Student Teachers' Involvement in Internal Quality Assurance Processes and its Impact on 21st Century Skills in Tanzania Teacher Colleges

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ABSTRACT

The study sought to evaluate the impact of student teachers' involvement in Teacher Colleges' quality assurance processes on 21st century skills in Tanzania. The study was guided by students' involvement theory. The main was pragmatism paradigm and students' involvement was adopted as a theoretical framework. Data were gathered through questionnaires and interviews. Results were presented in mean, standard deviation, and inferential statistic measures. The participants felt crucial for student teachers to be adequately involved in all the six quality assurance domains. This involvement positively and significantly predicted the development of the most of 21st century skills. The study concludes that urgent need to involve student teachers in internal quality assurance processes is an inevitable attempt for the development of 21st century skills required for their teaching profession. Other researchers may develop a scale to measure the 21st century skills among student teachers in Tanzanian context.

Keywords: Student teachers Involvement, Teacher Colleges, 21st Century Skill, Internal Quality Assurance, Quality Assurance Domains.

INTRODUCTION

There is a dire need for developing 21st century skills to student teachers through their direct involvement in internal quality assurance processes. This is because the global economy requires the workforce with 21st century skills to address diverse social, economic and political challenges (Singh, Mohtar, Singh & Mostafa, 2020). The skills include: team work and collaboration, critical thinking and problem solving, creativity and innovations, communication, information media and digital literacy, social and cross cutting issues, flexibility and adaptability, productivity and accountability, as well as leadership and responsibility skills (Hon, Muthukrishnan, Choo, Kam & Singh, 2022). The aforementioned skills are a catalyst for promoting the Sustainable Development Goals-2030, African Union Agenda-2063, South African Development Community Vision-2050, East African Community Vision-20250, as well as the Tanzania Development Vision-2025 (United Nations, 2016; African Union, 2015; SADC, 2020; EAC, 2015). This means that the 21st skills are required for achieving both national, regional, and global sustainable development. Therefore, teachers are required to possess the identified skills in order to be able to transform their students, because teachers teach what they know (World Bank, 2018; Cretu, 2017; MoEST, 2019).

Empirical evidence, however, indicates that many in-service teachers in Tanzania have limited 21st century skills. As a result, these teachers are less capable of planning, assessing and or developing such skills to their students (Senjiro & Lupeja, 2023a; Senjiro & Lupeja, 2023b). The assumption here is that adequate integration of these skills in pre-service teacher education programmes is mandatory (Mgaiwa, 2018; Namamba & Rao, 2017; Katilia, 2015). Since 21st century skills are practical oriented, enhancing student teachers' direct involvement in internal quality assurance is important (Logermann, 2014; Andleeb & Ahmad, 2020)). The genesis of student teachers' involvement in internal quality assurance processes can be traced back to the Bologna declaration of 1999, where Ministers for education from European countries signed an agreement geared towards improving the quality of higher education in terms of credit and labour transfer (House of Commons, 2007). Ever since then, many education institutions across the world involve their students in quality assurance processes at different levels

(Degtijarjova, Lapina & Freidenfelds, 2018; Fideli, 2016; Noha, 2013; Hickman & Akdere, 2017; Logermann, 2014; Sayal, 2013; Nyenya & Rupande, 2014). However, the involvement of student teachers in quality assurance processes, particularly in relation to the 21st century skills has scarcely been established in literature. Similarly, the lack of specific framework for student teachers' involvement in internal quality assurance processes compromise their ability to integrate the 21st century skills in their classroom teaching practices (Shahanga, Kigobe & Ogondiek, 2021; Shahanga, Ogondiek & Mmbaga, 2021). The present study, therefore, explored domains for student teachers' involvement in internal quality assurance processes towards 21st century skills. The study adopted a students' involvement theory developed by Alexander Astin (1984). The theory holds that, students' involvement is the amount of physical and psychological energy which students devote to the academic experiences. The assumption of this theory is that physical and psychological energy devoted by students' involvement in academic activities improve their learning outcomes (Nkala & Ncube, 2020). The overall relationships of these variables are illustrated in the below conceptual framework (See figure 1).
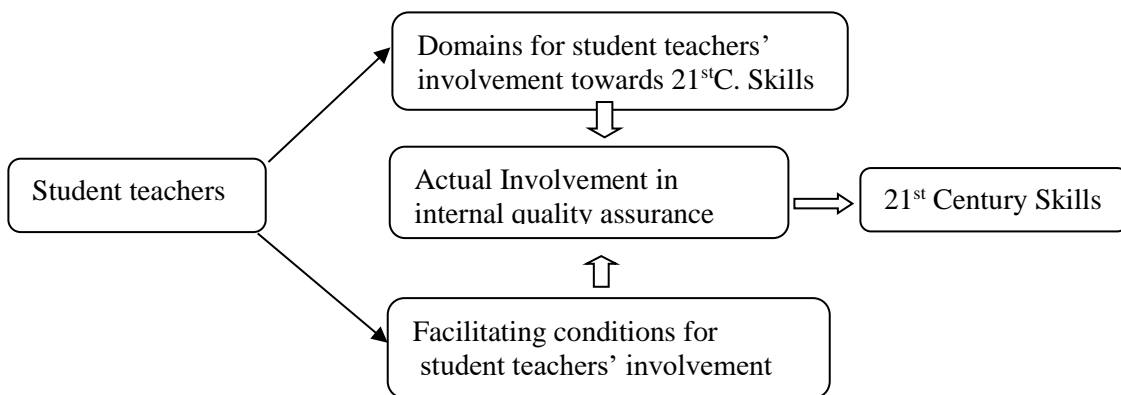

Figure 1: Conceptual Framework Developed

Methodology

The study employed a mixed-methods research in order to utilize both qualitative as dominant and quantitative methods (Creswell & Plan Clak, 2018). Around 379 respondents were selected through cluster sampling technique from 12 educational zones of Tanzania. The sample was calculated

using Yamane's (1967) formula from the estimated population of 25,417. There were 360 student teachers, seven college principals, and 12 quality assurance officers. Structured questionnaires and face-to-face interviews were used as data gathering tools. Data were then coded and subjected into statistical package for social sciences (SPSS Version 25) and analyzed using descriptive statistics, content analysis techniques and multiple regression model. The results were presented in mean, standard deviation, coefficients, and verbatim quotes.

Model Specifications

$SQP = \beta_0 + \beta_1 TCS + \beta_2 CPS + \beta_3 CIS + \beta_4 CDS + \beta_5 SCS + \beta_6 FAS + \beta_7 LAS + \acute{\varepsilon}$

Whereby:

SQP= Student teachers' involvement in internal quality assurance processes

TCS = Team work and collaboration skills

CPS= Critical thinking and problem-solving skills

CIS = Creativity and innovation skills

CDS= Communication and digital literacy skills

SCS= Social and cross cutting issues skills

FAS= Flexibility and adaptability skills

LAS= Leadership and accountability skills

$\beta_0, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7$ = Coefficients of variables used in the study

$\acute{\varepsilon}$= Error term.

Results and Discussion
Domains for Student Teachers' Involvement in Internal Quality Assurance Processes towards 21st Century Skills
Student teachers through a five Likert scale questionnaire, provided their responses about the domains for their involvement in internal quality assurance processes towards 21st century skills. The results are presented in table 1.

Table 1: Descriptive Statistics

Internal quality assurance domains	Mini	Max	Mean	Std. Deviation
The quality of learners' achievement	1	5	4.82	.689
The quality of teaching for good learning and assessment	1	5	4.25	.772
The quality of the curriculum in meeting learners' needs	1	5	3.53	.754
The quality of leadership and management of people and resources	1	5	2.19	.975
The quality of environment in terms of welfare, health, and safety	1	5	4.03	.797
The quality of community engagement	1	5	2.04	.711

Source Field Data (January, 2023)

As presented in table 1, student teachers were enthusiastic to be involved in the evaluation processes of all the six quality assurance domains as described in the school quality assurance framework (MoEST, 2017). However, their responses varied across all the six quality assurance domains. The student teachers indicated the highest interests of being involved in the quality of learners' achievement (mean of 4.82), the quality of teaching for learning with (mean of 4.25), as well as the quality of learning environment (mean of 4.03). Student teachers demonstrated the lowest interest on the quality of leadership for people and resources (mean of 2.19), and community engagement (mean of 2.04). The college principals and school quality assurance officers interviewed provide these responses:

> *Student teachers will perform quality assurance functions alongside teaching. Therefore, they should be involved in all the school quality assurance domains* (Principal, College D, May, 2023).

> *As the intended beneficiaries to develop 21st century skills, student teachers require adequate opportunities for interactions among themselves and with other stakeholders. Therefore, their involvement in different quality assurance domains is beneficial* (School quality assurance officer, Zonal 1, May, 2023).

The student teachers, principals, and school quality assurance officers emphasized about the need for involving student teachers in internal quality assurance processes. These findings concur with previous studies conducted in different countries (Andleeb, 2020; Strydom & Roots, 2020; Lottering, 2020; Nkala & Ncube, 2020). However, the study by Essel and Boakye-Yiadom (2018) found that students in Ghana rarely involved in internal quality assurance processes.

The Influence of Student Teachers' Involvement in Internal Quality Assurance Processes on 21st Century Skills Development

Statistical tests were conducted in order to evaluate the influence of student teachers' involvement in internal quality assurance processes on 21st century skills development. The tests included correlation and regression analysis. The results are presented in tables 2 and 3 respectively.

The Multicollinearity Tests

The existence of inter-correlation between and among the explanatory variables, as well as between dependent and independent variables were investigated using multicollinearity test. Variance Inflation Factor (VIF) for each explanatory variable is less than ten, and tolerance (1/VIF) is above 0.1 (See Table 2). Principally, since the VIF is less than 10 and tolerance is greater than 0.1, therefore, all the explanatory variables used in this study were free from multicollinearity (Shrestha, 2020).

Table 2: Multicollinearity Table

Variables	VIF	1/VIF
Team work and collaboration skills	2.000	0.5
Critical thinking and problem-solving skills	1.981	0.5
Creativity and innovation skills	1.451	0.6
Communication and digital literacy skills	1.021	0.9
Social and cross cutting issues skills	1.046	0.9
Flexibility and adaptability skills	1.224	0.8
Leadership and accountability skills	1.63	0.6
Mean (VIF, 1/VIF)	**1.5**	**0.7**

Model of Fit Results

The results of multiple regression model used in this study was statistically significant and suitable for the study. The R-squared was 87% and adjusted R-Squared was 86.5%. This means that 86.5% of the independent variables explained the changes in dependent variable, and only 13.5% of other variables were not used. The model test results are presented in table 3.

Table 3. Regression Model Test Result

Diagnostic Test	
R-Squared	87%
Adjusted R-squared	86.5%
Reliability Test	
Cronbach's Alpha	.69

Regression Results

Student Teachers' Involvement in Internal Quality Assurance Processes and Team Work and Collaboration Skills

Findings indicate that student teachers' involvement in internal quality assurance processes significantly predicted team work and collaboration skills ($\beta = 0.082$, $p < .008$), hence the alternative hypothesis supported. The results are in line with the argument made by Singh and Nijhawan (2023) that team work and collaboration are essential skills for teachers, especially when teaching learners with diverse disabilities. Therefore, there is a need for direct involvement of student teachers in internal quality assurance processes to enable them develop ability to formulate teams and work with others towards a common goal. Currently, such practice is not available in Tanzanian pre-service teacher education.

Student Teachers' Involvement in Internal Quality Assurance Processes and Critical Thinking and Problem-Solving Skills

The study hypothesized that student teachers' involvement in internal quality assurance processes significantly predicts critical thinking and problem-solving skills. It was revealed that students' involvement in internal quality assurance processes significantly predicted critical thinking and problem-solving skills ($\beta = 0.10$, $p < .001$), hence the alternative hypothesis supported.

The results concur with a study conducted by Snyder and Snyder (2008), which established that in order to develop critical thinking and problem-solving skills, students should get opportunity to practice. Therefore, student teachers' involvement in internal quality assurance processes is required to offer them such opportunity.

Student Teachers' Involvement in Internal Quality Assurance Processes and Creativity and Innovation Skills

The study hypothesized that, student teachers' involvement in internal quality assurance processes significantly predicts creativity and innovation skills. In this study, students' involvement in internal quality assurance processes significantly predicted creativity and innovation skills ($\beta = 0.89$, $p < .000$), hence the alternative hypothesis supported. The results concur with a study conducted by Glassman and Openggart (2016) which revealed that innovation and creativity can be developed to students through working with other students. Internal quality assurance processes are necessary to enable student teachers work with their fellow students, tutors and management in addressing different challenges.

Student Teachers' Involvement in Internal Quality Assurance Processes and Communication and Digital Literacy Skills

The study hypothesized that student teachers' involvement in internal quality assurance processes significantly predicts communication and digital literacy skills. Statistical analysis indicated that students' involvement in internal quality assurance processes significantly predicted communication and digital literacy skills ($\beta = 0.024$, $p < .077$), hence an alternative hypothesis supported. The results are supported by a study conducted by Makhzoum, Berri and Ajamiz (2021), which insist on the use of digital media in communication. Therefore, internal quality assurance processes are highly needed to create opportunities for student teachers to share ideas and information about using different digital and non-digital in developing such skills.

Student Teachers' Involvement in Internal Quality Assurance Processes and Social and Cross Cutting Issues Skills

The study hypothesized that student teachers' involvement in internal quality assurance processes significantly predict social and crosscutting issues skills.

It was found that, students' involvement in internal quality assurance processes insignificantly predicted social and cross cutting issues skills ($\beta = 0.020$, $p < .319$), hence the alternative hypothesis was rejected. The findings deviate from Andrade (2020) who encouraged about the acquisition of social and cross cutting issues through different strategies. This means that student teachers do not regard social and cross-cutting issues as essential skills for their professional development.

Student Teachers' Involvement in Internal Quality Assurance Processes and Flexibility and Adaptability Skills

The study hypothesized that, student teachers' involvement in internal quality assurance processes significantly predict flexibility and adaptability skills. It was found that, students' involvement in internal quality assurance processes significantly predicted flexibility and adaptability skills ($\beta = 0.050$, $p < .032$), hence an alternative hypothesis supported. The results are supported Andres et al (2021) who emphasise teachers to be prepared in order to serve in unpredicted environment. Therefore, student teachers' involvement in internal quality assurance processes is a mechanism to make them adaptive and flexible when sharing different issues affecting the quality of their education.

Student Teachers' Involvement in Internal Quality Assurance Processes and Leadership and Accountability Skills

One of the hypotheses behind this study was that student teachers' involvement in internal quality assurance processes significantly predict leadership and accountability skills. Findings revealed that students' involvement in internal quality assurance processes insignificantly predicted leadership and accountability skills ($\beta = 0.07$, $p < .142$), hence the alternative hypothesis was rejected. The results differ from Grigoropoulos (2020) who argues that developing leadership skills is crucial to student teachers for making them more accountable and responsible in different tasks. It was evident that student teachers' involvement in internal quality assurance processes impact positively and significantly their development of 21st century skills. These findings relate to different studies (Turhan & Demirci, 2021; Hoon, Muthukrish Choo & Singh, 2022; Alzahrani & Nor, 2022).

These studies, however, seldom indicate how student teachers develop the 21st century skills.

Table 4: Regression Table

Variables	Coefficients	t-statistic	Sig	Decision
Constant	**.101**	**.804**	**.422**	
Team work and collaboration skills	. 082	. 2692	.008	Supported
Critical thinking and problem-solving skills	.100	3.258	.001	Supported
Creativity and innovation skills	.897	31.315	.000	Supported
Communication and digital literacy skills	.024	1.354	.077	Rejected
Social and cross cutting issues skills	. 020	. 999	.319	Rejected
Flexibility and adaptability skills	.050	2.151	.032	Supported
Leadership and accountability skills	.072	1.534	.142	Rejected

Thus, the multiple regression model of this study is;
SQP=0.101TCS+0.082CPS+0.100CIS+0.897CDS+0.024SCS+ 0.020FAS+0.050+0.072LAS.

Conclusion and Recommendations

The study found that developing the 21st century skills require active engagement of student teachers in order to help them grow professionally. Student teachers, college principals and school quality assurance officers desire for student teachers to be involved adequately in all the six quality assurance domains and their involvement positively and significantly may influence the development of the most of 21st century skills. Therefore, different stakeholders and institutions should enhance student teachers' involvement in internal quality assurance processes. Developing scale to measure the 21st century skills among student teachers in Tanzania is warranted

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