



THE 21ST CENTURY SKILLS GAP IN THE KENYAN EDUCATIONAL SYSTEM: A FOCUS ON PUBLIC SECONDARY SCHOOLS IN WEBUYE WEST SUB COUNTY, KENYA

Sarah Likoko¹ⁱ,
Pamela Khaemba²,
Ismael Mabunde³

Department of Educational Planning & Management,
Kibabii University,
Kenya

Abstract:

The quote from Alvin Toffler “*the illiterate of the 21st century will be those who cannot learn, unlearn and relearn* can be used to describe the educational system of a country which hopes to equip learners with relevant 21st century skills”. However, there is a widespread consensus that education systems are failing to adequately prepare learners with the relevant 21st century skills necessary to succeed in life, and career and be better citizens. The study adopted a descriptive survey research design. Primary data was collected using structured questionnaires and checklists. A census approach was used to select all 47 secondary schools in Webuye West Sub County. Purposive sampling was used to pick 4 teachers from each school. The four teachers were picked from the language department, Humanities department, Mathematics department, and Sciences department respectively. The sample size was 188 teachers. SPSS was used to analyze data. Descriptive statistics such as frequencies, percentages, mean and standard deviation was used. Findings reveal that the educational system in Kenya prioritizes competitive exams while underplaying 21st century skills that are needed to make learners better citizens. This implies that there is a high 21st century skills gap between both the teachers and the learners in most of the public secondary schools in Kenya. The study concluded that in 21st century all educators (teachers) play a critical role in shaping the lives of learners. When the teaching and learning process is at its best, learners will be better citizens and better human beings in society and in the nation at large. Therefore, educators should act as mentors and peer coaches with fellow educators, pursuing continuous learning opportunities and unlearn, learn and relearn to make better educators.

Keywords: 21st century skills, education reforms, soft skills, competencies, pedagogical content

ⁱ Correspondence: email slikoko@kibu.ac.ke

1. Introduction

In today's globally interconnected world that is constantly and rapidly changing, 21st century skills are more important for students now more than ever. Academic qualification is no longer sufficient, students need to be able to think creatively and critically, work collaboratively, analyze information, solve problems in real-life situation and be able to demonstrate personal and social responsibility (Partner for 21st Century Learning, 2016). The term 21st century skills has been interpreted in many ways, but is generally considered to mean a combination of skills that are important in modern society and workforce (Voogt & Robbin, 2010). In her review of studies on 21st century skills, Chalkiadaki (2018), defined 21st century skills as encompassing a broad a broad range of skill sets such as creativity and innovation, critical thinking, problem-solving, personal and social responsibility and responsible global citizenship among other attributes.

The teacher's role in 21st century learning is to be change agents for embedding 21st century skills by instill national and global citizenship, stimulate critical thinking through hands-on activities, instill problem solving using real life situations, collaborative learning and teamwork, innovation and creativity (Nussbaum- Beach et al., 2014)

In most African countries, educational reforms have been implemented as a global response to aligning of curriculum to 21st century skills. The initiative has been spearheaded by international agencies such as NEPAD, World Bank, UNICEF and UNESCO. Kenya is one of the African countries that have adopted the framework for implementing 21st century skills in its educational system. The new CBC Curriculum in Kenya, is seen as the means through which the skills needed for economic growth and development in the country will be realized (KICD, 2017). However, this is yet to be realized since the implementation of CBC is still at the lower basic education level (grade six).

The education sector in Kenya like any other country, is dependent on quality teachers who are prepared to accept 21st century challenges to realize the transformation in education sector as outlined in SGD number 4 which advocates for quality education that is also at the forefront concern among educators and policy makers. The SDG number 4 commits member states to ensure inclusive, equitable and quality education and promote lifelong learning opportunities for all. However, there is a widespread consensus that our education systems are failing to adequately prepare learners with the relevant 21st century skills necessary to succeed in life, career and be better citizen.

2. Statement of the Problem

Despite, Kenya citizens who have benefited from 12 years of basic education, and additional two or more years of college education some learners are not able to demonstrate the expected learning outcomes of learning of 21st century skills such as sense of responsibility. This has raised concerns of educational stakeholders. Some

scholars have attempted to find answers through research studies; therefore, the researcher has not been left behind.

Research studies on 21st century skills in teaching and learning have been conducted in Kenya and outside Kenya. For instance, a survey conducted in 2013 by some organizations in Kenya and across the world by Pearson Foundation Study, Micro Partners in learning and Society of Human Resource Management and Crockett's (2016) on 21st century skills for global citizens asserted that 21st century skills were the top skill gap for job applicants (Crockett, 2016).

Zamri (2013) conducted a study in Malaysia on 21st century skills in teaching and learning. He found out that many teachers in Malaysia have failed to integrate various skills, especially 21st century skills in teaching and learning. The teacher's awareness towards these skills is important to enable them apply in teaching and learning. He concluded that teachers need to acquire first the 21st century skills and then develop strategy to instill them in learners. In addition, it was noted that the quality of the teacher will determine the outcome of the students. Few foregoing studies have been conducted in Kenya on 21st century skills gaps in teaching and learning in public secondary schools in Kenya. The study will fill this knowledge gap.

3. Methodology

The study adopted a descriptive survey design. The survey study, according to Mugenda & Mugenda (2003), is one of the most widely used by researchers who wish to collect primary data in order to describe the population. Primary data was collected using structured questionnaires and checklists. The Questionnaires and checklist were preferred because they are less costly and enabled the collection of large data over a short period of time. The study targeted 47 schools. According to Mugenda and Mugenda (2003), a sample is a subject of a particular population. It is a group of subjects from which data is collected. The sample size was arrived at by census method, where all schools (47) in Webuye Sub County were selected. For the purpose of this study, the study adopted a census survey since the target population was small. Purposive sampling was used to pick 4 teachers from each school. The four teachers were picked from the Language department, Humanities department, Mathematics department and Sciences department respectively. A total of 188 respondents were selected. SPSS was used to analyze data. According to Best & Khan (2006), purposive sampling is relevant when specific information from specific individuals is required. The validity of the research instruments was tested. The KMO results indicated acceptable levels of sampling adequacy of above 0.5. To guarantee the reliability of research instruments, a test-retest was conducted in 4 schools during pre-visiting. Pearson's Moment Correlation of the test-retest results indicated an r coefficient of 0.75. This was adequate according to Orodho, (2009), Descriptive statistics such as frequencies, percentages, mean and standard deviation were used.

4. Research Findings and Discussion

The first objective of the study was to establish whether teachers in public secondary schools in Kenya have been engaged in professional development in their area of specialization with the objective of unlearning, learning, and relearning to be better teachers and role model to learners. To achieve this, the study subjected the respondents to similar **YES** and **NO** questions on questionnaires and checklists. Findings were as shown in Table 4.1 below.

Table 4.1: Descriptive Analysis of Professional Development of Teachers in Public Secondary Schools in Kenya

Professional development assessment	Frequency			Chi-square test of goodness of fit		
	Yes	No	Total	Chi-Square	df	p-value
Have you attended any capacity building workshop for the past 5 years?	143	45	188	51.085	1	0.00
	76%	24%	100%			
Have you engaged in any mentorship program in your subject area?	31	157	188	84.447	1	0.00
	16%	84%	100%			
Have you attended any INSET training for the past 5 years	32	156	188	81.787	1	0.00
	17%	83%	100%			
Documentation (as observed through a checklist)						
Availability of records of teachers who had attended workshops, mentorship and INSET training	23	165	188	107.255	1	0.00
	12%	88%	100%			

Source: Field data, 2022

The study findings in Table 4.1 shows that the majority of the respondents 143 (76%) had attended capacity-building workshops for the past five years in their area of specialization while 45 (24%) had not attended any workshop for the past five years. Chi-square test of goodness of fit indicates that the two proportions are significantly different from each other ($\chi^2_{(1)} = 51.085, p - value = 0.00 < 0.05$); this indicates that majority of the teachers are attending workshops organized by TSC and the ministry of education. However, Majority of the teachers seem not to be engaged in any mentorship programs at school levels by the superiors 157 (84%) while 31 (16%) had not attended any mentorship program. The two proportions are significantly different from each other [$\chi^2_{(1)} = 84.447, p - value = 0.00 < 0.05$]; this indicates that the majority of teachers have not attended mentorship programs for the past five years. Majority of the teachers seem not to be attending in service training programs by educational bodies such as KEMI as indicated by majority of the respondents 156 (83%) while 32 (17%) had not attended any INSET training [$\chi^2_{(1)} = 81.787, p - value = 0.00 < 0.05$]; this implies the majority of teachers have not attended Inset training for the past five years.

Observations by the researcher using a checklist indicated that most of the schools were not keeping records of teachers that attend workshop, INSET and mentorship programs indicated by 165 (88%) [$\chi^2_{(1)} = 107.255, p - value = 0.00 < 0.05$]; this implies

that there is ineffective teacher training needs identification in most schools. The findings are in agreement with Maranga (1993), who opined that identification of training needs before training is key to produce skilled, effective, and efficient teachers who can fill the 21st century skill gap in learners.

The second objective of the study was to determine the 21st century skill gaps in the teaching and learning process in public secondary schools in Kenya. To achieve this, respondents were subjected to similar questions on questionnaires on a five-point Likert scale was used as follows; 1-Not at All, 2-Less Extent, 3-Moderate Extent, 4-Large Extent, 5-Very Large Extent. The findings are shown in Table 4.2.

Table 4.2: Descriptive Analysis of the 21st Century Teaching and Learning Skills Gap among Teachers in Public Secondary Schools in Kenya

21 st century skills gap	Not at All	Less Extent	Moderate Extent	Large Extent	Very Large Extent	
Instill personal and social responsibility	5	12	147	15	9	
	3%	7%	78%	8%	4%	
Stimulate critical thinking and problem-solving skills	9	143	23	5	8	
	4%	76%	12%	3%	5%	
Initiate collaborative learning and reinforcing teamwork among learners	12	137	12	9	18	
	7%	72%	7%	4%	10%	
Stimulate creativity and innovation among learners	4	139	28	11	6	
	2%	74%	15%	6%	3%	
Average level of 21st century skill gap	Mean	% Mean	Std. dev.	Std. Error	Min.	Max.
	2.25	45%	.99660	.07268	1.00	5.00

Source: Field data, 2022

Table 4.2 above, shows that the majority 147 (75%) of the respondents indicated that there was a moderate extent to which teachers instill personal and social responsibility in learners. This implies that learners are not guided well to develop a sense of responsibility such as picking litter or disposing of litter in designated paces in public. However, the majority 143 (76%), 137 (72%) and 139 (74%) of respondents respectively, to a less extent stimulate critical thinking and problem-solving skills in their learners, reinforce teamwork and initiate collaborative learning and stimulate creativity and innovation among learners. In general, the level of integration of soft skills in teaching and learning was at 45% (mean = 2.25, Std. Error = 0.07268) rated low; This implies that there is a high 21st century skills gap in both the teachers and the learners in most of the public secondary schools in Kenya. This is in line with the assertion of the 2013 survey of organizations in Kenya and across the world by Pearson Foundation Study, Microsoft Partners in Learning and the Society for Human Resource Management and Crotchet (2016) study on the 21st century skills for global citizens.

5. Conclusion

In 21st century all educators (teachers) play a critical role in shaping the lives of learners. When the teaching and learning process is at its best, learners will be better citizens and better human beings in society and in the nation at large.

5.1 Recommendation

Therefore, educators should act as mentors and peer coaches with fellow educators, pursuing continuous learning opportunities and unlearn, learn and relearn to make better educators. Teacher Service Commission should intensify and monitor closely Mentorship and coaching programs in education institutions to ensure teachers are appraised with requisite 21st century pedagogical knowledge that help learners to acquire 21st century skills.

Conflict of Interest Statement

The authors declare no conflicts of interest.

About the Authors

Dr. Sarah Likoko is a trained teacher and a PhD holder in the area of Education Planning and Management. She is the chairperson of the Department of Educational Foundations, Planning and Management. She has vast of experience in teaching, research and postgraduate supervision. She is also actively involved in various School Management Boards where she has contributed immensely to the improvement of the quality of education.

Ms. Pamela Naswa Khaemba is a teacher by profession with an experience of over 10 years. Currently, a student at Kibabii University pursuing a PhD in Education Planning and Management. She is a holder of Master's Degree in Education Planning and Management. She also holds a Bachelor's Degree in Education Arts, from the University of Nairobi. She holds a Diploma in Education, from Kenya Management Institute KEMI. She has published in peer-reviewed journals. She has actively participated in capacity-building courses on how to establish excellent schools, organized by MOEST and addressing issues such as teacher management. Ms. Pamela derives pleasure in improving her personal abilities. She always seeks to achieve higher standards in any task she undertakes. She was recently competitively selected by IDRC – KIBU project team for a Doctor of Philosophy in Education scholarship award funded by IDRC-Canada in Collaboration with GPE.

Mr. Ismael Namisi Mabunde is a teacher by profession and a secondary school Principal. Currently, is a PhD student in Education Planning and Management, Kibabii University. He holds a Master degree in Education Planning and Management from Kibabii University, a bachelor of Education (Science) degree from Kenyatta University (1995-1999). He is a SMASSE trainer. He has published in peer reviewed journals.

References

- Anisa, Z. (2018). *The importance of teaching critical thinking to students*. New York, NY: Pearson.
- Best, J. W. & Khan, J. V. (2006). *Research in Education 10th ed.* Boston; Pearson Education Inc.
- Chelkiadaki, A. (2018). A Systematic Literature Review of 21st Century Skills and Competencies in Primary Education. *International Journal of Instruction*, 11 (13), 1-6
- Crockett, L. (2016). *The 21st century skills and workplace*. Canada: Central Okanagan Jamison.
- Griffith, D. A. & Hopper, J. (2013). Global Marketing Manager: Improving Global Strategy through Soft Skills Development. *International Marketing Review*, 30 (1), 21 – 51
- Kenya Institute of Curriculum Development KICD (2017). *Basic Education Curriculum Framework*. Nairobi, Kenya: The Government of Kenya.
- Maranga, J. S. (1993). *Partnership in School Education*; published seminar paper presented at the department of planning, administration and curriculum development, Moi University.
- Mugenda, O. & Mugenda, A. (2003). *Research Methods, Qualitative and Quantitative Approaches*. Nairobi, Kenya: Acts Press.
- Nussbaum – Beach, S. (2013). Just the facts: PNLs. *The Phi Delta Kappan*, 94 (7), 16 -17
- Ontario. (2016). *21st century competencies: Foundation document for discussion. Phase 1: Towards defining 21st Century competencies for Ontario*.
- Orodho J. A. (2009). *Elements of Education and Social Science: Research Methods*. Nairobi, Kenya: Kanezia Publishers.
- Partnership for 21st Century Skills (2009). *P21 framework definitions*. Retrieved from http://www.p21.org/storage/documents/P21_Framework_Definitions.pdf
- Seetha, N. (2014). Are Soft skills important in the Workplace? A preliminary Investigation in Malaysia. *International Journal of Academic Research in Business and Social Sciences* 4 (4) 44 -56
- Voogt, J. & Robbin, N. P. (2010). *21st Century Skills. A discussion paper*. Enschede: University of Twente
- Voogt, J. & Robin, N. P. (2012). Comparative analysis of international frameworks for 21st century competences: Implication for national curriculum policies. *Journal of Curriculum Studies*, 44 (3), 299- 321.
- Zamri Mahamod (2013). *Merekayasakan pendidikan Bahasa Melayu pada abad ke-21. Seminar Serantau Pascasiswazah Pendidikan Bahasa Melayu & Kesusasteraan Melayu Kali Kedua 2013*. Fakulti Pendidikan, University Kebangsaan Malaysia.

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