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# Virtual-Teaching Practicum Evaluation and Enhancement of Sustainable-Teaching/Learning

Mboh Jones Nchenepoh<sup>1</sup>, Patrick Kongnyuy<sup>2</sup>

<sup>1</sup>Department of Education Management and Administration, Foyaguem University Institute, Dschang, Cameroon

<sup>2</sup>Department of Educational Leadership, University of Bamenda, Bamenda, Cameroon

## Email address:

mjones\_205@yahoo.com (Mboh Jones Nchenepoh)

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**Abstract:** The paper aimed at assessing the quality of virtual teaching/learning experiences incorporated in the teaching practicum at the Government Teacher Training Colleges in Cameroon. Teaching practicum is a very important exercise in the initial training of teachers. It has to be rich in context, input and process to ensure that the trainees are well equipped to meet present and future needs of diverse learners and the society by extension. At the same time, it has to be holistic and proactive so as to guarantee an effective teaching/learning even in an advent of physical classroom lockdown imposed by pandemics or social unrest. This can be done by diversifying teaching/learning methods to embrace aspects like e-learning techniques that will solve even the crisis of over-crowded physical classrooms. The study adopted a descriptive survey that anchored on an 11 item closed ended questionnaire for teacher trainers and 11 item closed ended questionnaire for teacher trainees as well as document review. The questionnaire items were adapted in keeping with the Stufflebeam's Evaluation Model. The questionnaires were pilot tested on 10 respondents each who did not constitute part of the sample. The participants were randomly selected and made up of 200 final year student teachers and 60 teacher trainers. Findings revealed that the teaching practicum at the Government Teacher Training Colleges in Cameroon is effective as it respects regulatory guidelines vis-à-vis the teaching practicum context to a greater extent but there is need to include a module on virtual teaching practicum in the training programme in order to guarantee sustainable Teaching/Learning in schools.

**Keywords:** Evaluation, Virtual-Teaching, Sustainable-Teaching/Learning

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## 1. Introduction

An educational institution performs a significant function of providing learning experiences to lead their students from the darkness of ignorance to the light of knowledge. The key personnel in the institutions who play an important role to bring about this transformation are teachers. The teacher is the most important element in any educational program. It is the teacher who is mainly responsible for the implementation of the educational process at any stage. This shows that it is imperative to invest in the preparation of teachers, so that the future of a nation is secure. The importance of competent teachers to the nation's school system cannot be overemphasized. The Indian National Curriculum Framework 2005 places demands and expectations on the teacher, which need to be addressed by both initial and

continuing teacher education. There can be no excellence in education without the first-rate teachers. One can change the curriculum, buy more materials, refurbish the physical environment, lengthen the school day, but without good teachers, change will not produce the desired effect. [19]

The present Grade One Teacher Training Programme in Cameroon recognizes the importance of teaching practicum as far as the training of teachers is concerned. In its preliminary pages, it clearly states the modalities and duration of the teaching practicum for each level of the college. According to this document, there are three types of Teaching Practicum; observation, guided practice and autonomous practice. Observation is a teaching practice type whereby the teacher trainee sits in class and learns practical teaching practices by observing a more experienced teacher in action. This more experienced teacher is called in context cooperating teacher. Having done with observation, the

teacher trainee is qualified to engage with teaching under the guidance of the cooperating teacher. This is the type of teaching practicum called guided practice. The teaching is done under the watchful eyes of the cooperating teacher who gives positive feedback to the teacher trainees after each teaching session in order to help them improve on their subsequent teaching. In the course of the lesson, if very grievous mistakes were being committed by the teacher trainee, the cooperating teacher is permitted to interrupt and make corrections as need may be. The third type of the teaching practicum is the autonomous practice. Here, the teacher trainees have sufficiently accumulated a relevant body of both theoretical and practical knowledge that enables them to teach effectively with little or no guidance from the cooperating teachers. At this stage, the teacher trainee can be evaluated in prelude to certification.

The duration and nature of teaching practicum for the various courses are outlined in very precise and clear terms. For trainees offering the three years course, their teaching practicum is scheduled as follows. During the first year they are expected to do observation of teaching for six weeks. They have to spend three weeks each in the Nursery and Primary section of the Elementary school where they are carrying out their teaching practicum. During the second year, they have to do Guided Practice. This again has to last for a period of six weeks. They put in three weeks each in the Nursery and Primary sections of the school. Finally, during the third year they do Autonomous Practice. Here again they are expected to spend three weeks each at the Nursery and Primary sections.

For those who enrol for the two years course, they do an observation of one week each in the Nursery and Primary sections during the first year. Then this is followed by a Guided Practice phase of four weeks in the Nursery or Primary section of the elementary school. During the final year, they begin teaching practicum with Guided Practice in the other section not chosen the previous year. The remaining four weeks are to be spent in either the Nursery or Primary in the form of Autonomous Practice. Lastly, for those who get enrolled for the one-year course, they first of all do an observation of one week each in the Nursery and Primary sections. This is followed by a one week of Guided Practice in the Nursery or Primary section. Then they end with Autonomous Practice of three weeks in the Nursery or Primary section.

Teaching practicum is otherwise called teaching practice. From this appellation, it is understood to be a period during which student teachers are expected to apply or practice all the theoretical knowledge about teaching and learning which they have imbibed from their various lessons taught by their teachers. The programme has the following terminal objectives. The terminal objectives demand that at the end of the course, the teacher must be a field practitioner, who prepares, facilitates and evaluates learning activities respecting students' differences, professional ethics and socio-cultural environment, by developing adapted communication strategies. The teacher will be a professional

who performs the four priority functions which are: (1) Teaching, (2) Communication, (3) Education and (4) Analysis and Regulation. This entails that he should be a reflective field practitioner: a teacher who analyses and regulates classroom practices.

The goals of teaching practice are similar in most teacher training institutions although their duration vary. Teaching practice is a compulsory course in all the teacher training institutions in Cameroon. As of the time of this research there were four state universities which had Higher Teacher Training Colleges - Ecole Normale Supérieure (ENS) for the training of secondary and high school teachers for general education in Cameroon. These colleges are hosted; at the Universities of Yaoundé 1, Bamenda, Maroua and Bertoua. There were also four state universities that hosted; Higher Technical Teacher Training Colleges for the training of secondary and high school teachers for technical education. These colleges were under the Universities of Douala, Bamenda, Buea and Ebolowa. They all had at least a period of three months blocked for teaching practice and it was done only once until the students graduate. During this time classes were not held so that student teachers and their supervisors can concentrate on teaching practice. The block period for teaching practice is used by most universities in the world and therefore it seems to be the standard model for teaching practice even though, within this model, there are discrepancies especially with regard to the duration.

Student teaching practice is a kind of apprenticeship stage during which the students are sent out to schools to gain practical and professional experience by translating all the educational theories they have acquired or learnt during training into practice [6]. It is a practical teaching activity by which the student -teachers are given an opportunity in actual school situations to demonstrate and improve training in pedagogical skill over a period of time [16]. The term teaching practicum has three major connotations: the practicing of teaching skills and acquisition of the role of a teacher; the whole range of experiences that students go through in schools; and the practical aspects of the course as distinct from theoretical studies.

This study is out to investigate an aspect of this teaching practice which is not yet in practice. That is there exist no Teacher Training College in Cameroon that has already embraced the concept of virtual teaching practicum. The world is continuously being threatened by plethora of problems and crises. Among this is the disruption of teaching/learning in schools during health pandemics and social unrest. The application of technology and the use of machines for now remains the surest panacea to guarantee teaching/learning at all times (sustainable teaching learning).

## 2. Statement of the Problem

According to the joint Ministerial circular N°078/B/1464/MINEDUB/MINESEC of 25 August 2021 that laid down the school calendar for the 2021/2022 academic year in Cameroon, teaching/learning activities shall henceforth be

carried out through distance education to reinforce the face to face teaching/learning in schools. This shall take place through the following four modalities or media.

- 1) Teaching/learning activities through the internet
- 2) Teaching/learning activities through the radio
- 3) Teaching/learning activities through the television
- 4) Individualized Learning through print materials for learners who live in areas where learners do not have access to good internet connections, and radio and TV signals are poor.

It has been largely observed as of the time of this research that, this joint Ministerial prescription has remained largely theoretical. Teachers and students are yet to fully embrace and make use of the online teaching/learning platform of the Ministry. Also, teachers often shy from presenting model lessons on the Television. It is therefore crystal clear that this very laudable ministerial directives is very far from full implementation.

### 3. Purpose of the Study

This study was interested in finding out the extent to which the Teacher Training Colleges are matching practice with theory. Specifically this was concerned with degree of compliance with ministerial directives. In this regard focus was on the context of teaching practicum and the level of incorporation of virtual practices in the initial training of Teachers. Hence the following three research questions were formulated to guide this study.

- 1) To what extent do teacher trainers and student teachers observe the context of the teaching practicum prescribed for the Teacher Training Colleges?
- 2) To what extent do teacher trainers and student teachers incorporate virtual teaching/learning practices during practicum at the Teacher Training Colleges?
- 3) To what extent does the syllabus of the Grade one Teacher Training College prescribe virtual teaching experiences?

## 4. Review of Related Literature

### 4.1. Conceptual Review

#### 4.1.1. Evaluation

Evaluation is the systematic and objective assessment of an on-going or completed project or programme, its design, implementation and results. The aim is to determine the relevance and fulfilment of objectives, development efficiency, effectiveness, impact and sustainability. Evaluations are generally conducted by independent, external experts. In general an evaluation analyses complex issues and captures intended and unintended effects. Evaluations investigate the reason why certain aspects of a project or programme have or have not been implemented as planned. [14].

#### 4.1.2. Virtual-Teaching

Virtual classroom technologies can be used to mediate

learning experiences in a number of different ways. Below are some of the ways by which virtual teaching/learning can be carried out.

*Online Lecture with Interactivity.* Closely resembling face-to-face delivery, instructors will be mostly talking and providing didactic instruction. In this scenario, learners are often muted, and the instructor shares a presentation or screen to support their delivery. Sessions can often be recorded for learners to revisit and revise (and for learners who cannot attend). However, in the online environment it is important to build in regular breaks (ideally every 15-20 minutes) for a breakout task or reinforcement activity (e.g. quiz, discussion, question and answers).

*Activity-based Session / Tutorial.* Sessions are based around activity, using breakout rooms to split learners into small groups with discussion-based tasks to work on. Often sessions are book ended with an introduction to the topic and a summary at the end. Plenary feedback can be offered via a 'main room' periodically. This can be highly engaging and provide learners with high quality peer interaction. However, it can be more difficult to achieve in larger groups and there is a risk of learners' attention wandering in breakout rooms. Therefore, it is important to devise highly structured tasks of the appropriate length.

*Question and Answer / Panel Discussion.* These sessions can make effective reinforcement or revision sessions. Learners can submit questions in advance, address them in the session and engage in discussion. This allows issues to be addressed in real-time in a supportive environment and provides the instructor with immediate feedback on learners' understanding. A nice variation on this learning design is a panel discussion, where colleagues can be invited to provide a short (e.g. 5 minute) presentation on a particular topic and then participate in a debate or present controversial questions which require learners to 'pick a side'. When learners are asked to state an opinion, they become more invested in discussing it. It also gives learners access to a range of voices and can expose them to real academic debate. It as well predisposes learners to unleash their originality and creativity.

*Flipped Classroom.* A workshop style session could mix short presentations, Questions and Answers, and polling / audience response tools, to summarize and reinforce content previously delivered (asynchronously) online. This approach takes pressure and risk off the synchronous session in terms of content delivery, while providing opportunities for active learning. However, this relies on learners engaging with set activities, which might be specifically challenging for some learners. Therefore, it is often useful to include a range of different activities to engage learners.

*Consultations.* Learners bring challenging dilemmas, practical case studies, real life situations or problems and seek the group's input and advice. This can be particularly effective with adult learners or in project-based courses. [12]

#### 4.1.3. Sustainability in Teaching/Learning

Sustainable teaching is the process of fostering self-compassion and renewal in educators who support the growth

and development of students in turn. Sustainable teaching puts educators first with the goal of creating an inclusive, collaborative community. It is an integrated approach to education and enables all participants to thrive. It calls on teachers to embrace the use of both Low, Mid and High Tech Assistive Technology in Education. [10]

There has been increasing awareness that the world's growth-based economy, excessive resource extraction, climate-changing pollution, global inequalities and loss of biodiversity are unsustainable. The United Nations (UN) has produced reports, held conferences and set targets, and member states have made agreements and commitments. The European Union (EU) has produced a Green Deal (2019). However, substantial changes are not being implemented fast enough, with catastrophic effects on people and countries, especially in the global south. Education has been given an important role in strategies for change, with UNESCO as the lead organization in developing what is called 'education for sustainable development'. [2]

Within this context, sustainable education will focus on the following three dimensions. Firstly education for a sustainable world. Here, the focus is on the subject knowledge, especially from scientific, environmental or digital disciplines, needed to address specific problems such as change or social or economic inequalities. While there is widespread recognition that economic, social, environmental and political issues are intertwined, the focus is often on finding both scientific or social solutions to specific problems and less on interdisciplinary perspectives.

Secondly education that sustains students for their lifetime. Here, the focus is on learning institutions equipping learners with the personal abilities to understand and act on an increasingly unpredictable and conflicting world and emphasizing the importance of learners not only being 'involved', but active partners, co-researchers and co-creators in their education. While some existing literature and practices have a clear idea of the individual and collective transformations they were trying to achieve, there was also a tendency to reproduce neoliberal ideas about creating self-marketing subjects other than equipping learners with true and sustainable life-long learning skills.

Thirdly learner-led initiatives, and learner-teacher collaboration initiatives must be supported by commitments from the school leadership, management, and governance structures. In some cases, initiatives might also need the support of policymakers at the national or European level to be successful. [17]

It is worth noting that the above framework is focused only on tertiary education. This study therefore put forth the need for sustainable education to start from Nursery Education level. This will mean ensuring that the training of nursery and primary school teachers equips them with sustainable teaching/learning skills. Sustainable teaching/learning skills in this context refers to equipping the teacher to teach effectively and efficiently both in physical and virtual classrooms. Secondly focus is on education without paying attention on how the teaching/learning process will be carried

out to ensure sustainable education. [18]

#### 4.2. Empirical Review

Among the many related publications, some few pertinent ones have been read through. The first one here is the work on the effectiveness of the teaching practice at the Faculty of Education of the University of Buea. The study opined that generally the teaching practice exercise in the University of Buea was effective but supervision and duration needed to be improved upon. [4] A similar study assessed the effectiveness of the teacher training programmes offered by Kohat University of Science & Technology Kohat (Khyber Pukhtunkhwa) Pakistan. After analysis of data, the researchers arrived at results that the B.Ed programme was effective and it met the needs and requirements of the prospective teachers but it had some weak points. For instance it did not inculcate Islamic ideology, distribution between theory and practice was not appropriate, it did not provide sufficient base for research and introduce modern instructional strategies. [9]

There was yet another study conducted at Victorian Council of Deans of Education and the Victorian Institute of Teaching. This was also focused on the nature of teaching practice at this institution and arrived at a similar conclusion. Findings from the study demonstrated the need for the practicum component of teacher education to be more closely guided by the Victoria Institute of Teaching professional Standards for Graduating Teachers. This is the agreed set of standards for teaching as a profession in Victoria. [8]

This study also tapped from the Finnish experience. A group of researchers carried out a similar research on a group of Finnish adult pre-service teachers. This had to do with the incorporation of 21<sup>st</sup> century skills in the final practicum in autumn 2013. The study came out with the conclusion that, the 21<sup>st</sup> Century Skills was taken into account in planning learning environments but how to apply 21<sup>ST</sup> Century Skills in the classroom demanded deeper understanding and abilities of applying these skills in practice. [1] Another yet very closely related study came out with some similar findings as follows. They found a void in Fiji's aspiring and practicum teachers who needed to up-skill themselves in terms of quality delivery so that meaningful learning could be acquired and children could construct for themselves and the community at large; places of safety, security, and healthy communication. However quality also largely depended on national policies pertaining to teacher intake requirements, practicum duration, synchronizing of Teacher training courses and teacher preparedness. [5]

The experience of other African countries was also looked into. A typical example is the study carried out amongst Secondary School Teachers in Anambra State, Nigeria. The researcher came out with the following findings. That a number of the teachers are not digitally literate and are not aware of ICT and e-learning resource, which led to the disruption of teaching and learning during the Covid-19 pandemic. A major factor which contributed to inadequate awareness of ICT among teachers is lack of teacher's

professional development on ICT awareness and limited support and motivation from school leaders and the government. The few who are digital literate and could access ICT resources are confronted with problems such as lack of internet facilities, poor electricity, poor network, poor management and high cost of ICT facilities and internet data bundles. The study recommended provision of ICT facilities in secondary schools, the installation of internet facilities in secondary schools, subsidized data bundles, provision of e-libraries and creation of awareness about e-learning resources and compulsory ICT and Digital literacy training for teachers. [7]

## 5. Research Methodology

This research was qualitative in nature, and adopted the descriptive survey method. The research design was the Formative Evaluative Design. Being an evaluation, the CIPP Evaluation Model developed in 1960 by Daniel Stufflebeam et al was adapted to guide the study. In this model the CIPP is an acronym which stands for Context, Input, Process and Product respectively. Instruments for data collection were the questionnaire and document review. An 11 item closed ended questionnaire for teacher trainers and 11 item closed ended

questionnaire for teacher trainees as well as document review. All these were set on the dichotomous scale to describe the opinion of the respondents. The questionnaire items were adapted in keeping with the Stufflebeam's curriculum Evaluation Model. By this, the questions were developed from the aspects of the context, inputs and processes that were of interest in this study. The questionnaires were pilot tested on 10 respondents each who did not constitute part of the sample. The participants were randomly selected and made up of 200 final year student teachers and 60 teacher trainers. Under document review, the syllabus for the teacher training college was reviewed by the researcher. The syllabus was reviewed in order to find out the extent to which it prescribes virtual teaching/learning experiences for teacher trainers and teacher trainees. The data collected was analysed descriptively using the statistical Package for the Social Sciences and presented in frequency distribution tables.

## 6. Findings

Research Question 1: To what extent do teacher trainers and student teachers observe the context of the teaching practicum prescribed for the Teacher Training Colleges?

*Table 1. Teacher Trainers' Questionnaire.*

S/N	Items examining the extent to which teacher trainers observe the context of the teaching practicum prescribed for the Teacher Training Colleges	Yes	%	No	%	Total %
1	I teach all necessary theoretical knowledge before the student teachers go on teaching practice	60	100	00	00	100
2	I avail myself to correct lesson plans and lesson notes of student teachers before they are allowed to teach	60	100	00	00	100
3	I participated in at least one of the phases of the Teaching Practicum	39	65	21	35	100
4	I was present during all the teaching practice seminars and inquests	27	45	33	55	100
5	Average	46	76.67	14	23.33	100

Base on table 1, 100% of the teacher trainers accepted that they teach all necessary theoretical knowledge before the student teachers go on teaching practice. 100% of the respondents also accepted that they avail myself to correct lesson plans and lesson notes of student teachers before they are allowed to teach. 65% of the respondents accepted that

they participated in at least one of the phases of the Teaching Practicum. 45% of the respondents accepted that they were present during all the teaching practice seminars and inquests. Generally 76.67% of the teacher trainers observe the context of the teaching practicum prescribed for the Teacher Training Colleges.

*Table 2. Student Teachers' Questionnaire.*

S/N	Items examining the extent to which student teachers observe the context of the teaching practicum prescribed for the Teacher Training Colleges	Yes	%	No	%	Total %
1	I participated in the observation phase of the Teaching Practice	199	99.5	1	0.5	100
2	I participated in the Guided Practice phase of the Teaching Practice	200	100	00	00	100
3	I participated in the Autonomous Practice phase of the Teaching Practice	200	100	00	00	100
4	Each session of my Teaching Practice lasted for at least one month	40	20	160	80	100
5	I carried out Teaching Practice in both the nursery and primary section of my practising school	200	100	00	00	100
6	I was evaluated in all the compulsory subjects during teaching practice	200	100	00	00	100
7	Average	173	86.5	27	13.5	100

Table 2 reveals that 99.5% of the respondents accepted that they participated in the observation phase of the Teaching Practice. 100% of the respondents accepted that they participated in the Guided Practice phase of the Teaching Practice. 100% of the respondents accepted that they participated in the Autonomous Practice phase of the Teaching Practice. 20% of the respondents accepted that each

session of their Teaching Practice lasted for at least one month. 100% of the respondents accepted that they carried out Teaching Practice in both the nursery and primary section of my practising school. 100% of the respondents accepted that I was evaluated in all the compulsory subjects during teaching practice. Generally 86.5% of the student teachers observe the context of the teaching practicum prescribed for

the Teacher Training Colleges.

Research Question 2: To what extent do teacher trainers

and student teachers incorporate virtual teaching/learning practices during practicum at the Teacher Training Colleges?

*Table 3. Teacher Trainers' Questionnaire.*

S/N	Items examining the extent to which teacher trainers incorporate virtual teaching/learning practices during teaching practicum at the Teacher Training Colleges	Yes	%	No	%	Total %
1	I teach using my personal website	00	0.0	60	100	100
2	I teach using Whatsapp	08	13.33	52	86.67	100
3	I teach using Facebook	11	18.33	49	81.67	100
4	I teach using telegram	3	5.0	55	95	100
5	I teach using u-tube	00	0.0	60	100	100
6	I teach my students how to carry out online teaching	9	15	51	85	100
7	I allocate time for students to present digitalised lessons in the form of peer tutoring	01	1.67	59	98.33	100
8	Average	5	8.33	55	91.67	100

Table 3 shows that 0.0% of the respondents accepted that they teach using their personal website. 13.33% of the respondents accepted that they teach using WhatsApp. 18.33% of the respondents accepted that they teach using Facebook. 5.0% of the respondents accepted that they teach using telegram. 0.0% of the respondents accepted that they teach using u-tube. 15% of the respondents accepted that they teach

their students how to carry out online teaching. 1.67% of the respondents accepted that they allocate time for students to present digitalised lessons in the form peer tutoring. Generally 8.33% of the teacher trainers incorporate virtual teaching/learning practices during teaching practicum at the Teacher Training Colleges.

*Table 4. Student Teachers' Questionnaire.*

S/N	Items examining the extent to which student teachers incorporate virtual teaching/learning practices during teaching practicum at the Teacher Training Colleges	Yes	%	No	%	Total %
1	During teaching practice I taught some lessons using the social media	00	0.0	200	100	100
2	I taught some lessons using an audio/visual apparatus	180	90	20	10	100
3	During my training I taught some lessons over the radio	00	0.0	200	100	100
4	During my training I carried out online peer teaching	30	15	170	85	100
5	During my training I taught some lessons over the TV	00	0.0	200	100	100
6	Average	42	21	158	79	100

Table 4 above reveals that 0.0% of the respondents accepted that during teaching practice they taught some lessons using the social media. 90% of the respondents accepted that they taught some lessons using an audio/visual apparatus. 0.0% of the respondents accepted that during their training they taught some lessons over the radio. 15% of the respondents accepted that during their training they carried out online peer teaching. 0.0% of the respondents accepted

that during their training they taught some lessons over the TV. Generally 21% of the student teachers incorporate virtual teaching/learning practices during teaching practicum at the Teacher Training Colleges.

Research Question 3: To what extent does the syllabus of the Grade one Teacher Training College prescribe virtual teaching experiences?

*Table 5. Observation Guide.*

S/N	Items examining the extent to which the syllabus of the Teacher Training College prescribes virtual teaching/learning experiences	Yes	%	No	%	Total %
1	The preamble of the programme emphasizes the inclusion of virtual teaching/learning experiences	00	0.0	26	100	100
2	Professional competences include virtual teaching learning competences	00	0.0	26	100	100
3	All the subjects have learning themes on virtual teaching/learning experiences	02	7.69	24	92.31	100
4	Average	1	3.85	25	96.15	100

According to table 5 the researcher observed that none of the preambles of the 26 subjects of the programme emphasize the inclusion of virtual teaching/learning experiences. The researcher observed that 0.0% of the 26 subjects of the programme contain Professional competences with virtual teaching learning competences. The researcher observed that 7.69 of the 26 subjects have learning themes on virtual teaching/learning experiences. Generally, the syllabus of the Teacher Training Programme prescribes a content of 3.85% with virtual teaching/learning experiences.

## 7. Discussion of Findings

The first research question sought to find out the extent to which teacher trainers and student teachers observe the context of the teaching practicum prescribed for the Teacher Training Colleges. It was revealed that majority of the teacher trainers observe the context of the teaching practicum prescribed. The aspect of context under review here was the main responsibilities of the teacher trainers towards teaching

practicum. It was however noted here that teacher trainers' participation in the various phases of the teaching practicum is low. On a more serious note is the aspect that most teacher trainers neglect teaching practicum seminars and inquest. This is not supposed to be so because these are very important pedagogic exercises that form part of the continuous training of teacher trainers. It was also observed that majority of the teacher trainees observe the context of the teaching practicum prescribed for the Teacher Training Colleges. However a majority of colleges still compress the normal duration of six weeks per session. Studies concerning the duration of teaching practice revealed that the teaching practicum period should not be less than three months. So further compressing an insufficient duration should be unheard of. This can only be compared to wasting or mismanagement of resources that are already inadequate. Underutilisation of inadequate time is making a worse situation worst.

The second research question investigated the extent to which teacher trainers and student teachers incorporate virtual teaching/learning practices during practicum at the Teacher Training Colleges. Findings showed that minority of the teacher trainers incorporate virtual teaching/learning practices during teaching practicum at the Teacher Training Colleges. Teacher trainers in Cameroon do not own personal website for teaching/learning. A very limited fraction of teacher trainers make use of the social media to enhance teaching/learning. They do not allocate time for students to present digitalised lessons in the form of peer tutoring. Similar findings were arrived at on the part of student teachers. A minority of the student teachers incorporate virtual teaching/learning practices during teaching practicum at the Teacher Training Colleges. None of the student teachers used the social media in the teaching/learning process during teaching practice. As carvers learn to carve by carving, painters learn to paint by painting, sculptors learn to sculpt by sculpting, and so should student teachers learn how to teach by teaching. No student teacher used the radio to teach during their training. Also, none of the student teachers used the TV to deliver lessons to their learners during their training. There is need to ensure that the student teachers have a foretaste of what it takes to teach a lesson over the radio and TV both in synchronous and asynchronous modes. A minority of the student teachers accepted that during their training they carried out online peer teaching. It will be important for teacher trainers to initiate student teacher to begin doing peer online teaching. This will be in keeping with the joint Ministerial circular N° 078/B/1464/MINEDUB/MINESEC of 25 August 2021 that laid down the school calendar for the 2021/2022 academic year in Cameroon. This circular prescribes that teaching/learning activities shall henceforth be carried out through distance education to reinforce the face to face teaching/learning in schools. Teacher preparation has to be renovated to take care of this new expectation from teachers.

The third research question reviewed the extent to which the syllabus of the Grade one Teacher Training College

prescribes virtual teaching experiences. A keen look of the syllabus of the Teacher Training Programme revealed that it prescribes a content of 3.85% with virtual teaching/learning experiences. None of the preambles of the 26 subjects of the programme emphasize the inclusion of virtual teaching/learning experiences. The researcher observed that 0.0% of the 26 subjects of the programme contain Professional competences with virtual teaching learning competences. The researcher observed that 7.69% of the 26 subjects have learning themes on virtual teaching/learning experiences. Only two subjects out of the 26 subjects of the programme made mention of some aspects of virtual learning. This was specifically in ICT and Introduction to Educational Technology. The scope is limited and vaguely put. It cannot be well implemented by novice teachers of ICT and Educational Technology. Below are the highlighted aspects as read from the syllabus. *Integration of educational technology in the teaching/learning process according to context. Evaluation of learning with educational technologies (efficiently evaluate students' learning using educational technologies in the CBA context). Pedagogic Integration of ICT in class practice and evaluation (present lessons while integrating ICT following CBA from an elaborated form. [13]* The syllabus is prescriptive in nature with explicit objectives to be attained. (The body of knowledge to be imbibed, the set of attitudes, skills, values, and competences to be acquired). Therefore the content, teaching/learning processes, and evaluation practices also need to be explicit. It is true that the syllabus is explicit enough in a general sense. However when it comes to virtual teaching/learning practices, it is rather implicit and largely insufficient.

## 8. Conclusion

This study was interested in finding out the extent to which the Teacher Training Colleges are matching practice with theory. Specifically this was concerned with the degree of compliance with ministerial directives. In this regard focus was on the context of teaching practicum and the level of incorporation of virtual teaching/learning practices in the initial training of Teachers. The study concluded that both the teacher trainers and student teachers respect the context of the teacher teaching practicum prescribed for Teacher Training Colleges in Cameroon. However, both the teacher trainer and student teachers fall short of desired performance level when it comes to the incorporation of virtual teaching/learning practices. Finally the study observed that the Teacher Training Programme failed to provide explicit objectives, content, teaching/learning experiences, and evaluation practices. That is within the framework of virtual teaching/learning paradigm. It rather had an insignificant aspect which was stated in implicit terms.

## 9. Recommendations

This study strongly recommended the following to the Management Board of the Teacher Training Colleges in

Cameroon.

1. There is a serious need to recruit students with ICT background into the Higher Teacher Training colleges or Higher Technical Teacher Training Colleges who will be trained as Teacher Trainers in ICT.
2. For every subject under the umbrella of subject didactics, there is need to design and develop a teaching/learning module that will equip the teacher trainees with knowledge and skills needed to effectively build and host very rewarding domain specific virtual classrooms.
3. Teacher Trainees should do micro virtual teaching often among their peers in the course of their training.

These recommendations are in line with a series of other publications. To state a few, the first study carried out on Sustainable Teaching and Learning through a Mobile Application. The results indicated that educational mobile applications can be helpful in the teaching-learning process and at present education can benefit from the use of the innovative learning method. [3] In another instance a group of researchers worked on a model titled "Educational Transformation with Virtual Classroom: Integrated between TTF and Social Motivation". Their paper presented a virtual classroom model with Task-Technology Fit to assess the acceptance of the use of appropriate technology in teaching and learning and consider the social influence factors affecting online learning style as well.[15] A similar study on the experience of teaching practice in Tanzania was not indifferent. The study concluded that there was need for responsible authorities to review the procedures for carrying out teaching practice in order to improve on the quality of teachers in Tanzania. [11]

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