

AI Competency Framework for Metadata Professionals

A Six-Domain Working Matrix v0.1

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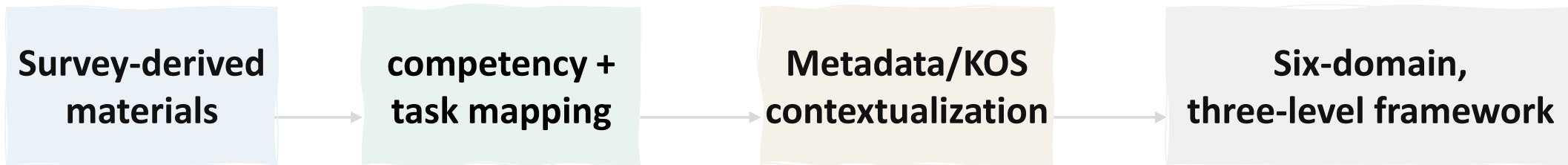
Domain	Foundational	Applied	Design/Gov.
1. AI Literacy	Know tool limits	Select fit-for-purpose tools	Set tool-use guidance
2. Stewardship	Recognize data conditions	Prepare and document inputs	Define stewardship procedures
3. Standards	Recognize schemas/KOS	Apply standards and vocabularies	Design alignment rules
4. Operations	Identify bounded tasks	Use AI in workflows	Design workflow roles
5. Evaluation	Check obvious errors	Assess quality and fit	Define QA thresholds
6. Governance	Recognize rights and risks	Apply policy requirements	Build accountability

6 Domains × 3 Levels

Working Matrix v0.1

Study Basis and Framework Development

From survey-derived materials to a metadata/KOS framework



MATERIALS

Questionnaire · item-level descriptive results · C06/C07 codebooks

C06: AI-use contexts · C07: skills and competencies

EVIDENCE BOUNDARY

Document-based synthesis; not a re-analysis of respondent-level raw data

Materials shared through the DCMI Education Committee Metadata and AI Task Group; acknowledgement to Dr. Ying-Hsang Liu



The Gap the Framework Addresses

AI as workflow support; metadata as professional responsibility

AI is often framed as

**efficiency
automation
service support**



Metadata work also requires

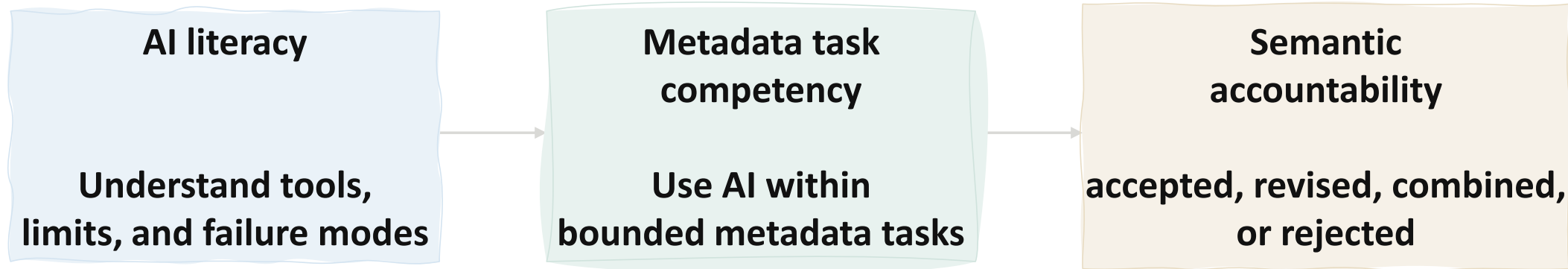
**standards knowledge
semantic judgment
quality review
governance responsibility**

- The ALA Core provides the cataloging/metadata professional baseline; the ACRL AI Competencies provide a broader AI-literacy and responsible-use baseline.
- This working matrix operationalizes their intersection for metadata/KOS workflows through bounded tasks, review points, and responsibility levels.



From AI Competency to Semantic Accountability

A working concept for metadata/KOS responsibility



Can AI output become accountable metadata in a standards-based environment?

Semantic accountability is used here as a working concept, not a validated theory.



Six Domains of the Framework

Connecting tool understanding, metadata practice, and institutional responsibility

ENABLING CONDITIONS

1 AI Literacy and Tool Understanding

2 Data and Metadata Stewardship

PROFESSIONAL METADATA PRACTICE

3 Standards, Semantic Alignment, and Interoperability

4 AI-Assisted Metadata Operations

5 Evaluation, Quality Assurance, and Human Oversight

INSTITUTIONAL RESPONSIBILITY

6 Responsible Governance, Rights, and Risk Management

Six domains organize the move from AI tool use to metadata judgment and accountability.



Three Responsibility Levels

Distributed capacity across an AI-supported metadata workflow

Level	Focus	Question
Foundational Awareness	concepts, risks, limits	What must be recognized?
Applied Practice	bounded metadata tasks	How should outputs be revised and documented?
Design and Governance	workflow rules and accountability	How should criteria and responsibilities be defined?

Example domain: Evaluation, Quality Assurance, and Human Oversight

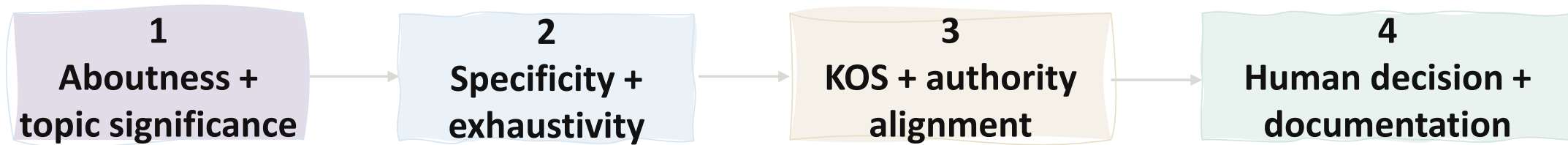
Descriptors	Awareness	Practice	Design & Governance
Illustrative descriptors	Recognize obvious errors, risks, and uncertainty	Validate outputs, document decisions, and escalate exceptions	Define quality criteria, review thresholds, and escalation rules



Example: AI-Assisted Subject Analysis

From candidate concepts to accountable subject access

AI-suggested candidate $\neq$ approved subject assignment



Metadata implementation context: MARC records · BIBFRAME/RDF
graphs · local application profiles

ILLUSTRATIVE MINI-CASE

AI candidate: “Artificial intelligence”

Resource focus: LLM-assisted cataloging

Illustrative decision: do not accept as-is; revise or combine after reviewing KOS/authority evidence

Decision record: source evidence · authority ID/URI · rationale · reviewer/date



What the Framework Can Support

A discussion tool for education, workflow design, and governance

**Curriculum and
professional development**

**Connect AI literacy with
metadata, KOS, standards,
and QA**

**Workflow and
role design**

**Clarify where AI may assist
and where review is required**

**Governance and
quality assurance**

**Support documentation,
rights, bias review, and
accountability**

A shared language for responsible metadata-AI work.



Status and Questions for Refinement

From v0.1 working matrix to community-informed revision

Current status

**v0.1 working matrix
for discussion**

Questions for refinement

1. Are the six domains complete and clearly bounded?
2. Do the three levels work across institutional contexts and capacities?
3. Which metadata/KOS workflow should be used for the first formal test?

NKOS feedback : developmental consultation, not formal validation.



Thank you

Questions and comments are welcome.
