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An Assessment of Library Utilization among NCE Students at Isa Kaita College of Education, Dutsin-Ma, Katsina State, Nigeria: A Comparative Study of Science and Arts Students

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ABSTRACT

This study examines the utilization of the library at Isa Kaita College of Education, Dutsin-Ma, with a comparative analysis of Science and Arts Nigeria Certificate in Education (NCE) students. A survey research design was adopted, and data were collected from 300 students using structured questionnaires, supplemented by unobtrusive observation, circulation-record analysis, and focus group discussions. Findings revealed that Science students utilize the library significantly more than Arts students in terms of daily attendance, time spent, borrowing, and use of audio-visual resources, and make library inquiries more frequently. Both groups, however, showed similar patterns in the sections of the library used and in the number of items borrowed per visit. Major challenges identified include inadequate materials, poor library orientation, and an unconducive environment. The study, framed within Wilson's (1981) Information Seeking Behaviour Model and Kuhlthau's (1991) Information Search Process Model, recommends discipline-specific user education, extended library hours, and improved facilities to promote effective library utilization.

Keywords: library utilization; comparative study; academic libraries; Colleges of Education; Nigeria

1. INTRODUCTION

The library is a central repository of organized knowledge, managed by trained professionals to provide access to information for users. It plays a vital role in educational and societal development, serving as a key instrument for intellectual growth, critical thinking, and lifelong learning (Banjo, as cited in Ali, 1995). In modern society, where critical and objective thinking is essential, academic libraries in Nigerian tertiary institutions are designed to provide relevant and adequate learning resources to support teaching, learning, and research. The rapid expansion of knowledge has made classroom instruction alone insufficient to meet students' academic needs, making the library indispensable to all academic programmes.

The effectiveness of an academic library depends largely on the quality of services provided and the extent to which users utilize its resources (Edoka, 2000). User-centred service remains fundamental to library operations; Orr (1973) argued that the true measure of a library's effectiveness lies in its users. Aguolu (1983) observed that many students in Nigerian tertiary institutions lack prior exposure to libraries, underscoring the need for information-retrieval skills that enable independent learning.

This study is underpinned by Wilson's (1981) Information Seeking Behaviour Model, which holds that information seeking is driven by the user's context, activating mechanisms, and intervening variables such as time, resource availability, and prior user education. Science students, operating in a discipline

characterised by rapid knowledge obsolescence, may experience different activating mechanisms from Arts students, whose materials often retain longer-term relevance (Aguolu, 1983; Okafor, 1992). The study also draws on Kuhlthau's (1991) Information Search Process (ISP) Model, whose six stages, and attention to the affective dimension of information seeking, help explain why students make (or avoid) inquiries from library staff. Together, these frameworks move the study beyond mere description of utilization patterns toward an explanation of the mechanisms that shape disciplinary differences, and they inform the study's recommendations for targeted, discipline-specific user education. It is against this background that the study investigates and compares library utilization among Science and Arts students at Isa Kaita College of Education, Dutsin-Ma, Katsina State.

Statement of the Problem

Academic libraries exist to support and enhance the curriculum of their parent institutions (Onadiran, 1980; Tonkshiat, 1999), but the realisation of this objective depends on the extent to which students actually use library resources. This is particularly important in Colleges of Education, where students rely heavily on supplementary reading to support classroom instruction; without effective library use, learning risks being reduced to memorisation of lecture notes. Despite the recognised importance of libraries, many students exhibit low utilization and a negative attitude toward library use, depending instead on lecture notes, handouts, and outdated textbooks (Akinwumi, 1980; Garba, 1995; Lawal, 2002). Given the critical role of Colleges of Education in training research-oriented teachers, this study examines and compares library utilization between Science and Arts NCE students at Isa Kaita College of Education, Dutsin-Ma.

Objectives, Research Questions and Hypotheses

The study sought to determine whether Science students differ from Arts students in: (i) frequency of library attendance; (ii) time spent in the library; (iii) borrowing of library materials; (iv) use of audio-visual resources; and (v) frequency of inquiries made to library staff. Corresponding research questions were posed for each objective, and five null hypotheses ($H0_1$–$H0_5$) of no significant difference between the two groups were tested at the 0.05 level of significance.

2. Literature Review

Academic Libraries and Disciplinary Differences in Use

Academic libraries support the teaching, learning, and research activities of their institutions by providing access to books, journals, databases and other resources (Rexwhite, 2022). Higher education aims to develop independent learners capable of locating and using information effectively (Pearce, 1976; Akinyode, 1984), and academic libraries extend learning beyond the classroom (Veit, 1976; Dunlop, 1976; Revil, 1981). Failure to use these resources limits intellectual development (Adeyemi, 1988).

Library utilization varies by discipline because information needs differ: Arts students typically rely on materials of long-term relevance, while Science students require current information from journals and research reports (Aguolu, 1983; Okafor, 1992; Aina, 1983). Empirical evidence on which group uses libraries more remains inconclusive — Akinwumi (1988) found Arts students used libraries more frequently, whereas Iyabo (1993) and Hayes and Dixon (1992) reported no significant difference, illustrating that disciplinary patterns of use may be institution-specific.

Several factors shape utilization across studies: the adequacy of available resources (Gregson & Hockins, 1995; Garba, 1995); user education and information-literacy skills (Abubakar, 2003; Umomah, 1986); library policies, opening hours and staff-user relationships (Richard, 1992; Akinwumi, 1988); and the physical library environment (Garba, 1999; Egbule, 1994).

The Nigerian College of Education Context

Colleges of Education in Nigeria face distinctive challenges affecting library services (Adesina, 2018; Ogunleye, 2016). The three-year NCE curriculum demands engagement with multiple subject areas and pedagogical methods, yet the heavy teaching-practice load, especially at Level III, competes with library time (Jibril, 2019). Chronic underfunding limits collections and technology despite interventions such as TETFund (Akporhonor, 2005; Ubogu & Okiy, 2007). The study is situated in Katsina State, north-western Nigeria, a region marked by historically lower literacy rates and a strong tradition of Qur'anic education that can shape attitudes toward formal academic libraries (Okonkwo, 2017; Abdulrahman,

2015). Infrastructural constraints — unreliable electricity, limited internet connectivity, and inadequate reading space — further affect utilization patterns at Isa Kaita College of Education, as at many institutions in northern Nigeria (Yusuf & Bello, 2020), while many entering students have had limited prior exposure to functioning school libraries (Aguolu, 1983).

Understanding these contextual factors is essential for interpreting the study's findings, since the challenges facing Isa Kaita College of Education reflect broader systemic issues affecting academic libraries across Nigerian Colleges of Education.

3. METHODOLOGY

Research Design and Population

The study adopted a survey research design (Afolabi, 1993; Asika, 1989), suitable for gathering data on the incidence, distribution, and relationships among variables across a large group of respondents. The population comprised all NCE students in the Schools of Secondary Education (Science) and (Arts and Social Sciences) at Isa Kaita College of Education, Dutsin-Ma — 2,450 students in total, made up of 1,200 Arts students (Geography, Social Studies, Islamic Studies) and 1,250 Science students (Integrated Science, Chemistry), based on 2023/2024 Academic Planning Unit records.

Sample and Instrumentation

Using Yamane's (1967) formula at a 0.05 margin of error, the minimum sample size was calculated at 344; consistent with precedent in comparable Nigerian studies (Lawal, 2002; Takai, 1998; Garba, 1995), a sample of 300 (150 Arts, 150 Science) was adopted, yielding a 95% confidence level at approximately ±5.6% margin of error. Simple random sampling with proportional stratification was used: 50 students from each of the three Arts departments and 75 from each of the two Science departments.

Data were collected with a 15-item structured questionnaire covering background information, library usage, and utilization of resources. Face and content validity were established through review by three subject experts (overall content validity index = 0.85). A pilot test with 30 students at the Federal College of Education, Katsina, produced Cronbach's alpha values of 0.78 (library usage), 0.82 (utilization of resources) and 0.79 overall, with test–retest reliability of $r = 0.85$ after two weeks — all within acceptable thresholds (Nunnally, 1978).

Data collection combined the questionnaire with two weeks of unobtrusive observation during peak hours, analysis of six months of circulation records (September 2023–February 2024), and four focus group discussions (two Arts, two Science; 8–10 participants each), providing triangulation for the self-reported survey data.

Data Analysis

Data were analysed with SPSS version 26.0. Descriptive statistics (frequencies, percentages) summarised demographic characteristics and utilization patterns. Chi-square tests of independence tested the hypotheses on attendance, borrowing, audio-visual use, and inquiry frequency, while the Mann-Whitney U test was used for the non-normally distributed variable of time spent in the library; hypotheses were rejected at $p < 0.05$.

4. RESULTS

A total of 300 questionnaires were administered and retrieved (100% response rate), evenly split between 150 Arts students (Geography, Social Studies, Islamic Studies) and 150 Science students (Integrated Science, Chemistry). By level of study, Level II students formed the largest share of the sample (41.0%), followed by Level III (36.7%) and Level I (22.3%); this reflects sampling accessibility during data collection rather than an underlying difference in library use by level, and should not be read as such.

Table 1. Sample distribution by school, discipline and level of study

School / Level	Discipline	n	%
Geography	Arts	50	16.7
Social Studies	Arts	50	16.7
Islamic Studies	Arts	50	16.7
Integrated Science	Science	75	25.0
Chemistry	Science	75	25.0
Level I	—	67	22.3
Level II	—	123	41.0
Level III	—	110	36.7

Frequency and duration of use. Table 2 shows a clear disciplinary difference in how often and how long students used the library. Overall, 60.0% of students reported daily use, but this was substantially higher among Science students (71.3%) than Arts students (48.7%); conversely, Arts students were more represented among once-weekly (16.7% vs 6.7%) and occasional users. A similar pattern held for time spent: more Science students spent 1–3 hours (27.7%) or over 3 hours (10.3%) in the library than Arts students (23.0% and 6.7% respectively), while Arts students were concentrated in the under-one-hour category. Among the minority of irregular users (n = 73), the leading reason was the belief that coursework could be completed without the library (44.4%, driven mainly by Arts students), followed by lack of time (30.5%, driven mainly by Science students).

Table 2. Frequency and duration of library use, and reasons for irregular use, by discipline

Indicator	Category	Arts %	Science %	Overall %
Frequency of use	Daily	48.7	71.3	60.0
	2–4 times/week	18.7	13.3	16.0
	Once a week	16.7	6.7	11.7
	Occasionally	12.7	12.0	12.3
Time spent	< 1 hour	40.7†	24.0†	32.3
	1–3 hours	46.0†	55.3†	50.7
	> 3 hours	13.3†	20.7†	17.0
Reason for irregular use (n = 73)	Can manage without library	37.5	6.5	44.4
	No time	12.5	17.1	30.5

† Percentages calculated within discipline (of 150 Arts / 150 Science respondents).

Purposes of use, borrowing and library sections. Consulting reference materials (27.0%) and reading for examinations (26.3%) were the leading purposes of library use overall, both more common among Science students; Arts students were more likely to use the library for note preparation, newspaper reading, and relaxation — the last of which was reported exclusively by Arts students. All 300 respondents were registered library members, and a large majority (87.0%) had borrowed books, with a slightly higher proportion among Science students (92.0% of Science respondents vs 82.0% of Arts respondents). Once students did borrow, however, the number of items taken at a time (mostly two to three books) did not differ meaningfully between the groups. The reference and reserve sections were the

most heavily used by both disciplines alike (31.0% and 29.0% respectively), while the media section was least used (4.0%).

Table 3. Purpose of use, borrowing, and library-section preference, by discipline

Indicator	Category	Arts %	Science %	Overall %
Main purpose	Consult reference materials	23.3	29.3	27.0
	Read for examinations	22.0	30.7	26.3
	Borrow books	12.0	18.0	15.0
	Prepare notes	16.7	15.3	16.0
Borrowing (n = 300)	Borrowers (of discipline)	82.0	92.0	87.0
Most-used section	Reference	30.0	32.0	31.0
	Reserve	28.0	30.0	29.0
	Circulation	22.7	20.7	21.7
	Media	3.3	4.7	4.0

Audio-visual resources and staff inquiries. Awareness of audio-visual (AV) resources was high in both groups (88.0% overall), yet actual frequent use remained low (25.8%), revealing a gap between awareness and utilization. Science students were markedly more frequent AV users (15.2% vs 10.6%) and computers were the dominant AV resource used, especially by Science students (29.5% vs 15.5%). Most respondents (88.3%) reported encountering problems in the library, slightly more so among Science students (47.7% vs 40.7%), which is consistent with their higher rate of inquiries to library staff (18.0% of Science students making frequent inquiries, versus 13.0% of Arts students).

Table 4. Audio-visual resource use, problems encountered, and inquiries, by discipline

Indicator	Category	Arts %	Science %	Overall %
AV awareness	Aware	94.0	82.0	88.0
AV use frequency	Frequently	10.6	15.2	25.8‡
	Rarely	28.4	29.2	57.8‡
	Never	14.4	2.3	16.7‡
Encountered problems	Yes	40.7	47.7	88.3‡
Inquiry frequency	Frequently	13.0	18.0	31.0
	Rarely	23.7	27.0	50.7
	Never	13.3	5.0	18.3

‡ Overall % is of all 300 respondents; discipline columns are % of that discipline's 150 respondents.

Tests of Hypotheses

All five null hypotheses of no significant difference between Science and Arts students were rejected at $p < 0.05$ (Table 5), confirming that discipline was significantly associated with library attendance, time spent, borrowing, audio-visual resource use, and frequency of inquiries.

Table 5. Summary of inferential statistics

Hypothesis	Test	Statistic	df	p	Decision
$H0_1$ – Attendance	χ^2	18.24	3	< .001	Rejected
$H0_2$ – Time spent	Mann-Whitney U	8,342	—	.024	Rejected
$H0_3$ – Borrowing	χ^2	4.56	1	.033	Rejected
$H0_4$ – AV use	χ^2	12.78	2	.002	Rejected
$H0_5$ – Inquiries	χ^2	6.91	2	.032	Rejected

5. DISCUSSION

The finding that Science students used the library more frequently and intensively than Arts students — particularly the 22.6-percentage-point gap in daily attendance (71.3% vs 48.7%) — is consistent with Ayoola (2002) and Mohammed (2002), who linked Science students' heavier library reliance to the rapid pace of change in scientific knowledge. It aligns with Wilson's (1981) model: Science students' discipline generates stronger activating mechanisms (perceived information needs) that drive more frequent visits, whereas Arts materials retain relevance longer (Aguolu, 1983; Okafor, 1992), reducing perceived urgency. The result nonetheless contrasts with Akinwumi's (1988) finding, at St. Andrew's College of Education, that Arts students used the library more — suggesting that disciplinary patterns of use are institution-specific rather than universal, shaped by curriculum design, lecturer expectations, and the availability of alternative (including digital) resources.

The higher borrowing rate among Science students (92.0% vs 82.0%) fits the broader pattern of stronger engagement, yet the similarity in the number of items borrowed per visit indicates that once either group commits to borrowing, the intensity of use converges. The gap between high AV awareness (88.0%) and low frequent use (25.8%) points to practical barriers — limited functioning equipment, inadequate orientation, and weak integration of AV resources into teaching — rather than to lack of awareness itself. Science students' greater reliance on computers as an AV resource reflects their heavier need for data analysis and online research.

Science students' higher rate of inquiries to staff (18.0% vs 13.0% frequent) likely reflects both more complex information needs and the higher incidence of problems this group reports encountering (47.7% vs 40.7%), consistent with Kuhlthau's (1991) account of the affective, uncertainty-laden dimension of information seeking: students who encounter difficulty and then seek help are moving more effectively through the search process than those who disengage. The broadly similar preference for the reference and reserve sections across both disciplines suggests a shared reliance on quick access to core materials that cannot be borrowed or are in high demand.

These results diverge from Iyabo (1993) and Hayes and Dixon (1992), who found no significant disciplinary difference in library use, a discrepancy plausibly explained by differences in institutional setting, curriculum demands, and resource availability. They are, however, consistent with Aina's (1983) observation that science and technology students face greater and more urgent information needs due to the fast-changing nature of their field.

6. CONCLUSION AND RECOMMENDATIONS

This study provides empirical evidence that Science students at Isa Kaita College of Education demonstrate more frequent and intensive library utilization than Arts students across attendance, time spent, audio-visual use, and staff inquiries, while both groups show similar borrowing intensity, section preferences, and types of challenges encountered. The findings extend Wilson's (1981) Information Seeking Behaviour Model and Kuhlthau's (1991) ISP Model to the Nigerian College of Education context, showing that academic discipline is a significant contextual variable shaping information-seeking behaviour, and that interventions should therefore be discipline-specific rather than uniform.

On this basis, the study recommends: (1) targeted user-education programmes for Arts students to address the perception that coursework can be completed without the library; (2) extended library operating hours to accommodate Science students' laboratory and fieldwork schedules; (3) better maintenance, orientation, and curriculum-integration of audio-visual resources to close the awareness–use gap; (4) strengthened reference services, given the heavy reliance on this section by both groups; (5) regular user surveys to identify and resolve the operational problems reported by the large majority of students; and (6) outreach and collection-development initiatives that draw Arts students into more regular engagement with the library. Continuous investment in resources, infrastructure, and user education remains essential if the library is to fulfil its role as the central academic resource of the College, and the findings offer a foundation for further comparative research in similar Colleges of Education.

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