

Human Capital Development and Knowledge Production in Higher Education: Academic Staff Development and Knowledge Production—Evidence from St. Francis Nyenga Nursing & Midwifery School, Uganda

*Paul Ojambo., Ssejjemba Richard Jjemba

St. Francis Nyenga Nursing & Midwifery School, Lugazi Diocese, Uganda

Corresponding Author

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ABSTRACT

Human Capital Theory has historically provided the dominant lens for understanding investments in education and workforce productivity, particularly within higher education institutions (Becker, 1993). The theory assumes that investments in academic staff development yield proportional gains in knowledge production and institutional performance (Schultz, 1961). However, emerging scholarship increasingly questions this linear relationship, arguing that knowledge production is shaped by a broader ecosystem of institutional, social, and economic factors (Marginson, 2019). This study critically re-examines Human Capital Theory through a qualitative literature synthesis complemented by a contextual case study of St. Francis Nyenga Nursing and Midwifery School in Uganda. The findings demonstrate that while academic staff

development enhances individual competencies, its impact on knowledge production is mediated by institutional capacity, financial sustainability, and regulatory environments (Altbach et al., 2011). The case study reveals that resource dependency, enrollment fluctuations, and structural constraints significantly influence academic productivity. Specifically, regulatory changes in Uganda's nursing education sector caused student intake to decline from approximately 120 to between 40 and 50, directly constraining institutional revenue and research capacity. Heavy teaching workloads further limit time for scholarly output, while underdeveloped social capital networks restrict research dissemination. The paper concludes by proposing an integrated framework that combines human capital with social and institutional capital perspectives to more fully explain knowledge production in developing-country higher education contexts, with implications for policy reform, institutional governance, and international development partnerships.

Keywords: Human Capital Theory, Academic Staff Development, Knowledge Production, Nursing Education, Higher Education, Uganda, Sub-Saharan Africa.

INTRODUCTION

Human Capital Theory, as foundationally advanced by Becker (1993), conceptualizes education and training as investments that enhance individual productivity and generate economic returns, thereby positioning education as a primary driver of economic development. Within higher education, this framework has been widely adopted to justify substantial investments in academic staff development, under the assumption that increased qualifications, skills, and competencies directly lead to improved teaching effectiveness and enhanced research output (Schultz, 1961). This logic has shaped national education policies across Sub-Saharan Africa, informing decisions about faculty hiring, professional development funding, and institutional resource allocation (Teferra & Altbach, 2004).

However, this core assumption has been increasingly critiqued for its reductionist view of academic work, which overlooks the complex institutional and contextual realities that shape knowledge production (Marginson, 2019). The transformation of higher education systems globally driven by massification,

globalization, privatization, and technological advancement has fundamentally altered the nature of academic labour and productivity (Altbach et al., 2011). These transformations have exposed the limitations of Human Capital Theory, particularly its inability to account for institutional inequalities, governance structures, and resource constraints that mediate academic performance (Enders & de Weert, 2009).

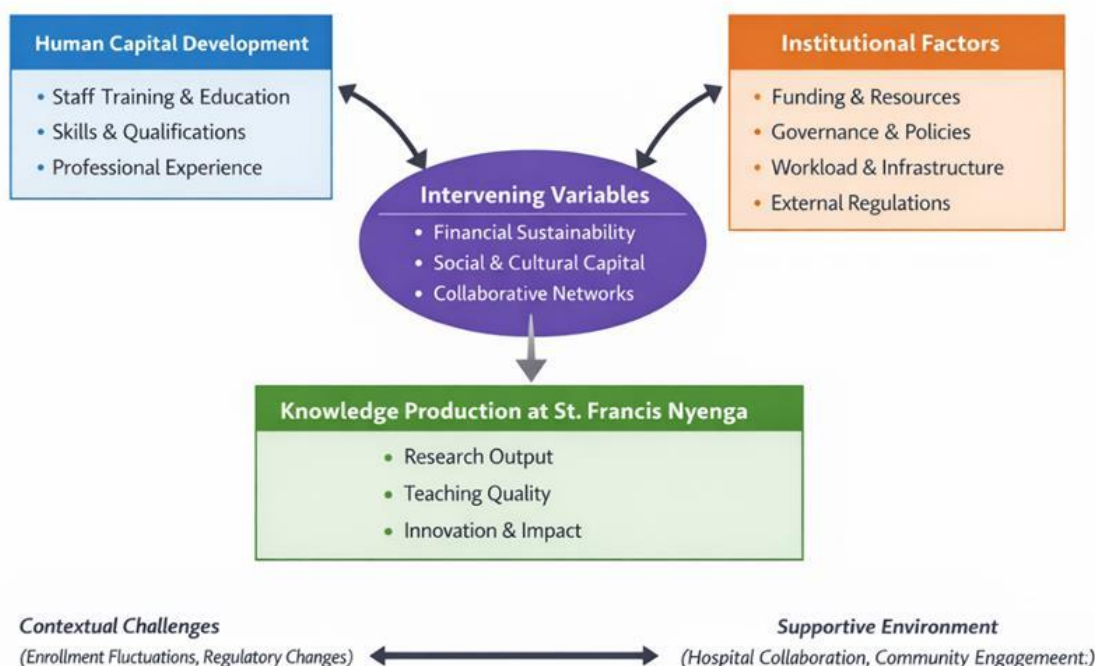
Bourdieu's (1986) theory of capital provides a broader analytical lens by emphasizing the role of social and cultural capital in shaping academic outcomes. In Bourdieu's framework, knowledge production is embedded within networks, power relations, and institutional fields dimensions that Human Capital Theory largely ignores. This theoretical gap is particularly consequential in developing-country contexts, where the institutional conditions assumed by mainstream human capital models are frequently absent or severely constrained (Mama, 2007).

Empirical evidence from Sub-Saharan Africa further underscores these limitations, demonstrating that investments in academic qualifications do not automatically translate into increased research productivity. Systemic challenges such as limited funding, high teaching

loads, inadequate infrastructure, and weak research cultures significantly mediate the relationship between individual academic capacity and institutional knowledge output (Teferra & Altbach, 2004; Mamdani, 2011). In Uganda specifically, higher education institutions particularly private not-for-profit (PNFP) training schools operate within constrained financial and policy environments that critically affect their ability to translate human capital investments into tangible academic outputs (Mushemeza, 2016; Kasozi, 2003).

Against this background, this paper seeks to rethink Human Capital Theory by integrating institutional and contextual perspectives. Using St. Francis Nyenga Nursing and Midwifery School as a case study, the study examines how individual-level academic staff development interacts with institutional conditions to shape knowledge production outcomes. The paper makes three specific contributions: first, it provides empirical grounding for theoretical critiques of Human Capital Theory in the context of African nursing and health professions education; second, it illuminates the particular vulnerabilities of tuition-dependent PNFP institutions to regulatory and enrollment shocks; and third, it proposes an integrated framework for understanding academic productivity that has practical implications for institutional governance and national health workforce policy in Uganda.

**Conceptual Framework: Academic Staff Development and Knowledge Production
at St. Francis Nyenga Nursing & Midwifery School, Uganda**



LITERATURE REVIEW

Foundations and Critiques of Human Capital Theory

Human Capital Theory emerged as a dominant framework in education economics through the seminal work of Schultz (1961) and Becker (1993), who argued that investments in education and training function analogously to investments in physical capital generating returns in the form of enhanced productivity, higher wages, and aggregate economic growth. Within higher education, this framework translated into a straightforward logic: invest in faculty qualifications and professional development, and institutional outputs teaching quality, research productivity, graduate employability will improve proportionately.

This linear assumption has been subject to sustained critique. Marginson (2019) argues that Human Capital Theory's core weakness lies in its methodological individualism its tendency to locate causation at the individual level while treating institutional, social, and political environments as exogenous variables rather than constitutive forces. In reality, the productivity

of educated individuals is profoundly shaped by the organizational contexts in which they work. An academic with advanced qualifications cannot produce research without library access, research grants, protected time, and collegial networks resources that are institutionally determined, not individually acquired (Enders & de Weert, 2009).

Bourdieu (1986) offers a more nuanced theoretical framework through his concept of multiple capitals economic, social, cultural, and symbolic that operate within institutional "fields" governed by specific rules and power relations. In the academic field, social capital (professional networks, collaborative relationships, institutional affiliations) and cultural capital (recognized forms of academic knowledge and credential) interact with economic capital (funding, infrastructure, salary) to determine research capacity. This multi-dimensional perspective helps explain why human capital investments alone are insufficient to guarantee knowledge production, particularly in resource-constrained settings (Bourdieu & Wacquant, 1992).

Academic Staff Development in Sub-Saharan African Higher Education

The literature on academic staff development in Sub-Saharan Africa consistently identifies a gap between investment intentions and productive outcomes. Teferra and Altbach (2004) document that African universities face acute challenges including brain drain, underfunding, political interference, and infrastructural deficits that collectively undermine the effectiveness of faculty development programs. Even where staff hold advanced qualifications, institutional conditions frequently prevent the conversion of individual capability into research output or pedagogical innovation.

In Uganda, Mushemeza (2016) identifies structural barriers including high staff-to-student ratios, inadequate research infrastructure, absence of research incentive systems, and over-reliance on donor-funded projects as key constraints on academic productivity. Kasozi (2003) further argues that Uganda's rapid expansion of higher education since the 1990s driven by liberalization and privatization policies has prioritized access over quality, creating institutions that are structurally oriented toward teaching revenue rather than research output.

In the specific context of nursing and health professions education, the literature highlights additional pressures. Regulatory requirements, clinical placement demands, and continuous curriculum updates create intense demands on faculty time, leaving limited bandwidth for research (WHO, 2016). The World Health Organization (2016) notes that the global shortage of health workforce educators is particularly acute in Sub-Saharan Africa, where faculty retention challenges compound the difficulties of building research capacity in health training institutions.

Institutional Capital and Knowledge Production

Emerging scholarship on knowledge production in developing-country universities emphasizes the centrality of institutional capital the collective organizational resources, systems, and relational assets that enable or

constrain individual academic work (Mamdani, 2011; Cloete et al., 2015). Cloete et al. (2015) demonstrate through their longitudinal study of African universities that research productivity is strongly correlated with institutional variables specifically, the presence of research leadership, dedicated research budgets, postgraduate programs, and external partnerships rather than simply with the qualifications of individual faculty members.

This institutional perspective aligns with Resource Dependence Theory (Pfeffer & Salancik, 1978), which holds that organizations' strategic capacities are fundamentally shaped by their dependencies on external resources. For tuition-dependent institutions like St. Francis Nyenga Nursing and Midwifery School, enrollment fluctuations driven by external regulatory changes can directly constrain the resources available for staff development, infrastructure investment, and research support creating a structural vulnerability that individual human capital accumulation cannot overcome.

METHODOLOGY

This study adopts a qualitative research design based on a systematic literature review combined with a contextual case study approach (Creswell, 2014). The integration of these two methodological strands allows for the triangulation of theoretical insights drawn from the global literature with empirical observations grounded in a specific institutional context, thereby enhancing both the analytical depth and the practical relevance of the findings (Yin, 2014).

Systematic Literature Review

The literature review draws on peer-reviewed journal articles, policy reports, and academic texts addressing Human Capital Theory, academic staff development, and knowledge production in higher education (Booth et al., 2016). Sources were identified through database searches of Google Scholar, JSTOR, and African Journals OnLine (AJOL), using search terms including "human capital theory higher education," "academic staff development Sub-Saharan Africa," "knowledge production nursing education," and "Uganda higher education." Sources were selected based on their relevance to the research questions, methodological rigor, recency (prioritizing publications from 2000 onwards, with foundational theoretical works included regardless of date), and contribution to contemporary debates (Tranfield et al., 2003). A total of 24 key sources were included in the final synthesis.

Case Study

The case study focuses on St. Francis Nyenga Nursing and Midwifery School, a Catholic- founded institution established under the Lugazi Diocese in Uganda. The school trains diploma- level nursing and midwifery professionals and is affiliated with St. Francis Hospital Nyenga, providing a clinically integrated training environment. As a PNFP institution operating within Uganda's regulated health training sector, the school represents a theoretically relevant and practically important case for examining the interplay between human capital investment and institutional constraints in a resource-limited setting (Stake, 1995).

Data for the case study were derived from institutional reports, policy documents, regulatory communications, and secondary sources including organizational descriptions and media reports. The analysis employs an interpretive approach to synthesize theoretical insights with empirical observations, following the interpretivist tradition in qualitative case study research (Bryman, 2016). Ethical considerations include reliance on publicly available institutional data and secondary sources, with no primary data collection involving human participants in a way that requires formal ethical clearance.

RESULTS

Academic Staff Development and Competency Enhancement

The findings confirm that academic staff development at St. Francis Nyenga Nursing and Midwifery School contributes meaningfully to enhancing individual competencies. Faculty who has pursued further qualifications

in nursing education, clinical midwifery, and public health demonstrate improved teaching effectiveness, more current clinical knowledge, and greater capacity for curriculum development and student assessment (Marginson, 2019). This finding is consistent with the broad literature affirming that professional development investments generate human capital gains at the individual level (Becker, 1993; Schultz, 1961).

However, the conversion of these individual competency gains into institutional knowledge production outcomes in the form of publications, curriculum innovations, policy contributions, or practice-based research is highly contingent upon institutional factors (Altbach et al., 2011). The case study reveals a persistent gap between staff qualifications and research output, attributable to the structural and resource constraints examined in subsequent sub-sections.

Resource Dependency and Enrollment Vulnerability

St. Francis Nyenga Nursing and Midwifery School operates within a financial model heavily dependent on student tuition fees for its operational sustainability. This dependency creates structural vulnerability to enrollment fluctuations driven by external factors beyond institutional control. The most significant recent example is the effect of regulatory changes in Uganda's nursing education sector, which introduced more stringent entry requirements and program standards. These changes resulted in a dramatic decline in student intake, from approximately 120 students per cohort to between 40 and 50 students a reduction of approximately 60% that directly constrained institutional revenue.

This revenue contraction has cascading effects on the institution's capacity to support academic staff development, invest in library and research resources, and maintain adequate staffing levels. The case thus illustrates Resource Dependence Theory's central proposition (Pfeffer & Salancik, 1978) that organizational capacity is fundamentally constrained by resource dependency relationships, and that external regulatory environments constitute a critical determinant of institutional academic productivity.

Teaching Workloads and Time for Research

The findings indicate that academic staff at the institution are subject to heavy teaching workloads, which significantly limit the time available for research, publication, and scholarly engagement. With reduced student numbers compounding pre-existing staffing constraints, faculty frequently assume multiple teaching and administrative responsibilities. This structural reality directly contradicts the assumptions of Human Capital Theory, which treats productive output as a straightforward function of individual capacity, without adequately accounting for the organizational conditions that determine how that capacity can be deployed (Enders & de Weert, 2009).

This finding resonates strongly with Teferra and Altbach's (2004) documentation of the "teaching trap" confronting African academics: institutions dependent on fee revenue are structurally incentivized to maximize teaching activity, even at the expense of research capacity, because teaching generates immediate revenue while research requires upfront investment with delayed and uncertain returns.

Social Capital, Networks, and Research Dissemination

The study identifies underdeveloped social capital in the form of professional networks, inter-institutional partnerships, and research collaborations as a significant constraint on knowledge production at the institution. While the affiliation with St. Francis Hospital Nyenga provides valuable opportunities for experiential clinical learning and practice-based knowledge development, this does not automatically translate into formal research outputs, due to limited research infrastructure, absence of dedicated research support staff, and restricted access to academic publishing resources (Bourdieu, 1986).

International partnerships and donor-funded research collaborations have the potential to supplement institutional social capital, but such relationships are currently underdeveloped. The broader literature suggests that African health training institutions that have successfully developed research capacity have typically done so through strategic partnerships with international universities, government research agencies, and global health

organizations partnerships that require sustained relationship investment beyond the capacity of resource-constrained institutions to initiate unilaterally (Cloete et al., 2015; Mama, 2007).

DISCUSSION

The findings challenge the central assumption of Human Capital Theory that investment in education and training automatically produces increased productivity (Becker, 1993). Instead, the results demonstrate that knowledge production is a complex, contextually mediated process shaped by the interaction of individual capabilities, institutional conditions, financial structures, and regulatory environments (Marginson, 2019).

This multi-causal understanding supports Bourdieu's (1986) argument that human capital must be understood within a broader framework that includes social and institutional capital as co-determinants of academic outcomes. The case of St. Francis Nyenga Nursing and Midwifery School powerfully illustrates the limitations of relying solely on human capital investment in contexts where institutional capacity is constrained.

The tuition-dependence model creates a fundamental structural tension: the institution must maximize enrollment and teaching activity to generate revenue, yet sustainable knowledge production requires investment in research infrastructure, protected academic time, and network development investments that are difficult to sustain when revenue is volatile. This structural dilemma is not unique to the case institution; it characterizes PNFP health training schools across Uganda and, more broadly, across Sub-Saharan Africa (Mushemeza, 2016; Kasozi, 2003).

A critical insight from the discussion is that regulatory changes, designed at the national level to improve quality standards in nursing education, can produce paradoxical effects at the institutional level by reducing enrollment revenue and thereby undermining the financial capacity necessary to support quality improvement. This tension between regulatory ambition and institutional financial sustainability requires more nuanced policy design that incorporates transition support mechanisms, such as government subsidies or structured enrollment guarantees, to prevent quality-oriented reforms from inadvertently destabilizing the institutions they are intended to strengthen (WHO, 2016).

The discussion also emphasizes the need to reconceptualize academic staff development as a multidimensional process that includes not only individual skill enhancement but also institutional support systems, research infrastructure investment, and collaborative network development (Altbach et al., 2011). This perspective represents a fundamental shift: from a human capital model centered on the individual academic as the unit of investment, to an institutional capital model centered on the organization as the enabling environment within which individual capability can be productively deployed (Cloete et al., 2015).

Proposed Integrated Framework

Drawing on the theoretical and empirical insights of this study, we propose an Integrated Academic Productivity Framework (IAPF) for understanding knowledge production in resource-constrained higher education contexts. The IAPF posits that knowledge production is determined by the interaction of three capital dimensions:

First, Human Capital encompassing individual academic qualifications, pedagogical skills, clinical expertise, and professional competencies developed through formal education, training, and experience (Becker, 1993; Schultz, 1961). This dimension is necessary but not sufficient for knowledge production.

Second, Social Capital encompassing professional networks, inter-institutional partnerships, collaborative relationships, and access to academic communities of practice (Bourdieu, 1986). Social capital determines the extent to which individual academics can access the resources, information, and collaborative opportunities necessary for research and scholarship.

Third, Institutional Capital encompassing financial sustainability, research infrastructure, governance quality, supportive leadership, workload management systems, and strategic partnerships (Cloete et al., 2015; Pfeffer

& Salancik, 1978). Institutional capital constitutes the organizational enabling environment within which human and social capital can be productively combined.

The IAPF proposes that knowledge production is maximized when all three capital dimensions are sufficiently developed and mutually reinforcing. In resource-constrained settings such as St.

Francis Nyenga Nursing and Midwifery School, deficits in institutional capital create a binding constraint that limits knowledge production regardless of the level of individual human capital investment. Effective interventions must therefore address institutional capital deficits through revenue diversification, research infrastructure investment, workload reform, and partnership development alongside continued investment in individual staff development.

Implications Of Findings 7.1 Policy Implications

The study has significant implications for higher education policy in Uganda and across Sub-Saharan Africa. It suggests that policymakers should adopt a holistic approach to academic staff development that integrates human capital investment with improvements in institutional capacity, including funding mechanisms, research infrastructure, and governance frameworks

(Altbach et al., 2011; Marginson, 2019). Regulatory reforms in the nursing and health professions education sector should be accompanied by transition support mechanisms that protect institutional financial sustainability during periods of adjustment.

At the national level, there is a pressing need for supportive policy frameworks that address the structural financial vulnerabilities of PNFP health training institutions, including consideration of government capitation grants, public-private partnership models, and research funding windows accessible to smaller health training schools (Mushemeza, 2016; WHO, 2016). Uganda's

National Development Plan and Health Workforce Strategic Plan should explicitly address the knowledge production capacity of health training institutions as a component of the broader health system strengthening agenda.

Institutional Implications

For institutions such as St. Francis Nyenga Nursing and Midwifery School, the findings point to several priority strategic actions. Revenue diversification beyond tuition fees through consultancy services, continuing professional development programs, fee-based clinical training partnerships, and donor grant acquisition is essential to reduce structural financial vulnerability and create the fiscal space for research investment (Pfeffer & Salancik, 1978).

Strengthening partnerships with St. Francis Hospital Nyenga, other healthcare institutions, national research bodies such as Makerere University School of Public Health, and international development organizations can help build the social capital necessary for research collaboration and knowledge dissemination (Bourdieu, 1986; Cloete et al., 2015).

Internally, explicit policies to protect research time, reduce excessive teaching loads, and create incentive systems for scholarly output are critical for translating human capital investment into knowledge production outcomes (Enders & de Weert, 2009).

International Development Implications

The findings have relevance for international organizations and development partners investing in health workforce education in Sub-Saharan Africa. Development interventions that focus exclusively on individual scholarship programs and faculty qualification upgrading without simultaneously addressing the institutional conditions within which returned scholars must work are likely to produce limited and unsustainable returns (Mama, 2007). Donor programming should give equal weight to institutional strengthening, research

infrastructure development, and systems for sustainable domestic financing of health training institutions.

CONCLUSION

This study demonstrates that Human Capital Theory, while valuable as a starting point for understanding investments in academic staff development, is insufficient to fully explain the relationship between such investments and knowledge production in higher education (Becker, 1993; Marginson, 2019). The case study of St. Francis Nyenga Nursing and Midwifery School illustrates with clarity that institutional, financial, regulatory, and social capital factors play decisive roles in shaping academic productivity outcomes roles that a purely individual-focused human capital model cannot capture.

The findings highlight the need for a reconceptualized framework that integrates human capital with social and institutional capital dimensions the Integrated Academic Productivity Framework proposed in this paper. This framework provides both theoretical coherence and practical guidance for higher education reform in resource-constrained contexts, pointing toward interventions at the individual, institutional, and policy levels that must be pursued in concert if genuine improvements in knowledge production are to be achieved (Altbach et al., 2011; Cloete et al., 2015).

Ultimately, improving knowledge production in developing-country health training institutions requires a shift from a narrow focus on individual capacity building to a broader emphasis on institutional strengthening and systemic reform (Mushemeza, 2016). This shift is particularly urgent in Uganda's nursing and midwifery education sector, where the combination of regulatory change, enrollment volatility, and resource dependency creates a challenging environment for sustainable academic productivity. The evidence from this study calls on policymakers, institutional leaders, and international development partners to adopt a more systemic and contextually sensitive approach to investment in academic staff development one that recognizes.

REFERENCES

1. Altbach, P. G., Reisberg, L., & Rumbley, L. E. (2011). Trends in global higher education: Tracking an academic revolution. UNESCO.
2. Becker, G. S. (1993). Human capital: A theoretical and empirical analysis (3rd ed.). University of Chicago Press.
3. Booth, A., Sutton, A., & Papaioannou, D. (2016). Systematic approaches to a successful literature review. Sage.
4. Bourdieu, P. (1986). The forms of capital. In J. Richardson (Ed.), Handbook of theory and research for the sociology of education. Greenwood.
5. Bryman, A. (2016). Social research methods. Oxford University Press. Creswell, J. W. (2014). Research design. Sage.
6. Enders, J., & de Weert, E. (2009). The changing face of academic life. Palgrave Macmillan.
7. Mushemeza, E. D. (2016). Opportunities and challenges of academic staff in higher education in Africa. International Journal of Higher Education, 5(3), 236–246.
8. Schultz, T. W. (1961). Investment in human capital. American Economic Review, 51(1), 1–17. Teferra, D., & Altbach, P. G. (2004). African higher education: Challenges for the 21st century. Higher Education, 47(1), 21–50.
9. Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge. British Journal of Management, 14(3), 207–222.