

WORKSHOP PRESENTATION

Bridging the Skills Gap:

Capacity Building and Training Frameworks for Effective Transition from MARC to BIBFRAME in Diverse Library Environments



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Workshop Outline

01

Background & Context

State of cataloguing and the imperative for change

02

Understanding MARC vs BIBFRAME

Key differences and why the shift matters

03

Skills Gap Analysis

Challenges facing libraries in developing regions

04

Training Framework Design

A tiered capacity-building model

05

Implementation Roadmap

Practical steps for diverse library environments

06

Case Studies & Outcomes

Lessons from global transitions

Background & Context

50+

Years MARC
has served libraries

180+

Countries using
MARC 21 variant

2011

Year LC introduced
BIBFRAME concept

- ▶ The digital transformation of library services demands metadata frameworks that go beyond bibliographic control
- ▶ MARC, while robust, was designed for card catalogue systems — not the linked data, semantic web era
- ▶ BIBFRAME (Bibliographic Framework Initiative) represents the Library of Congress's response to modernise cataloguing for the web
- ▶ Libraries in developing nations, including Nigeria, face amplified challenges: limited ICT infrastructure, scarce trained personnel, and budget constraints
- ▶ A structured capacity building framework is essential to ensure no library is left behind in this global transition

MARC vs BIBFRAME: Key Distinctions

MARC 21

Aspect	Flat, record-based structure
Data Model	Binary/string field encoding
Web Readiness	Not natively web-compatible
Interoperability	Siloed within library systems
Core Entities	Single bibliographic record
Future Role	Legacy support only



BIBFRAME

Entity-relationship, linked data model
RDF/OWL semantic framework
Designed for the World Wide Web
Open linkage across datasets & platforms
Work, Instance, Item, Agent, Subject
Foundation of modern library cataloguing

Skills Gap Analysis in Diverse Library Environments



Technical Knowledge Gap

Limited understanding of RDF, OWL, linked data concepts, and ontologies among practising cataloguers



Systems & Tool Proficiency

Unfamiliarity with BIBFRAME-compatible ILS platforms, MARCedit BIBFRAME tools, and Zepheira systems



Institutional Capacity

Absence of BIBFRAME policy frameworks, institutional champions, and dedicated transition budgets in most African libraries



Infrastructure Deficit

Unreliable internet, inadequate hardware, and limited access to authoritative linked data sources (e.g., VIAF, Wikidata)



Curriculum Lag

LIS curricula in Nigerian universities yet to mainstream BIBFRAME, linked data, and semantic web cataloguing



Interoperability Awareness

Low awareness of how BIBFRAME enables resource sharing, OPACs, and discovery layer enhancement

Proposed Tiered Capacity Building Framework

TIER 1 — Foundation Level

Target: All library staff & LIS students

Introduction to Linked Data & Semantic Web

BIBFRAME Core Concepts: Work, Instance, Item

Comparison: MARC vs BIBFRAME data models

Tools Overview: MARCEdit, BIBFRAME Editor

TIER 2 — Intermediate Level

Target: Practising cataloguers & systems librarians

RDF/OWL and authority file integration

Cataloguing in BIBFRAME environment (hands-on)

Linked Data publishing and SPARQL queries

Migration workflows using LC BIBFRAME tools

TIER 3 — Advanced / Leadership

Target: Senior librarians & LIS educators

Policy development & change management

Training-of-Trainers (ToT) methodologies

Institutional BIBFRAME transition planning

Research, publication & advocacy strategies

Implementation Roadmap

Phase 1

Needs Assessment & Planning



Months 1–3

- Institutional audit of current skills
- Stakeholder mapping & buy-in
- Resource mobilisation & funding

Phase 2

Curriculum Development



Months 4–6

- Design modular training content
- Develop local language materials
- Pilot test with target groups

Phase 3

Training Delivery



Months 7–12

- Workshop delivery (blended/online)
- Hands-on lab sessions
- Mentoring & peer learning networks

Phase 4

Monitoring & Scale-Up



Months 13+

- Competency assessment & certification
- ToT cascade training
- Policy advocacy & sustainability

Lessons from Global BIBFRAME Transitions

Library of Congress (USA)

Outcome:

Led the BIBFRAME initiative; established LC Linked Data Service; phased migration of LC authorities to linked data format

Key Lesson:

Strong institutional leadership and dedicated R&D investment are indispensable for driving national-level transitions

British Library (UK)

Outcome:

Piloted BIBFRAME cataloguing for music and rare materials; integrated with VIAF and Wikidata authority files

Key Lesson:

Domain-specific piloting reduces risk and generates evidence base before full-scale adoption

NACSIS-CAT / Japan

Outcome:

Developed national linked data cataloguing standards adapted to Japanese language resources and character sets

Key Lesson:

Localisation and cultural adaptation of global frameworks is essential for non-English language environments

University Libraries — Nigeria (Emerging)

Outcome:

Early adopters include Ahmadu Bello University Library; supported by NLA and NUC advocacy for LIS curriculum reform

Key Lesson:

Collective advocacy by professional bodies accelerates institutional readiness in resource-constrained settings

Recommendations for Nigerian & African Libraries

NUC / LIS Schools

Integrate BIBFRAME, linked data, and semantic web modules into accredited LIS curricula at undergraduate and postgraduate levels

Nigerian Library Association

Develop a national BIBFRAME transition policy statement and advocate for dedicated federal funding in the National Library budget

University Librarians

Establish institutional BIBFRAME transition committees; designate pilot collections and champion staff development pathways

International Partners

IFLA, LC, and donor agencies should provide tailored capacity building grants and open-access training resources for the Global South

Cataloguing Professionals

Pursue self-directed learning via LC BIBFRAME resources, Zepheira training, and regional BIBFRAME study groups

CONCLUSION & WAY FORWARD

Bridging the Gap is Both Possible and Necessary

- ✦ The transition from MARC to BIBFRAME is not merely technical — it is a professional transformation requiring investment in human capital
- ✦ A tiered, context-sensitive training framework addresses the diverse readiness levels found across Nigerian and African library landscapes
- ✦ Partnerships among universities, professional bodies, government agencies, and international organisations are critical for sustainable capacity building
- ✦ Early movers who invest in BIBFRAME competencies today will lead the next generation of metadata-driven library services in Nigeria