., Babalola, Samuel O., Ferreira-Meyers, K. (2023). *Does Distance Education in the Developing Context Need More Research? Building Practice into Theory.2*. DOI: 10.35293/esi.24, Santosh Panda

Newcomer, K. E. Hatry, P. H. and Wholey, J. S. (2015). *Useful Handbook for Practical Evaluation.* Wiley Online library.

Newcomer, Kathryn, E., Hatry, P. and Wholey, Joseph, S. (2015). *Handbook of Practical Program Evaluation*. Wiley Online Library

Ngajie, B. N. and Zhejiang, Ngo Mback, M. C. (2016*).* Integration of ICTs into the curriculum of Cameroon primary and secondary schools: A review of current status, barriers and proposed strategies for effective Integration. *International Journal of Education and Development using Information and Communication Technology (IJEDICT), 12*(1), 89-106

Nganji, J., Kwemain, R. and Taku, C. (2010). Closing the digital gap in Cameroonian secondary schools through the Computer Internet Access Centre (CIAC) project. *International Journal of Education and Development using ICT, 6*(2)

Ni (2013) *Digital Education Resource Akives*. Dera.ioe.ac.uk

Niba, Azinwi, T., Foncham, Babila, P. and Ngwa. Neba, P. (2022). Use of Computers and the Provision of Community-Community Based Mental Health Services in the North and South West Region of Cameroon. *International Journal of trend in Scientific Research and Development*

Nielson, K. (2011). Self-study with language learning software in the workplace: What happens? *Language Learning & Technology, 15*, 110

Nkongho, Arrey-Ndip, A., Makoudem T., Nouazi, Kemkeng, C., Abdourahman, N. and Tamajong, E. (2020). The Current State and Future of eLearning in Educational Institutions in Cameroon: A Case Study of the City of Yaounde. *Journal of Humanities and Social Sciences Studies (JHSSS), 2*(4)

Nzweundji, Germo J.; Pius W. Akumbu *(*2020*). Responding to disease outbreak in Cameroon: Lessons from COVID-19, 55*, RüdigerKöppe Verlag, pp.97-107, , Topics in Interdisciplinary African Studies, 978-3-89645-855-1. ffhal-03691698

Nzweundji, Germo, J..; Pius W. Akumbu. *Responding to disease outbreak in Cameroon: Lessons from COVID-19,* 55, RüdigerKöppe Verlag, pp.97-107, 2020, Topics in Interdisciplinary African Studies, 978-3-89645-855-1. ffhal-03691698f

Omid, Haass, Gustavo and Guzman (2020). Understanding Project Evaluation, a Review and Reconceptualisation. *International journal of Managing Projects in Bingley, 13*(3) 373-599, DOI:10. 1108/IJMPB-10-2018-0217, emerald PUBLISHING

Onana, A., Sim, A., Bercea, O. B., David, G. M., & Lakatos, E. S. (2024). Evaluating the efficiency and beneficiary satisfaction of the social enterprise certification process in Cluj. Review of Management and Economic Engineering. *Review of Management and Economic Engineering 23, 1*(91)

Oye, N. D., Salleh, M. & Lahad, N. A. (2012). E-Learning Methodologies and Tools. *International Journal of Advance Computer Science and Applications, 3*

Patton, Quinn, M. (2015) *Qualitative Reseach and Evaluation Methods*. 4 Ed., Sage Publications Inc.

Pawar, Atmaram P., Dhapte-Pawar, Vividha, V., Gaikwad, Vinod, L. (2021). Interactive Teaching in Higher Education for Effective Knowledge Dissemination and Improved Student Participation. *Indian Journal of Pharmaceutical Education and Research, 55*. DOI: 10.5530/ijper.55.3s.173

Peng, Y. Chen, C., Huang G. (2024). Institute of Electricity and Electronic Engineering. IEEE, 2024 International Conference on Robotics and Automation (ICRA). *IEEE, 2024*

Phillips, M. and Fisser, P. (2022). Moving Forward to New Educational Realities in the Digital Era-Report of EDUsummit 2022-2023. *EDUsummit 2022-2023*

Piper, B. Jepkemei, E. Kkwayumba, D. &Kibukho, K. (2015). Kenya's ICT policy inpractice: the effectiveness of tablets and E-readers in improving student outcomes. *Forum for International Research in Education, 2*(1), 3-18

Pregowska, A.; Masztalerz, K.; Garli ´nska, M.; Osial, M. A (2021). *Worldwide Journey through Distance Education—From the Post Office to Virtual, Augmented and Mixed Realities,*

*and Education during the COVID-19 Pandemic.*Educ. Sci. 2021, 11, 118.https://doi.org/10.3390/educsci11030118

Radu, A-C., Stoica, I., Catana, A., Radu, A-V. Dan, M-L (2021). *European Funds in Tourism Sustainability-A Case Study of Beneficiaries Satisfaction Regarding the Process of Accessing*. Academic Open Accessing Publishing. *Sustainability, 13*(16)

Rajput, A., Alessandro, R., and Wiebe1, N., (2022). *Hybridized Methods for Quantum.* arXiv:2109.03308v3 [quant-ph]

Robin, Beltran, S. (2021). *Effectiveness of Modular and Video Lessons in Mathematics to The Performance of Grade 5 Pupils. 1*(4), ISSN: 2782-893X

Rogers, E. M. (1995). *Diffusion of innovations (4th ed.).* Free Press

Rogers, E. M. (2003). *Diffusion of Innovations (5th ed.).* Free Press.

Rogers, E. M. and Williams, D. (1962). *Diffusion of innovations (4th ed.).* Free Press

Saad, B. H. (2022). *Measuring the determinant and results of beneficiaries' satisfaction in the public services to build effective institutional capacities in rural areas in Egypt*.*The Egyptian Science Magazine, 9*(4). DOI: 10.21608/esm.2022.352954

Salleh, M. & Lahad, N.A. (2012). E-learning Methodologies and Tools. *International Journal of Advanced Computer Science and Applications, 3*

Salyers, V., Carter, L., Carms, C. and Durrer, L. (2014). The Use of Scaffolding and Interactive Learning Strategies in Online Courses for Working Nurses: Implications for Adults and Online Education. *Canadian Journal of University Continuing Education, 40*(1)

Sari, T., Nayir, F. (2020). Challenges in Distance Education During the (Covid-19) Pandemic Period. *Qualitative Research in Education, 9*(3), 328-360. doi:10.17583/qre.2020.5872, http://dx.doi.org/10.17583/qre.2020. 5872

Sarika, S. (2020). Multi Agent Systems in Securing Healthcare Proceedings of Sixth National Conference on Technological Advancements in Computational Intelligence, 45

Saykili, A. (2018). Distance Education: Definitions, Generations, Key Concepts and Future Directions. *International Journal of Contemporary Educational Research, 5*(1), 2-17

Scagnoli, N. L., Choo, J. & Jing, T. (2017). Students' insights on the use of video lectures in online classes. *British Journal of Educational Technology*,*00*(00), 2017 00–00 doi:10.1111/bjet.12572

Scheiderer J. (2022). *Online Distance Learning: The New Normal in Education*. Https://goole.com/urlsa=t&source=web&rct=j&opi=89978449&url=https;//elearningindustry.com/ Online-Distance-Learning-the-New-Normal-in-Education

Schlosser, Charles, A.; Lagormarcino, Anderson, M. (1994). *Distance Education: Review of Literature*. AECT Publication Sales, 1025 Vermont Ave., NW, Ste. 820, Washington, DC 20005-3547.,

Scriven. M. (1970). Method of Reasoning and Justification in Social Science and Law. *Journal of Legal Education*

Seeland, A., Krell, Mario, M., Sirko, Straube, Kirchner, Elsa, A. (2018). Empirical Comparison of Distributed Source Localization Methods for Single-Trial Detection of Movement Preparation.Sec. *Brain Computer Enterfaces*, 12

Selivanov,V., Olga, Savchenko,Y. (2019). *Open Education Resources – Development and Expansion in Africa***.** CEUR Workshop Proc 2522, pp. 41-49,

Serhan, D. (2020). Transitioning from face-to-face to remote learning: Students' attitudes and perceptions of using Zoom during COVID-19 pandemic. *International Journal of Technology in Education and Science* (IJTES), *4*(4), 335-342.

Shachar, M & Neumann, Y. (2003). Differences between traditional and Distance Education Accademic Performances: A Meta Analytic Approach.*International Review of Research in Open and Distributed Learning 4*(2)

Shamsideen, Saula, A. (2016). Impact of audio-visual materials in the dissemination of knowledge for facilitators in some selected literacy centres in Oshodi/Isolo Local Government Area. *African Educational Research Journal*, *4*(1), 19-24, ISSN: 2354-2160

Shelton, K. &Saltsman, G. (2005). *An AdinistratosGuid to Online Leanning*. The Nile (AU

Shelton, K. &Saltsman, G. (2005). *An Administrators Guide to Online Education*. Publisher Information Age

Shen, P., Chulpan R. Gromova, Venera G. Zakirova, Farit G. Yalalov (2017). Educational Technology as a Video Cases inTeaching Psychology for Future Teachers. *EURASIA Journal of Mathematics Science and Technology Education, 13*(7), 3417-3429. DOI 10.12973/eurasia.2017.00736a

Siemens, G. and Downes, s. (2004 and 2005). *E-Learning 2.0*. Elearn 2005 (10)1

Siemens, G. and Downes, S. (2005). *Connectivism Learning as Network Creation*. ASTD Learning News 10 (1)

Simchi D.L., (2023) Team Management Sciences. *lndeed Editorial*. *69*(1)

Simonson, M., Susan, Zvacek M, Sharon SmaldinoIap, (2019) *Teaching and learning at a distance: Foundations of distance education*. *7th edition Simulation in the Interaction Picture.* Science Research Centers, DE-SC0012704.

Siti, Haslina, Md H., and Mohd, Faiz H., (2020). Developing Measures for The Effectiveness of Distance Education as Regards Sustainability: The Mixed Method Approach. *Turkish Online Journal of Distance Education-TOJDE* July 2021 ISSN 1302-6488, *22*(3) Article 11

Sokeng, Piewo, & Stephane, C. (2022). Accessibility of quality video lessons: A study on divergent types of platform for distance education improvement. *Journal of Educational Development, 15*(3), 45-67

Stefanovic, D., Drapsin, M., Nikolic, J., Scepanovic, D., Izet, R., Drid, P. (2011). *Empirical study of student satisfaction in e-learning system environment*. *6*(4), p. 1152 https://www.researchgate.net/publication/282812888

Stufflebeam, Daniel, L. (1983). *Evaluation Models: Viewpoints on Educational and Human Service Evaluation*. Springer

Taplin, Dana H., Clark, H., Eoin, C., and Colby, David, C. (2013). *Theory of Change A Series of Papers to Support Development of Theories of Change Based on Practice inthe Field*. Amazon

Tarasov, Alexander, F., Turlakova, Getman, Irina, A., Svetlana, Turlakova, S.,Ihor, Stashkevych,I.Serhiy, Kozmenko, M. (2020). *Methodical aspects of preparation of educational content on the basis of distance education platforms*. CEUR-WS.org/Vol. 2643/paper 08.pdf,

Teana (2020). Distance Education Evolution. https://educationonline/ku.edu/ Otsimo (2023). *Otsimo Summer Internship Marketing*.youthall.com

Terrien, P., and Güsewell, A. (2021). Continuité pédagogique et enseignement à distance dans l'enseignement supérieur musical. *International Journal of Technologies in Higher Education*, 18(1). doi.org/10.18162/ritpu-2021-v18n1-13

Toyama, Means, B., Y., Murphy, R. and Baki, M. (2013). The Effectiveness of Online Blended Learning: A Meta-Analysis of the Empirical literature. *Teachers College Record 115(3), 1-47*

UNESCO (2020). *Embracing Distance Education in Cameroon: Ensuring Continuity during COVID19Crisis.*https://www.internetsociety.org/wpcontent/uploads/2017/08/InternetEducationAfrica_report_FINAL.www.unesco.early- childhood-education…

Unesco (2021). "*Managing a Low-cost Digitalisation Project in the Least Developed Countries and Small Island Developing States - A Manual*" UNESCO [9356]

UNESCO Global Monitoring Report (2024)

Voogt, J., knezek, G., Cox, M., Don knezek and Brummelhuis, T. (2013). Uder which Conditions does ICT have a Positive Effect on Teaching and Learning A Call to Action. *Journal Computer Assisted Learning.*

Wang, S., LI, M., Yang, H. (2020). *Influencing Factors of Customer Satisfaction in Chinese Private Distance Universities*, *9* http://paper.ieti.net/ssh/index.html DOI: http://dx.doi.org/10.6896/IETITSSH.202010_9.0003 14

Wang, W.T. and Wu, S.Y. (2021). Knowledge Management Based on Information Technology in Response to COVID 19 Crisis. *Knowledge Management Research and Practice 19*(4)

Wankasi, Hellen, I., Sehularo, Leepile, A., Rakhudu, Mahlasela A. (2020). A Conceptual Framework for Effective Dissemination and Implementation of a Policy on School Health in Rural Nigeria. *AOSSIS Publishing*, *43*(1)

Wessel, P. R., Ryan, A., Anisa, K., & Richelle, P. (2019). Creating a context for campus sustainability through teaching and learning: The case of open, distance and e-learning. *International Journal of Sustainability in Higher Education*, *20*(3), 530–547

Widyasmoro, W., Suwarno, I., Surahmat, I., Nugraha, Toha, A. and Al_barazanchi, I. (2022). Dissemination of technology utilization of FM community radio as a means to support teaching learning activities for students during the covid-19 pandemic at Muhammadiyah Elementary School Tlogolelo, Hargomulyo Village, Yogyakarta Special Region, Indonesia. *Journal Pengabdian dan Pemberdayaan Masyarakat Indonesia* https://jppmi.ptti.web.id/index.php/jppmi/ 2(1),

Wirngo, Tani, E. (2021). Test Quality and Students Performances: An Appraisal of the National Achievement Test in English and Mathematics for Cameroon Primary Schools. *European Journal of Educational Studies, [S.I.], 8*(8). Doi: 10.46827/ejes.v8i8.3861

World Bank Report (n.d). *The Emergence of Internet-based Learning in Cameroon.* Amazon

Yang, Y., &Cornelious, L. F. (2005). Preparing Instructors for Quality Online Instruction. *Online Journal of Distance Learning Administration,8*(I)

Yasar, K. (n.d). Tech Writer. Informa Tech Target. *The Wall Street Journal*

Youker, B. W., and Ingraham, A. (2014). Goal-Free Evaluation: An Orientation for Foundations' Evaluations. *The Foundation Review, 5*(4). https://doi.org/10.9707/1944-5660.1182

Youker, B.w. and Ingrahan, A. (2014). Goal-Free Evaluation: An Orientation for Foundations Evaluations. *The Foundation Review, 5*(4),7

Yuomeyse, K., Ngamaleu, Njengouém, Henri, R. (2020). Attitude Toward Technology Integration and Effective Technology Usage in The Teaching and Learning Process: The Case of Primary School Teachers in Cameroon. *International Journal of Innovative Research and Advanced Studies (IJIRAS), 7*(7)

Zakirova, V. G., Shen, P., Chulpan, R. G., Farit, Yalalov, G. (2017). Educational Technology as a Video Cases in Teaching Psychology for Future Teachers. *Eurasia Journal of Mathematics Science and Technology 21*(7)

Zi-Yu Liu (n.d). *Online Learning Platforms*: *Reconstructing Modern Higher Education*. https://doi.org/10.3991/ijet.v15i13.14645

Zulaikha, Mohd, B., Azlin, Norhaini, M, Khairul, Azhar, J., Bity, Salwana, A. (2021). The Effectiveness and Challenges of Online Learning for Secondary School Students–A Case Study. *Asian Journal of University Education (AJUE).*https://DOI.org/10.24191/ajue.v17i3.14

APPENDIXES

UNIVERSITE DE YAOUNDE I
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FACULTE DES SCIENCES DE L'EDUCATION
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DEPARTEMENT DE CURRICULA ET EVALUATIUON

UNIVERSITY OF YAOUNDE I
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POST GRADUATE SCHOOL FOR HUMAN, SOCIAL AND EDUCATIONAL SCIENCES
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DOCTORAL UNIT OF RESEARCH AND TRAINING IN SCIENCE OF EDUCATION AND EDUCATIONAL ENGINEERING

QUESTIONNAIRE FOR STUDENTS

PREAMBLE:

My name is Kinyuy FLORENCE Y. I am a level II Masters student in the Faculty of Education, Department of Curriculum and Evaluation at the University of Yaoundé I. This questionnaire aims to evaluate the quality of video lessons produced by MINESEC Distance Education Centre for secondary school students in Cameroon, from the beneficiaries' perspective. Your responses will help assess the quality of the product in terms of content quality, presentation quality, and the effectiveness of the dissemination platform. It will provide insights into the satisfaction of teachers and students, as well as the project's progress against expected outcomes. Rest assured that the information collected will be used solely for this research purpose and will be kept confidential. Your participation is entirely voluntary, and I sincerely appreciate your time and contribution.

A) Identification of Respondents

1.) Sex: M ☐ F ☐

2.) CLASS _____ _

Age range: 11 - 15☐, 16-20 ☐, 21 – 25 ☐, 26 – 30 ☐, 31 and above ☐

B) For each question according Likert scaling model select and tick in the square of one of the following answer options:

Strongly Agree=(SA)4, Agree=(A)3, Disagree=(D)2 and Strongly Disagree=(SDa) 1.

C) Beneficiaries' satisfaction in using the platform

No	Description	SA 4	A 3	D 2	SDa 1
	Platform Accessibility				
4.	I access the MINESEC video lessons platform without any assistance	4	3	2	1
5	I easily find the video lessons which i plan to watch on the platform.	4	3	2	1
6.	I successfully down load them when I need to watch again.	4	3	2	1
	Platform Usability				
7.	Teachers teach us and we use our phones or computers to access video lessons on MINESEC platform.	4	3	2	1
8.	Teachers give us assignments which requires us to access video lessons on MINESEC platform to complete them.	4	3	2	1
	Presentation				
9.	Teachers use things I know to give examples during lessons on the platform.	4	3	2	1
10.	It is easy to ask and answer questions on the platform like in the classroom?	4	3	2	1
11.	Thanks to the use of video lessons on MINESEC platform my performance has improved.	4	3	2	1

Open Ended Questions Section: **Tick in the box of your answer choice**

12. I have called MINESEC helpline for assistance in my study progression. Many times ☐, once ☐ , Never ☐, do not know about it ☐ .

13. How often do you use the video lessons on MINESEC distance education platform to learn? daily ☐, weekly ☐ , occasionally ☐, not at all ☐

14. What device(s) do you use to access video lessons on MINISEC platform? smart phone ☐ tablet ☐, computer ☐ , laptop ☐, desk top ☐ , radio ☐

15. What are the major barriers that discourage you from using video lessons on MINISEC platform to study?

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Any suggestions?

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QUESTIONNAIRE FOR TEACHERS

PREAMBLE:

My name is Kinyuy Florence Y. I am a level II Masters student in the Faculty of Education, Department of Curriculum and Evaluation at the University of Yaoundé I. This questionnaire aims to evaluate the quality of video lessons produced by MINESEC Distance Education Centre for secondary school students in Cameroon, from teachers' and parents' (beneficiaries) perspective. Your responses will help assess the quality of the product in terms of content quality, presentation quality, and the effectiveness of the dissemination platform. It will provide insights into the satisfaction of teachers and students, as well as the project's progress against expected outcomes. Rest assured that the information collected will be used solely for this research purpose and will be kept confidential. Your participation is entirely voluntary, and I sincerely appreciate your time and contribution.

A) Identification of Respondents

Gender M ☐ F ☐

1. **Subject taught** _____
2. **Age range:** 20 – 25 ☐, 26-30 ☐, 31 – 35 ☐, 36 and above ☐

B) Key: For each question according Likert scaling model select and tick on the number in the square of one of the following answer options:

Strongly Agree = (SA) 4, Agree = (A) 3, Disagree = (D) 2 and Strongly Disagree = (SDa)1

No	**Description.**	**SA 4**	**A 3**	**D 2**	**SD 1**
Section A.	**The quality of resources produced and digitalised**				
4.	The MINESEC video lessons align with curriculum standard.	4	3	2	1
5.	The content quality of video lessons is satisfactory in terms of relevance.	4	3	2	1

6.	The MINESEC video lessons Content are well structured ensuring quality presentation.	4	3	2	1
7.	The platform is adequately responsive to the needs of beneficiaries.	4		2	1
Section B. Beneficiaries' satisfaction in using the platform					
8.	I have participated in an interactive class on the MINESEC platform lessons.	4	3	2	1
9.	Teachers are efficiently participating in professional development using distance education tools to transfer the skills to their learners.	4	3	2	1
10.	Accessibility to the platform is satisfactory.	4	3	2	1
11.	The lessons taught on the platform integrate Competency Based Approach (CBA).	4	3	2	1
Section C. The measurement of project process against expected outcomes					
12.	I have taught learners in my classes to access the platform	4	3	2	1
13.	Students engagement in video lessons is leading to higher completion rate.	4	3	2	1
14.	The computer lab has good computers (if it is absent put dash in all the squares).	4	3	2	1
Section D. Pedagogic Continuity					
15.	The MINESEC video lessons have greatly improved on learning continuity during crises that there would be no fear of learning disruptions in any future crisis in Cameroon again.	4	3	2	1
16.	The MINESEC video lessons feedback systems are efficient between learners and teachers.	4	3	2	1
17.	Learners are encouraged to bring phones to class in order to learn the skills to use them in order to ensure continuity.	4	3	2	1

0pen Ended Questions Section

18. Which major difficulties do teachers face in using MINESEC platform?
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19 What main difficulties do learners face using video lessons MINESEC platform?
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Any suggestions? .....

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Interview for Pedagogic Supervisors

PREAMBLE:

My name is Kinyuy Florence Y. I am a level II Masters student in the Faculty of Education, Department of Curriculum and Evaluation at the University of Yaoundé I. This questionnaire aims to evaluate the quality of video lessons produced by MINESEC Distance Education Centre for secondary school students in Cameroon, from administrators' perspective. Your responses will help assess the quality of the product in terms of content quality, presentation quality, and the effectiveness of the dissemination platform. It will provide insights into the satisfaction of teachers and students, as well as the project's progress against expected outcomes. Rest assured that the information collected will be used solely for this research purpose and will be kept confidential. Your participation is entirely voluntary, and I sincerely appreciate your time and contribution.

A) Identification of Respondents

1. Gender : M ☐ F ☐

Age range: 20 - 25 ☐ 26-30 ☐ 31 – 35 ☐ 36 and above ☐

B) Quality of the Product:

Preparation

2. What do you do to insure that the lessons you produce meet the stipulated quality?

Presentation

3. How do you incorporate interactive elements?

4. When do you use assessments/quizzes to engage learners to evaluate their understanding?

5. How is students' skill acquisition evaluated in a video lesson? (CBA)

Dissemination

6. What measures do you take to ensure the accessibility of the video lessons for diverse learners?

Progress of the Project against Expected Outcomes:

9. a) What are the current challenges in terms of meeting the expected outcomes?

b) Which strategies are being implemented to address them

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Observation Guide at DEC

PREAMBLE:

My name is Kinyuy Florence Y. I am a level II Masters student in the Faculty of Education, Department of Curriculum and Evaluation at the University of Yaoundé I. ThisObservation Guide at DEC aims to evaluate the quality of video lessons produced by MINESEC Distance Education Centre for secondary school students in Cameroon. It will provide insights into the satisfaction of teachers and students, as well as the project's progress against expected outcomes. The information collected will be used solely for research purpose and will be kept confidential. I sincerely appreciate your permission, time and the contribution your institution has given me.

Rating Scale:
5. Outstanding: Exceeds all requirements
4. Very Good: Meets all requirements effectively
3. Good: Meets most requirements
2. Fair: Meets basic requirements
1. Poor: Below requirements

Fill only the number of the grade against each criteria

	Variable	**Variable**	**Variable**
	Criteria and Grade	**Criteria and Grade**	**Criteria and Grade**
No.	**Quality of Video Lessons**	**Beneficiaries' Satisfaction**	**Expected Outcomes**
1.	Pedagogic Supervisors	Lesson Presentation	Students engagement
2.	Production procedures	Platform Interaction	Teachers engagement
3.	Respect of principles	Platform Accessibility	Higher completion rate

4.	Content Relevance	Quantity of Resources	Schools benefiting
5	Align with Curriculum	Platform	
		Responsiveness	
6.	Structure	Media materials	
		distributed in the field	
7.	Integration of CBA		

LA PRODUCTION DES COURS À DISTANCE (Standards)

Module 2 : Préparation d'une Leçon à Diffuser à Distance (Ministry of Basic Education)

1. Presentation du module

Ce module vise à rendre les enseignants et les cadres de supervision pédagogique capables de de préparer des leçons à diffuser à distance.' Spécifiquement, il s'agira de les former à la prise en main du curriculum afin de programmer les activités d'enseignement et d'apprentissage (1), de structurer un module de cours en utilisant les outils appropriés (2), de les doter des outils-méthodes nécessaires pour assurer l'analyse et l'évaluation des ressources numériques tout au long du processus de leur production, en même temps qu'il prépare à la production d'une ressource respectant les exigences de qualité, et permet aussi à partir des critères précis de cerner les rôles spécifiques assignés à chaque niveau de la chaîne de validation de la leçon numérisée.

MINESEC Standard of Lesson Preparation

Pour la préparation de leçons à distance, le MINESEC s'appuie sur des standards définis en collaboration avec la Banque Mondiale et l'UNESCO, qui sont ensuite validés et publiés par une note de service du Ministre. Ces leçons sont diffusées sur une plateforme dédiée aux élèves du secondaire, qui peuvent progresser à leur propre rythme, prendre des notes et consulter des liens pour approfondir leur compréhension.

Processus de développement des standards par le MINESEC

1. Identification des standards : L'équipe projet du MINESEC, avec l'appui d'experts de la Banque Mondiale, a identifié un ensemble de standards conformes à la réglementation camerounaise et aux recommandations de l'UNESCO.
2. Validation des standards : Les standards identifiés passent par une phase de relecture par les responsables clés du MINESEC, suivie de consultations élargies d'autres départements ministériels.
3. Approbation officielle : Le Ministre des Enseignements Secondaires valide les standards retenus par le biais d'une note de service spécifique à un cercle restreint de responsables.
4. Publication : Les standards approuvés sont ensuite publiés pour être pris en compte par les différents responsables.

Mise en œuvre de l'enseignement à distance

Plateforme dédiée : Le MINESEC a mis en place une plateforme d'enseignement à distance pour les élèves du secondaire.

Contenu adapté : Les leçons sont dispensées par des enseignants qualifiés et incluent du contenu varié, comme des liens vers des ressources supplémentaires pour approfondir la compréhension.

Pédagogie flexible : Les élèves peuvent travailler à leur rythme, prendre des notes et consulter les ressources à leur disposition, offrant ainsi une flexibilité par rapport à la classe traditionnelle.