

INFLUENCE OF COMPLIANCE WITH CUE STANDARD NO. LIBR/STD/10 ON ACADEMIC PERFORMANCE AMONG UNIVERSITY STUDENTS IN THE NAIROBI METROPOLITAN AREA

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ABSTRACT

Information literacy standards provide an institutional mechanism for ensuring that university students acquire the competencies required to locate, evaluate and ethically use information. This study examined the effect of compliance with Commission for University Education Standard No. LIBR/STD/10 on academic performance among university students in the Nairobi Metropolitan area. A positivist orientation and concurrent triangulation mixed-methods design embedded in a descriptive survey was adopted. The target population comprised approximately 142,000 undergraduate students, nine university librarians and nine academic registrars from nine public and private universities. Systematic simple random sampling produced a student sample of 399, while all 18 key informants were included through a purposive census. Data was collected using questionnaires, interviews, curriculum review and document review. Of the 399 questionnaires, 305 were usable, representing a 76.4% response rate. The compliance scale demonstrated excellent reliability (Cronbach's alpha = 0.907), strong construct validity (average loading = 0.854; minimum loading = 0.802) and adequate sampling adequacy (KMO = 0.742). Students generally perceived considerable compliance, with item means ranging from 3.25 to 3.86. Compliance had a very strong positive correlation with academic performance ($r = 0.921$, $p < .001$). The reported regression model was significant ($F = 2027.291$, $p < .001$), with $R^2 = 0.849$ and a positive coefficient ($B = 0.867$, $\beta = 0.933$, $p < .001$). The null hypothesis was rejected. Institutional compliance, particularly curriculum integration, policy implementation and librarian-supported instruction, is strongly associated with academic performance. Universities should institutionalize the standards, monitor implementation and resource information literacy as a core academic function.

Keywords: academic performance; CUE Standard No. LIBR/STD/10; information literacy; institutional compliance; university students

INTRODUCTION

Universities are expected to produce graduates who can participate effectively in a knowledge economy. This expectation requires more than access to books, databases and digital technologies; it requires the ability to identify information needs, locate appropriate sources, evaluate credibility, synthesize evidence and use information ethically. Information literacy therefore supports critical thinking, independent learning, research competence and informed decision-making, all of which contribute to academic performance [1, 2, 3].

In Kenya, the Commission for University Education provides standards intended to promote quality and consistency across higher education institutions. Standard No. LIBR/STD/10 requires university libraries to implement information literacy and competency initiatives that support lifelong learning and academic achievement [4]. Compliance is reflected in integration of information literacy into academic programs, development of relevant curricula, librarian-led instructional support, institutional policies and mechanisms for monitoring implementation.

The Nairobi Metropolitan area contains a diverse concentration of public and private universities that have invested in library systems, digital resources and learning technologies. However, institutional access to information does not automatically ensure that students can use information effectively. The practical value of Standard No. LIBR/STD/10 therefore depends on whether institutions translate it into coordinated policy, curricula, teaching and academic support.

Ideally, universities should comply with CUE Standard No. LIBR/STD/10 by embedding information literacy within academic programs, providing structured instruction and monitoring students' acquisition of information competencies. Such compliance should create an environment in which students can conduct research effectively, evaluate information critically, avoid academic misconduct and produce higher-quality academic work.

Despite investments in digital infrastructure and electronic resources, academic performance remains uneven, and only a relatively small proportion of students attain the highest degree

classifications. Earlier Kenyan studies have addressed quality guidelines, library facilities, digital literacy and access to electronic resources, but much of the evidence is institution-specific and does not directly test whether compliance with the designated CUE information literacy standard predicts academic performance across public and private universities. The absence of such evidence limits the ability of regulators and university managers to distinguish documentary compliance from effective implementation. This study addressed that contextual, conceptual and outcome gaps.

The purpose of the study was to determine the effect of compliance with CUE Standard No. LIBR/STD/10 on academic performance among university students in the Nairobi Metropolitan area. The study asked: To what extent have universities in the Nairobi Metropolitan area complied with CUE Standard No. LIBR/STD/10 on information literacy and competency initiatives? The alternative hypothesis stated that compliance with the standard has a significant effect on academic performance.

Theoretical Review

Literacy Competency Theory

The article is anchored in Literacy Competency Theory, which draws on competency-based learning perspectives and treats literacy as a multidimensional combination of knowledge, skills, attitudes and abilities required for effective learning and performance. Literacy extends beyond basic reading and writing to include the capacity to access, evaluate, interpret, communicate and apply information in different settings [5,6,7]. The theory predicts that learners with stronger competencies in information evaluation, digital literacy, critical thinking and communication are better positioned to undertake research, solve problems and perform successfully in academic environments.

The theory is relevant to CUE Standard No. LIBR/STD/10 because competency development requires institutional structures, programs, resources and learning opportunities. Adhering to the standards can then be interpreted as the institutional input that allows measurable information literacy competencies to be acquired. Academic programs that integrate

information literacy, systematic curriculum development and implementation of library policies, along with librarian-led instruction, offer repeated opportunities to students to practice and demonstrate these competencies.

Another drawback of the competency approach is its focus on skills that can be measured, thus potentially underestimating inequalities in terms of culture, motivation and resources. The limitation was offset by conducting interviews and a review of institutional documents, which helped to document some contextual variations in the enactment of compliance across universities.

Empirical Review

Bello and Ajao (2024) ^[8] studied digital-literacy policies and educational pathways in Nigeria and observed that digital skills, at both basic and intermediate levels, was mostly provided by universities and related institutions. The study showed the significance of policy but analysed a more comprehensive set of institutions which did not address the Kenyan regulatory regime or academic performance. Elsewhere, Omolo (2021) ^[9] evaluated students' perception on CUE quality guidelines implementation at the University of Nairobi, Kisumu Campus. Although the institution was perceived to provide quality instruction by students, deficiencies in physical facilities, ICT infrastructure and affordability of online learning were identified. However, the single-campus focus limited cross-institutional generalization.

Nyakweba et al. (2020) ^[10] assessed compliance with CUE standards for library physical facilities in a public university in Western Kenya and identified limitations in staffing, facilities, equipment, funding and information services. The study demonstrated that compliance must be supported by resources. Notably however, the study concentrated on physical library standards and did not test the relationship between information literacy compliance and academic performance. International frameworks similarly emphasize that structured information literacy provision strengthens students' engagement with evidence and scholarly practices ^[1,3].

The reviewed literature revealed three connected gaps. First, there was a contextual gap because evidence from individual institutions or other countries could not explain compliance across the Nairobi Metropolitan area. Second, there was a conceptual gap because studies often focused on general quality, facilities or digital access rather than Standard No. LIBR/STD/10. Third, there was an outcome gap because the direct statistical relationship between compliance and academic performance remained insufficiently examined.

METHODOLOGY

Research Philosophy

The study was guided by the positivist research philosophy, which treats reality as capable of systematic examination through observation, measurement and empirical evidence. Positivism was appropriate because the study translated information literacy and academic performance into measurable indicators and used statistical analysis to determine the strength, direction and significance of relationships. The approach supported structured instruments, objective interpretation and use of evidence rather than the researcher's personal views [11, 12].

Research Design

A concurrent triangulation mixed-methods design embedded within a descriptive survey was adopted. Quantitative and qualitative data was collected during the same phase, analyzed separately and integrated during interpretation. Quantitative strand described students' perceptions and tested the relationship between the focal information literacy variable and academic performance. Qualitative strand used interviews with university librarians and academic registrars to explain institutional policies, curriculum practices and implementation experiences. Triangulation strengthened credibility by enabling evidence from students, institutional officers and documentary sources to be compared [12, 13].

Study Area

The study was conducted in nine selected public and private universities within the Nairobi Metropolitan area. The metropolitan setting contains a high concentration of universities with

established information literacy initiatives, diverse student populations, digital learning environments and library systems. The selected institutions provided appropriate setting for examining the relationship between information literacy and undergraduate academic performance.

Target Population

The target population comprised approximately 142,000 undergraduate students in the nine universities, together with nine university librarians and nine academic registrars. Undergraduate students were the primary unit of observation because they were direct beneficiaries of information literacy initiatives. Librarians and registrars were included as key informants because of their responsibility for information literacy delivery, institutional policy, curricula and academic records. The student population comprised approximately 62,000 second-year, 41,000 third-year and 39,000 fourth-year students.

Sampling Technique and Sample Size

Systematic simple random sampling was used to select undergraduate students from official enrolment lists. After a random starting point was identified, students were selected at regular intervals, thereby reducing selection bias and giving eligible students an equal chance of inclusion. Yamane's (1967) ^[14] formula, $n = N / (1 + Ne^2)$, was applied to the population of 142,000 at a 5% margin of error, producing a sample of 399 students. Sampling resulted in 175 second year students, 116 third year students and 108 fourth year students. Due to the small number of key informants, being easily located and having specific institutional knowledge, a purposive census was used, and all 18 key informants were included.

Research Instruments

The instruments used were: structured questionnaires for undergraduate students, interview guide for university librarians and academic registrars, curriculum review checklist, and document review template. Previous Likert scale (1 = no extent to 5 = very great extent) was used in the questionnaire; it gathered demographic data, the predictor and academic-performance data. The interview guide yielded contextual evidence of institutional policies,

curriculum integration and program delivery. The curriculum checklist was used to review the scope and coherence of information literacy content and the document template to gather information about policy documents, curriculum and academic-records. Methodological triangulation was used by employing multiple instruments.

Questionnaire for undergraduate Students

A structured questionnaire was used to collect standardized quantitative data from undergraduate students. Its objective-specific section contained statements measuring the independent variable, while academic-performance section measured achievement, research and information skills, quality of academic work and learning outcomes. Closed-ended items facilitated consistent coding and statistical comparison across institutions.

Interview Guide for University Librarians and Academic Registrars

A semi-structured interview guide was used to obtain institutional explanations concerning policy development, curriculum integration, program delivery, staff roles, student participation and the perceived relationship between information literacy and academic performance. Open-ended questions enabled key informants to clarify differences in implementation across universities.

Curriculum Review Checklist

A curriculum review checklist was used to determine whether information literacy content was formally documented, the competencies covered, the delivery approach, the level of integration into academic programs and the extent to which content reflected emerging information needs.

Document Review Template

A document review template was used to capture institutional policies, information literacy curricula and academic-performance records. Academic records covered the 2020-2024 period and included degree classifications and graduation indicators, thereby complimenting self-reported student evidence.

Pilot Study

A pilot study involving 40 undergraduate students from a university with characteristics comparable to the participating institutions was conducted before the main survey. Pilot participants were excluded from the final study. The pilot assessed clarity, relevance, sequencing and the time required to complete the questionnaire. Before the main data collection exercise, the instruments were revised using feedback, to improve and remove any ambiguity on the wording.

Validity of the Research Instruments

To ensure content validity, the supervisor and research experts reviewed the relevance, clarity and adequacy of the items contained in the questionnaires in relation to the study's objective and conceptual framework. Principal Component Analysis (PCA) was used to evaluate the construct validity. The Kaiser-Meyer-Olkin (KMO) measure was used to determine data suitability for factor analysis [15, 16, 17], and factor loadings exceeding 0.50 were considered acceptable.

The Research Instruments used in the study were reliable.

Cronbach's alpha was used to test for internal consistency. A coefficient of 0.70 or more was judged to be acceptable, above 0.80 was taken as good and above 0.90 as excellent reliability. The pilot findings showed that the scales measuring the pilot's focus and academic performance were appropriate for the main survey [16, 18].

Table 1. Pilot reliability and validity results

Construct	Items	Cronbach's alpha	Average loading	Minimum loading	KMO
CUE Standard compliance	5	0.907	0.854	0.802	0.742
Academic performance	13	0.852	0.814	0.550	0.671

Data Collection Procedure

Following institutional and regulatory approvals, two trained research assistants administered the questionnaire. The assistants were oriented on the goals of the study, administration of the instruments, confidentiality, informed consent and voluntary participation. After arranging an interview with the researcher, it was conducted personally with the librarians and academic registrars. Interviews were conducted in English, and secondary data was gathered using curriculum and document review tools. Data was coded and stored in safe place for analysis.

Data Processing and Analysis

SPSS Version 22 was used to code and analyze quantitative data. Frequencies, percentages, means and standard deviations were used to describe compliance and sample characteristics. The factor structure of the compliance scale was explored through Principal Component Analysis (PCA). Pearson correlation was used to quantify the correlation between compliance and academic achievement. For simple linear regression and analysis of variance the alternative hypothesis was tested using $Y = \beta_0 + \beta_1 X_1 + \text{error}$, with Y being academic performance, and X_1 being compliance with CUE Standard No. LIBR/STD/10. Multicollinearity, linearity, normality and autocorrelation diagnostics were examined before regression. Interview data was coded thematically and integrated with the quantitative findings during discussion.

Operationalization of Variables

Table 2. Operationalization of the article variables

Variable	Indicators	Measurement	Analysis
Compliance with CUE Standard No. LIBR/STD/10 (independent)	IL policy and implementation; curriculum integration; library instructional support;	Five-point Likert scale from no extent (1) to	Frequencies, percentages, mean, standard deviation, PCA, correlation,

	monitoring and adherence to CUE guidelines.	very great extent (5).	regression and content analysis.
Academic performance (dependent)	Academic achievement; research and information skills; quality of academic work; learning outcomes.	Five-point Likert scale and institutional academic records.	Descriptive statistics, correlation and regression.

Ethical Considerations

Ethical clearance was obtained from the National Commission for Science, Technology and Innovation, and permission to conduct the study obtained from participating universities. The purpose and procedures of the study were explained to participants, and only those who voluntarily consented were included. Names were not recorded on questionnaires, confidentiality was maintained, and collected information was used solely for academic research.

Results

Response Rate and Sample Characteristics

Of the 399 questionnaires administered to students, 305 were returned and usable, producing a response rate of 76.4%. All 18 interview schedules administered to the nine university librarians and nine academic registrars were completed, giving a 100% key-informant response rate.

Table 3. Response rate

Data source	Target	Usable responses	Response rate
Student questionnaires	399	305	76.4%
Key-informant interviews	18	18	100.0%

The student sample included 167 respondents (54.8%) from public universities and 138 (45.2%) from private universities. Male students constituted 60.3% and female students 39.7%. Respondents aged 21-22 years comprised 41%, followed by those below 20 years,(23%) and

those aged 23-24 years (22%). Second-year students contributed 140 responses, third-year students 91 and fourth-year students 74. The distribution provided evidence from different institutional types and stages of undergraduate study.

Descriptive Results for Compliance with CUE Standard No. LIBR/STD/10

299 (98%) students reported that their institutions had implemented information literacy policy, while 6 (2%) reported that no such policy existed. The item-level findings showed generally positive perceptions, although the strength of implementation differed across institutional practices.

Table 4. Descriptive statistics for compliance with CUE Standard No. LIBR/STD/10

Compliance indicator	Great/very great extent	Mean	SD
Information literacy integrated into academic programmes	63.9%	3.25	0.984
Information literacy developed in the curriculum	61.3%	3.74	1.04
Library curriculum responds to emerging student and faculty needs	69.5%	3.84	1.16
Information literacy programmes taught by librarians	55.1%	3.51	1.20
University complies with CUE information literacy guidelines	67.2%	3.86	1.11

Perceived compliance with CUE policy guidelines recorded the highest mean ($M = 3.86$, $SD = 1.11$), followed by the library's development of curriculum responsive to emerging needs ($M = 3.84$, $SD = 1.16$). Librarian-led teaching recorded the lowest mean ($M = 3.51$, $SD = 1.20$), indicating that institutional policies and curricular intentions were more visible than consistent instructional delivery. Integration into academic programs had a lower reported mean of 3.25 ($SD = 0.984$), despite 63.9% rating it at a great or very great extent.

Factor Analysis

All five indicators loaded strongly on the compliance construct, with coefficients ranging from 0.747 to 0.863. Integration into academic programs produced the highest loading, indicating

that it was the strongest marker of compliance. Librarian-led instruction produced the lowest loading but remained above the acceptance threshold.

Table 5. Factor loadings for compliance

Indicator	Loading
Information literacy integrated into academic programs	0.863
Information literacy developed in the curriculum	0.807
Library curriculum addresses emerging student and faculty needs	0.789
Information literacy programs taught by librarians	0.747
Compliance with CUE information literacy policy guidelines	0.805

Diagnostic Tests

Table 6. Diagnostic results

Test	Statistic	Decision
Multicollinearity	Tolerance = 0.639; VIF = 1.566	No multicollinearity concern.
Linearity	$r = 0.921$; $p < .001$	A significant positive linear relationship was present.
Normality	K-S = 1.694; $p = .006$	Normality was rejected; interpretation considered the large sample and graphical assessment.
Autocorrelation	Durbin-Watson = 1.766	Residual independence was acceptable.

Tolerance exceeded 0.10 and VIF was below 5, while the Durbin-Watson statistic fell within the accepted 1.5-2.5 range. The Kolmogorov-Smirnov result indicated a departure from normality. The thesis therefore interpreted regression in light of the large sample and complementary graphical assessment, consistent with the robustness guidance discussed previously [19, 20].

Hypothesis Testing

Correlation Analysis

Compliance with CUE Standard No. LIBR/STD/10 had a very strong positive and statistically significant correlation with academic performance ($r = 0.921$, $p < .001$, $n = 305$). Higher reported compliance was therefore associated with higher academic performance.

Regression Model Summary and ANOVA

Table 7. Model summary

R	R ²	Adjusted R ²	Standard error
0.921	0.849	0.848	0.340

Table 8. Analysis of variance

Source	Sum of squares	df	Mean square	F	p
Regression	225.326	1	225.326	2027.291	< .001
Residual	33.677	303	0.111	-	-
Total	259.003	304	-	-	-

The model summary reported $R = 0.921$ and $R^2 = 0.849$, indicating that compliance accounted for 84.9% of the variation in the outcome. The ANOVA table showed that the regression model was statistically significant, $F(1, 303) = 2027.291$, $p < .001$.

Regression Coefficients and Hypothesis Decision

Table 9. Regression coefficients

Term	B	SE	Beta	t	p
Constant	0.550	0.074	-	7.445	< .001
CUE compliance	0.867	0.019	0.933	45.025	< .001

$$\text{Academic performance} = 0.550 + 0.867(\text{CUE compliance})$$

The positive unstandardized coefficient indicated that a one-unit increase in compliance predicted a 0.867-unit increase in academic performance. The effect was statistically significant ($B = 0.867$, $\beta = 0.933$, $t = 45.025$, $p < .001$). So, the null hypothesis was rejected, and the alternative hypothesis that compliance has a significant impact on academic performance was accepted.

Qualitative Findings

Interviews confirmed variations in implementation across institutions. There was better integration of information literacy in academic programs at Kenyatta University, KCA University and Jomo Kenyatta University of Agriculture and Technology. Other institutions reported that curricula or policies were still in the approval process or in a staged implementation process and information literacy was therefore being taught primarily through library-based programs.

The main facilitators in the participating universities were librarians and they provided the instruction in the following ways: orientation, classroom sessions, workshops, library-week activities and user education. Structures for coordination, curriculum integration, allocation of resources and quality assurance were more clearly defined at universities that have an information literacy policy in place giving clearer structures for coordination, curriculum integration, allocation of resources and quality assurance. If the policy was not well approved, faculty was not strong, or institutional commitment was not great, implementation was less consistent and less initiated by the policy. Results of qualitative analysis complemented the statistical evidence that compliance is not only a presence of a document, but rather an integration, delivery, and institutional governance.

DISCUSSION

The study established a strong positive relationship between compliance with CUE Standard No. LIBR/STD/10 and academic performance. The result supports Literacy Competency Theory because institutional compliance creates the conditions through which students repeatedly acquire, practise and apply information competencies. The strongest factor loading for curriculum integration reinforces the proposition that competencies develop when information literacy is incorporated into the learning process rather than offered only as an optional library service. This observation is consistent with previous observations ^[1, 3], which emphasized systematic integration of information literacy into higher education and extends a study by Omolo (2021) ^[9] moving beyond perceptions of general quality guidelines to a

specific information literacy standard and by comparing several public and private institutions. Similarly, the resource and facility limitations reported elsewhere ^[10] help explain why formal compliance may vary in practice. These findings demonstrate that policy, curriculum and teaching support operate as connected elements rather than isolated compliance requirements. The descriptive results also show an implementation tension. Thus, while 98% reported availability of information literacy policy and that the average compliance with CUE guidelines was high, integration into academic programs and librarians' teaching was comparatively weak. This could be explained qualitatively, thus some institutions had either a policy or curriculum under development for which approval had yet to be obtained, or the policy or curriculum are already been in place, but not fully integrated into the academic curriculum.

The practical meaning of this is that an indicator of implementation can be used to assess whether a regulation is being met. There is need for Universities to demonstrate that information literacy is available, and that implementation is supported by trained staff from the library and academic disciplines tooled with adequate technologies for periodic evaluation to achieve desirable learning outcomes.

CONCLUSIONS

Compliance with CUE Standard No. LIBR/STD/10 has a strong, positive and statistically significant effect on academic performance among university students in the Nairobi Metropolitan area. Compliance is most meaningful when it results in curriculum integration, policy implementation, librarian-supported instruction and monitoring of student competencies. Although the universities demonstrated substantial progress, differences between policy presence and instructional delivery show that implementation remains uneven. Information literacy should therefore be treated as core academic infrastructure rather than a supplementary library activity.

RECOMMENDATIONS

There is need for;

1. Universities to incorporate information literacy in all the undergraduate supported with appropriate policies, curriculum, technological infrastructure, skilled library and faculty to support implementation and evaluation consistent with requirements of CUE Standard No. LIBR/STD/10
2. integration should not be limited to first year orientation but be implemented across the entire academic levels.
3. There is need for CUE and university quality-assurance units to come up with monitoring indicators to evaluate the actual implementation of the program, encompassing curriculum coverage, participation of students, collaboration between librarians and faculty, assessment of competencies, staffing, availability of digital resources and periodic review.
4. University Managements should provide budgetary allocations to support continuous professional development of the librarians and faculty as well as for a solid digital infrastructure to support the program.
5. Librarians should be involved in curriculum design, classroom instruction and assessment in academic departments through formal collaboration.
6. Longitudinal designs and objective academic-performance measures, like GPA progression, course completion and degree classification, should be used to confirm the long-term impact of sustained compliance in the future.
7. The study should be replicated with other institutional and resource settings outside the Nairobi Metropolitan area to establish whether the results are transferable.

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