



**ASSESSMENT OF 21ST CENTURY TEACHING
PROFESSION SKILLS EMPHASIS IN UNIVERSITY
PRE-SERVICE TEACHER TRAINING PROGRAMMES IN KENYA:
A CASE STUDY OF BOMET UNIVERSITY COLLEGE**

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Abstract:

In this era of a global economy, education systems are changing to rethink the teaching-learning process in order to prepare better individuals to be able to meet the changing social and economic demands. It is against this backdrop that in 2019 Kenya adopted the Competency Based Curriculum (CBC) in an effort to reform her education system and make it globally competitive with regard to human resource development. The new curriculum is being implemented within a 2-6-6-3 system of education framework as the old 8-4-4 system is gradually phased out. The CBC implementation is currently from Pre-primary 1 to Grade 7. CBC aims to equip school graduates with the requisite 21st century competences of communication and collaboration, critical thinking and problem-solving, creativity and imagination, and citizenship, digital literacy, among others. The success of the CBC is anchored on the transformational role to be played by the teacher which goes beyond a technical transmission activity to include competences and attitude development, talent identification and nurturing, career guidance, and even activism committed to diminishing the inequities of society. The bulk of the country's teaching force will henceforth be concentrated in secondary schools as opposed to primary schools. Ideally, secondary school teachers would have had university-level education. These developments call for paradigm shifts in the way universities prepare teachers to be responsive to the changed role of the teacher. Of critical importance is the restructuring of the university teacher education programmes to ensure that they adequately address the challenges of the 21st century classroom, hence aligning them to the demands of CBC. The objective of this study therefore was to assess the level of emphasis accorded to skills of the 21st century teaching profession in university pre-service teacher training programmes in Kenya. Stufflebeam's (1983) CIPP Evaluation Model was used to give focus to the study. Descriptive survey and case study research designs were used in the

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study. The study was carried out at Bomet University College (BUC) and the study population comprised 1 Teaching Practice Assessment Criteria (TPAC) used to assess students on teaching practice in the 7 undergraduate and 1 postgraduate pre-service teacher training programmes at BUC. A saturated sampling technique was used to select 1 TPAC which formed the sample of the study. A document analysis guide was used to collect data whereby the TPAC was analyzed for content related to skills of the 21st century teaching profession. A numerical rating scale was used to gather information relating to 22 skills of the 21st century teaching profession. Each skill was rated against a 5-point scale to ascertain the degree of emphasis it was accorded in the curriculum. Mean scores were computed for each category of skills and used to report the findings. The study found an overall average emphasis ($M = 2.95$) on the skills of the 21st century teaching profession by university pre-service teacher training programmes in Kenya. It was concluded that pre-service teacher training programmes in Kenya did not adequately emphasize skills of 21st century teaching profession hence producing graduates who were ill-equipped with the requisite competences. The study recommended that universities in Kenya should review their teacher education programmes to align them with the demands of 21st century skills of the teaching profession and the CBC.

Keywords: assessment, skills, pre-service, teacher training

1. Introduction

Pre-service teacher education is a fully institutionalized scheme of training in which participant teacher trainees attend an institution on a full-time basis. The curriculum consists of 3 main elements: Subject area content, Professional preparation including principles and methodologies of teaching at the primary and secondary level, as well as philosophy, sociology, and curriculum theory. There are also elements of educational administration, planning, and economics of education at higher levels of training, and Practice teaching.

From a historical perspective, the teaching profession in Kenya had its roots in early missionary efforts to establish and spread schools for the education of the masses. Early teacher training colleges or centres were adjuncts to secondary and intermediate schools. These over the years, developed into fully independent colleges at various levels of specialization under the administrative management of the Ministry of Education.

Before independence and sometimes afterwards, teachers in Kenya were trained at five different levels.

First, students with 8 years of education took a two-year training course. If they had passed the Kenya African Preliminary Examination, on successful completion of the two-year teachers' course, they would be awarded a T3 certificate; otherwise, those without the KAPE would be awarded a T4 certificate. They would be employed either as Grade II or Grade III teachers respectively.

Second, students with 10 years of education, of which two were in secondary school did a two-year course and were graded as Assistant Teachers Grade I.

Third, students who successfully completed a secondary school education and obtained a school certificate did a two-year course and were awarded KT I certificate. Those without school certificates were awarded a T2 certificate. Both KT I and KT2 did the same professional course although they received different certificates.

Fourth, students who had the London Advanced GCE certificate or Cambridge Higher School certificate did a two-year course at Makerere University College and were awarded the Diploma of Education.

Fifth, graduates with general qualifications did a one-year course leading to the Post Graduate Certificate in Education, now known as Post Graduate Diploma in Education. They were then employed as graduate teachers. It is useful to note that from 1964, a concurrent degree structure was introduced, first at Makerere and later at the University of Dar-es-Salaam and University of Nairobi for Bachelor of Education degree.

Today, there exist two variants of pre-service teacher education in Kenya. These are the concurrent teacher education approach where the student is on a coherent programme of teacher training from the beginning of his pre-school education. Content includes subject area content, professional courses, methods, and teaching practice/practicum. Examples of programmes in this approach include the Diploma in Education, Bachelor of Education, Bachelor of Arts with Education, and Bachelor of Science with Education. In the consecutive teacher education approach, post-school education is less directed and may lead to a variety of outcomes. Content includes first academic then professional courses, methods, and practicum later. An example in this case is the Bachelor of Arts degree followed by a Postgraduate Diploma in Education.

To be effective, all programs must have an element of evaluation. Curriculum evaluation refers to the formal determination of the quality, effectiveness, or value of the program, process, and product of the curriculum. The most widely used method of evaluation is Stufflebeam's CIPP Model (Schleicher, 2012). The process of evaluation in CIPP Model is continuous and very important to the curriculum whereby context focuses on the environment of curriculum, input looks at ingredients of curriculum, process deals with ways and means of implementing the curriculum, and product focuses on the accomplishment of goals. This study focused on Product evaluation since Kenyan Universities' Schools of Education have to decide whether to continue, terminate, modify, or refocus the way they prepare teachers in light of the competency-based curriculum (Worthen & Sanders, 1987).

Historically, the teaching practice concept is based on the craft of apprenticeship. It is interconnected with theoretical study, fieldwork, practicum, and a wide range of institutional experiences involving school students, teachers, student teachers, and mentor-teacher educators. In a way, according to Mohan (2016), it acts as the evaluation tool for effective teacher education and is a critical quality indicator.

In Kenya, teaching practice assessment serves two purposes. The first is that teaching practice is a learning exercise through which supervisors provide valuable

feedback to student-teachers about their classroom interactions with their learners. This is the formative phase. The school environment affords them the opportunity to acclimatize to the experience of those in service. The second aspect is that teaching practice is an examination whereby the student-teacher's performance is graded by a supervisor who now plays the role of an examiner. This is the summative phase. In a way, teaching practice assessment is concerned with how well the product of the educational program, in the case of this study, student-teachers are prepared to effectively play their future roles as professional teachers. Through analysis of teaching practice documents, this study, therefore, purposed to assess the level of emphasis accorded to skills of the 21st century teaching profession in pre-service teacher training programmes in Kenya.

2. Objective of the Study

The objective of this study was to assess the level of emphasis accorded skills of the 21st century teaching profession in university pre-service teacher training programmes in Kenya.

3. Methodology

3.1 Research Design

The research designs were descriptive survey and case study research. A descriptive survey was suitable for the study as the researcher did not control any variables in the field. The phenomena were described as observed by the researcher. A descriptive survey according to Kombo and Tromp (2011) describes the state of affairs as it exists and the researcher reports the findings. Case study research enabled the researcher to apply quantitative research methods to non-probability samples (Mugenda & Mugenda, 1999).

3.2 Area of Study

Bomet University College (BUC) was established on 27th July 2017 as a Constituent College of Moi University through Legal Notice No. 145. The University College is expected not only to help the Government of Kenya increase access to university education but also to put greater emphasis on hands-on training for skills development and academic excellence. BUC offers Moi University programmes. BUC was studied because as a constituent college, it offered all (except Diploma in Education) variants of pre-service teacher education programmes found today in Kenya. The mother institution is a [public university](#) located in Kesses, Uasin Gishu County, in the former Rift Valley Province of [Kenya](#). It was established in 1984 by the Moi University Act of the [Parliament of Kenya](#), after recommendations from the McKay Commission. The School of Education at Moi University started in 1987 with a single undergraduate degree program, Bachelor of Education (Arts). Over the years, the school has grown to offer seven programs at the undergraduate level, spread over the Campuses and Constituent

Colleges of Moi University. The programs are: Bachelor of Education (Arts), Bachelor of Education (Science), Bachelor of Education (Technology Education), Bachelor of Education (Special Needs - Secondary), Bachelor of Education (Arts) with Guidance and Counseling, Bachelor of Education (Business Studies), and Bachelor of Education (Early Childhood and Primary Education).

3.3 Study Population

The study population comprised one Teaching Practice Assessment Criteria (TPAC) tool used to supervise students while undertaking teaching practice exercises at BUC.

3.3.1 Sample and Sampling Techniques

A saturated sampling technique was used to select one TPAC tool which was studied to ascertain how well the various Bachelor of Education programmes and the Postgraduate Diploma in Education programme equipped teacher trainees with skills of the 21st century teaching profession. BUC which formed the unit of study was selected because it offered a variety of university pre-service teacher education programmes drawn from the mother institution; that is, Moi University. The later institution has an entrenched culture of preparing teachers arising from its long history (being the second university to be established in Kenya) and the mentoring role it has played in the past and continues to play currently, in the development of its constituency colleges into fully-fledged universities.

3.3.2 Research Instrument

A document analysis guide was used to collect data. The teaching practice policy, classroom assessment criteria, and confidential report form together comprised the University's Teaching Practice Assessment Criteria (TPAC) which were analyzed for content related to skills of the 21st century teaching profession. The skills were categorized as; ways of thinking skills, skills of living in the world, ways of working skills, tools for working skills, pedagogical skills, management skills, innovation and entrepreneurship skills, social and emotional skills, and research skills. The TPAC provided the researcher with the best opportunity of analyzing the extent to which the university pre-service teacher education programmes emphasized the skills of the 21st century. Gronlund (1985) posits that learning outcomes in skill areas are difficult to evaluate with the usual paper-and-pencil test and recommends observational techniques as the best alternative. By focusing on this tool, the researcher got first-hand information of the desirable attributes of the teacher in the mind of the university curriculum planner tasked with preparing students for their future careers in teaching. The assumption was that there was congruence between what is taught and what is evaluated in the curriculum.

3.3.3 Methods of Data Analysis

A numerical rating scale was used to gather information relating to 22 skills of the 21st century teaching profession. Each skill was rated against a 5-point scale to ascertain the

degree of emphasis it was accorded in the curriculum. A score of 5 indicated an outstanding emphasis and meant that the skill was mentioned in the TPAC, was assessed by both the university supervisor and school personnel (either cooperating teacher or principal), and both results were used in the final grading of the student teacher. A score of 4, on the other hand, indicated above-average emphasis and implied that the skill was mentioned in the TPAC, was assessed by both the university supervisor and school personnel (either cooperating teacher or principal), and at least one of the results was used in the final grading of the student teacher. An average emphasis was yielded by a score of 3 which meant that the skill was mentioned in the TPAC, and was assessed by either the university supervisor or school personnel (either cooperating teacher or principal) but the result was not used in the final grading of the student teacher. Scores 2 and 1 implied below-average and unsatisfactory emphases respectively. Below-average emphasis meant that the skill was mentioned in the TPAC but not assessed at all whereas unsatisfactory emphasis implied that the skill did not feature at all in the TPAC. Mean scores were computed for each category of skills and used to report the findings.

4. Results

The results of the study are presented in Table 1.

Table 1 indicates an overall average emphasis ($M = 2.95$) on the skills of the 21st century teaching profession in the university pre-service teacher education programmes. Specifically, ways of thinking skills had a below-average score ($M = 2.20$). Creativity, critical thinking, and learning did not feature anywhere in the Teaching Practice Assessment Criteria (TPAC). However, there was an element of problem-solving whereby the teaching practice policy required each student to work on a project to be submitted at the end of the teaching practice session. The project contributed 30% to the final grade of the course. Skills for living in the world also yielded a below-average score ($M = 2.50$). Under this category of skills, citizenship was alluded to in the teaching practice policy that required students to familiarize themselves with the Teachers Service Commission's code of regulations and conduct. The school principal was also supposed to rate the student teacher's code of conduct in the confidential report. Self-efficacy was mentioned in the classroom assessment criteria whereby a student was required to do self-evaluation regarding their own teaching.

Ways of working skills ($M = 3.50$) had an above-average rating with communication receiving adequate attention in the classroom assessment criteria. The teacher's command of language and other aspects related to the teacher's personality carried 10% of the total marks. Evidence of collaboration in terms of the teacher's relationship with staff was one of the aspects in the confidential report form about the teacher trainee. Tools for working skills ($M = 1.00$) and innovation and entrepreneurship skills ($M = 1.00$) had unsatisfactory ratings. The two skills did not feature at all in the TPAC.

Table 1: Emphasis accorded to skills of the 21st century teaching profession in university pre-service teacher education programmes

Skill	Emphasis					Mean
	1	2	3	4	5	
Ways of thinking skills						2.20
Problem-solving				X		
Creativity				X		
Critical thinking	X					
Decision making	X					
Learning	X					
Skills for living in the world						2.50
Citizenship		X				
Life and career (self-efficacy)			X			
Ways of working skills						3.50
Communication				X		
Collaboration			X			
Tools for working skills						1.00
Information and Communication Technology	X					
Pedagogical skills						3.43
Teaching methods (subject and content specific)				X		
Teaching strategies (whole group teaching, guided discovery etc.)				X		
Learner engagement				X		
social and collaborative learning			X			
Learner motivation				X		
Individual differences	X					
Formative feedback				X		
Management skills						4.00
People management				X		
Self-management				X		
Administrative and management				X		
Innovation and entrepreneurship skills	X					1.00
Social and emotional intelligence skills				X		4.00
Overall						2.95

Key: 1.00 – 1.79 – Unsatisfactory, 1.80 – 2.59 – Below average, 2.60 – 3.39 – Average, 3.40 – 4.19 – Above average, and 4.20 – 5.00 – Outstanding.

Pedagogical skills (M = 3.43) received above-average emphasis. Teaching methods, teaching strategies, learner engagement, learner motivation, and formative feedback were the key areas the university supervisor was required to focus on during classroom assessment. However, social and collaborative learning, and individual differences were not accorded adequate attention in the TPAC with the later missing out completely. Management skills (M = 4.00) and Social and emotional intelligence skills (M = 4.00) also received above-average emphasis.

5. Discussion

It is evident from the results that the university pre-service teacher education programmes do not adequately equip teacher trainees with skills of 21st century teaching profession. The overall average emphasis on the 21st century teaching profession skills implies that generally the skills mentioned in the TPAC were assessed by either the university supervisor or school personnel but the results were not used in the final grading of the student teacher. The greatest concern to Kenyan educationists is the fact that teachers graduate from university into the world of work when they are ignorant of the many affordances of Information and Communication Technology (ICT) and when their innovation and entrepreneurship skills are near level zero. This state of affairs is unacceptable in this era of the global economy. As Schleicher (2012) observes, teachers need to be agents of innovation not least because innovation is critically important for generating new sources of growth through improved efficiency and productivity. This is also true in the education sector, where innovation applied to both curricula and teaching methods can help to improve learning outcomes and prepare students for the rapidly changing demands of the 21st-century labor market.

Although there seemed to be an adequate emphasis on pedagogical skills, the university pre-service teacher education programmes accorded undue attention to teacher preparation at the expense of individual differences in skill. In the classroom assessment criteria, teacher preparation carried 15% of the total score whereas individual difference skill was not assessed. University supervisors were required to assess teacher preparedness by analyzing documents availed to them by the student teacher during school supervision visits. The documents to be analyzed were mainly the schemes of work and lesson plans, among others. The problem is that an analysis of a document in such circumstances cannot yield evidence of whether the student-teacher was the one who actually produced the document or someone else did it on behalf of the student-teacher. Even if the documents were handwritten, the supervisor would be required to be a forensic expert in handwriting to be able to attribute them to a particular individual. But still, this process cannot ascertain whether the document was the student teacher's original idea or whether it was copied from somewhere else. This raises the question of the validity of the assessment instrument used by universities to measure teaching skills. To be effective, universities must rethink the role played by the cooperating teacher in the entire teaching practice process.

With all these pitfalls noted in the university pre-service teacher education programmes, the question that begs answers is: What is required of the teacher preparation program in order to prepare graduates who are ready to teach well in a 21st-century classroom? As Schleicher (2012) observes, education systems generally struggle with finding answers to this question and there is no agreement across countries on how success should be measured and quality assured. Fortunately, there seems considerable agreement across countries regarding important attributes that 21st-century learning environments should provide.

In order to be most effective, learning environments should: make learning central, encourage engagement, and be the place where students come to understand themselves as learners; ensure that learning is social and often collaborative; be highly attuned to students' motivations and the importance of emotions; be acutely sensitive to individual differences, including in prior knowledge; be demanding of every student, without overloading students; use assessments that emphasize formative feedback; and promote connections across activities and subjects, both in and out of school. Taken together, these principles form a demanding framework on which teachers' professionalism is based (Schleicher, 2012).

In view of the innovative learning environments framework teacher education programs should focus on producing graduates who are well-versed in the subjects they teach in order to be adept at using different methods and, if necessary, changing their approaches to optimize learning. This includes content-specific strategies and methods to teach specific content. They need a rich repertoire of teaching strategies, the ability to combine approaches, and the knowledge of how and when to use certain methods and strategies. The strategies used should include direct, whole-group teaching, guided discovery, group work, and the facilitation of self-study and individual discovery. They should also include personalized feedback. Teachers need to have a deep understanding of how learning happens, in general, and of individual students' motivations, emotions, and lives outside the classroom, in particular. Teachers need to be able to work in highly collaborative ways, working with other teachers, professionals, and para-professionals within the same organization, or with individuals in other organizations, networks of professional communities, and different partnership arrangements, which may include mentoring teachers. Teachers need to acquire strong skills in technology and the use of technology as an effective teaching tool, to both optimize the use of digital resources in their teaching and use information-management systems to track student learning. Teachers need to develop the capacity to help design, lead, manage, and plan learning environments in collaboration with others. Last but not least, teachers need to reflect on their practices in order to learn from their experiences (Schleicher, 2012).

6. Conclusion

Based on the results and discussion aforementioned, the study concludes that university pre-service teacher education programmes in Kenya produced graduates who were ill-equipped with the skills of 21st century teaching profession. The graduates lacked digital literacy, innovation, and entrepreneurship skills and were insensitive to individual differences.

6.1 Implications

The following are implications of the study:

- 1) Kenya's education system could be headed for a crisis with regard to teacher preparedness to handle the new competency-based curriculum (CBC) at the

secondary level. Universities in Kenya that prepare teachers for secondary school teaching should do the following:

- a. Immediately review their teacher education programs to align them with the demands of the CBC and 21st century skills of the teaching profession.
 - b. Rethink the methods of assessing the skills of the teaching profession to focus more on observation techniques and have increased collaboration with the schools (specifically, the cooperating teacher and the principal).
- 2) The Ministry of Education on its part should organize in-service training programs on CBC for serving secondary school teachers.

Conflict of Interest Statement

The authors declare no conflicts of interest.

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