**UNIVERSITY OF CAPE COAST**

****

**COLLEGE OF HUMANITIES AND LEGAL STUDIES**

**SCHOOL OF ECONOMICS**

**DEPARTMENT OF DATA SCIENCE AND ECONOMIC POLICY**

**MASTER OF SCIENCE (DATA MANAGEMENT AND ANALYSIS)**

**COURSE: DATA CURATION AND MANAGEMENT PLANS**

**NAME: ASMAH OPPONG ACHEAMPONG**

**INDEX NUMBER: SE/DMD/24/0010**

**PART 1 — Six (6) Data Quality Performance Indicators (GES)**

**Purpose:** Indicators to ensure data supports GES’s vision for equitable, high-quality education.

1. **Accuracy**  
   Data values (e.g., enrollment counts, exam scores, teacher qualifications) must reflect reality. Accuracy is measured by routine validation checks (e.g., cross-referencing school registers with district records, audits). High accuracy reduces policy errors and misallocation of resources.
2. **Completeness**  
   Records should have all required fields filled (student demographics, attendance, assessment scores, teacher credential fields). Completeness is monitored via mandatory field checks and completeness-rate targets (e.g., ≥ 98% of student records with required fields). Incomplete data undermines program evaluation and planning.
3. **Timeliness**  
   Data must be available within a time window that supports decision-making (e.g., monthly attendance, term exam results within 2 weeks). Timeliness is tracked by measuring lag between event and recorded entry. Timely data enables rapid response during school placements, emergency funding, and exam administration.
4. **Consistency / Standardization**  
   Data definitions and formats must be uniform across schools and regions (standard codes for school types, grade levels, and outcomes). Consistency is measured via schema conformance checks and cross-dataset reconciliation. Standardization allows meaningful aggregation and trend analysis.
5. **Validity / Integrity**  
   Data must conform to business rules (e.g., student age vs. grade, approved subject codes). Validity checks (range checks, referential integrity, duplicate detection) prevent logical errors and maintain the integrity of analytics and reports.
6. **Accessibility & Security (Authorized Access)**  
   Relevant stakeholders (district officers, headteachers, planners) must be able to retrieve needed data quickly while protecting sensitive personal information. Measure: authorized access uptime, average retrieval time, and number of unauthorized access incidents. Combining role-based access controls with user training balances accessibility and privacy.

**Short implementation notes:** Embed these indicators into routine dashboards (regional and central), set measurable targets (e.g., accuracy > 99%, completeness > 98%), schedule quarterly data quality audits, and appoint regional Data Stewards to coordinate fixes and training.

**PART 2 — Five (5) Administrative Data Points to Prioritise for Archiving (2025–2030)**

**Rationale:** These datasets have long-term policy, accountability, historical, and planning value for GES.

1. **Student Enrollment & Demographics Records**  
   **What:** Yearly and termly enrollment lists with student name, DOB, gender, grade, home community, and special-needs status.  
   **Why archive:** Critical for cohort tracking, longitudinal studies of retention/dropout, planning infrastructure and scholarship targeting, and monitoring equity (gender, locality). Archival retention supports longitudinal research and policy evaluation.
2. **Teacher Workforce & Professional Records**  
   **What:** Hiring records, qualifications, certifications, postings, promotions, continuing professional development (CPD) logs.  
   **Why archive:** Essential for workforce planning, verifying qualifications during audits, and assessing CPD impact on learning outcomes. Historical teacher posting data informs retention and redistribution policies.
3. **Examination & Assessment Results (Summative and Key Formative Data)**  
   **What:** Standardized exam scores (national and regional), cohort assessment outcomes, and item-level metadata where available.  
   **Why archive:** Allows trend analysis of learning outcomes over time, supports validation of policy interventions, and preserves evidentiary records for disputes or research into curriculum effectiveness.
4. **School Infrastructure & Asset Registers**  
   **What:** Records of classrooms, laboratories, sanitation facilities, ICT assets, land/title documents, and major repairs/upgrades.  
   **Why archive:** Enables long-term capital planning, maintenance scheduling, equity assessments in resource allocation, and disaster recovery planning. Historical asset data helps assess depreciation and plan replacement cycles.
5. **Financial & Funding Records**  
   **What:** Budgets, disbursement ledgers, grants, donor project documents, and expenditure audits at central, regional, and school levels.  
   **Why archive:** Supports transparency, forensic audits, donor reporting, longitudinal fiscal analysis, and compliance with financial regulations. Archiving ensures institutional memory and accountability across political/administrative cycles.

**Short implementation notes:**

* Use a metadata standard and retention policy (e.g., retention periods, anonymization rules for sensitive fields).
* Store archival copies in both secure on-site servers and resilient off-site/cloud repositories with encrypted backups.
* Apply access controls and logging to archived data; anonymize or restrict access to personally identifiable information when used for research.

**References**

*Ghana Education Service. (2024, September 5). Privacy policy. https://ges.gov.gh/privacy-policy*

*Ghana Education Service. (n.d.). About us. https://ges.gov.gh/about-us/*

*Ministry of Education (Ghana). (2021). Education strategic plan 2018–2030. Accra: Government of Ghana.*