

Scaffolding Transitions: Applying Lessons from Teaching Official RDA to BIBFRAME Training

Presentation co-written by:

Elisa Sze

May Chan

Kyla Jemison

16 September 2025



UNIVERSITY OF TORONTO
LIBRARIES



BIBFRAME
Workshop
in Europe

25

Our background



Elisa Sze – Metadata Librarian & Sessional Instructor. Member of RDA Training in Canada Working Group, Canadian Committee on Cataloguing, and RDA Steering Committee.



May Chan – Head of Metadata Services. Co-Chair, PCC Standing Committee on Training, SCT Linked Data Training Task Group. Member of RDA Training in Canada Working Group.



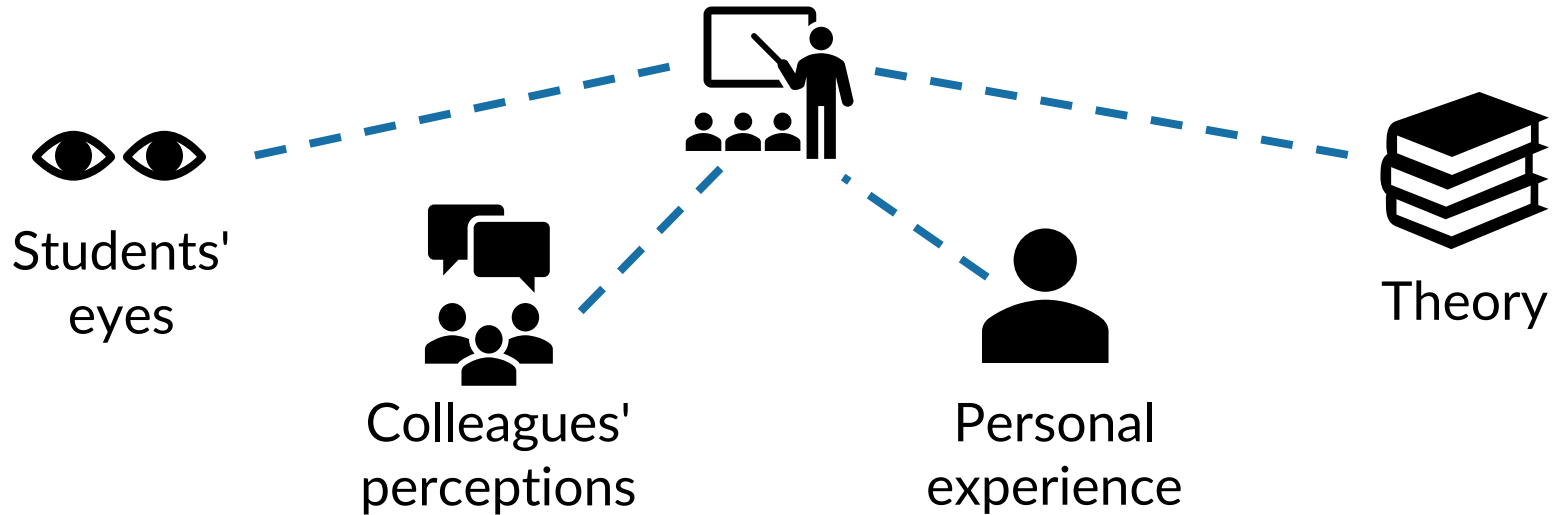
Kyla Jemison – Special Formats Metadata Librarian. PCC EMCO Wikidata Registry Coordinator. Maintainer with the Carpentries.



Change is constant.



Brookfield's Four Lenses of Critical Reflection



What does theory tell us about teaching adults?



Andragogy vs. Pedagogy

- ▷ *Andragogy* = “the method and practice of teaching adults”
- ▷ *Pedagogy* = “the method and practice of teaching children and youth”



Stock image

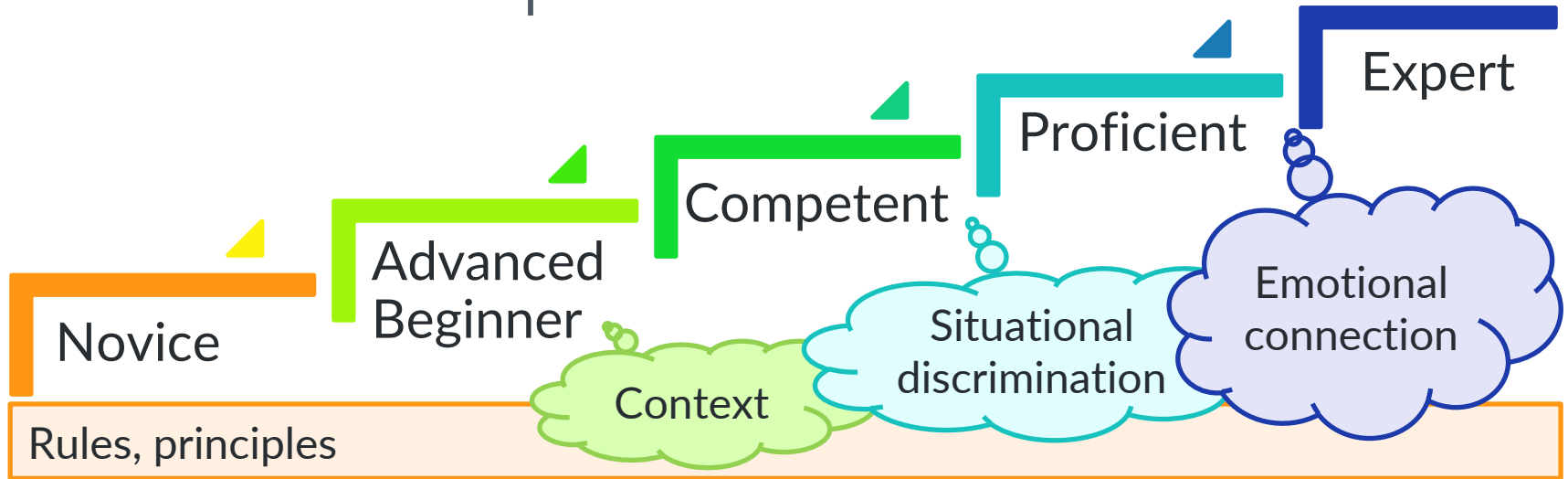


Assumptions about adult learners

Adult learners are...	Instructional consequences
Self-directed	Set learning goals with learners
Experienced	Establish a mutually respectful learning environment
Motivated by their role	Encourage collaboration, inquiry
Eager to apply learning and solve problems	Organize learning around real-life problems



Dreyfus Model of Adult Skill Acquisition



Stuart E. Dreyfus, "The Five-Stage Model of Adult Skill Acquisition." *Bulletin of Science, Technology & Society*, 24, no. 3 (2004). DOI: 10.1177/0270467604264992



Cognitive Load Theory (Sweller)

- ▷ This theory distinguishes “primary knowledge” (unconscious learning) from “secondary knowledge” (requires effort; conscious learning).
 - Primary: Learning to eat or speak a first language
 - Secondary: Learning to read or write
- ▷ Learners cannot acquire secondary knowledge through immersion or “discovery learning” alone.



Sweller's "Schema Theory"

- ▷ Novices use means-end analysis. Experts compare a problem against many experiences and memorized problems.
- ▷ Instructional consequences: help learners expand their experiences and recognize patterns.



Stock image



Evidence-based Learning

- ▷ Teach using problems and case studies
- ▷ Enhance cooperation among students.
Offer prompt feedback.
- ▷ Active learning: notetaking, group discussion, peer teaching, frequent in-class assessments, technology-assisted activities.



Stock image

William Buskist and James E. Groccia, "Evidence-based Teaching: Now and in the Future." *New Directions for Teaching and Learning*, 128. (2011). DOI: 10.1002/tl.473



Microlearning

- ▷ Improve knowledge retention and reduce cognitive load by organizing short, accessible, hands-on lessons
- ▷ Specific objectives
- ▷ Compatible with online delivery
- ▷ Suitable for a scaffolded curriculum



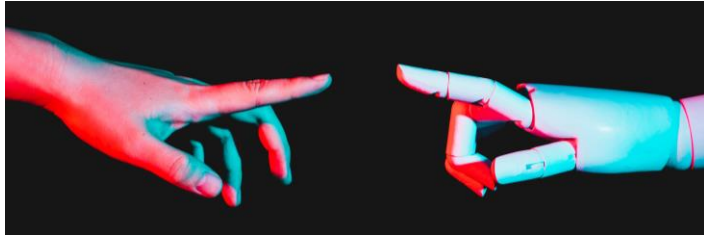
Stock image

Lori M. Herzog. "Andragogy and Microlearning in Professional Continuing Education." Doctoral dissertation, Franklin University, 2024. ProQuest Dissertations and Theses.



Brain-based Learning

- ▷ “Brain-body connection”: Engage emotions, physical senses to encourage diverse active learning, help with information acquisition and retention.
- ▷ Implications: Take care of learners’ physical comfort. Create a safe space for learners to make mistakes.



Stock image

Chang Sung Jang et al. “Brain-based learning research for adult education and human resource development.” *European Journal of Training and Development*, 46, no. 5-6: 627-651. (2022)



“Tacit” to “Explicit” Knowledge

- ▷ *Tacit knowledge*: gained unconsciously by “doing”.
- ▷ *Explicit knowledge*: gained by reflecting on experiences, articulating the logic of decisions.
- ▷ Theory helps develop explicit knowledge.



Stock image



Teaching RDA

Our personal experience +
student and colleague perceptions



Teaching RDA to Students in the Master of Information (MI) Program

- ▷ Instruction team reflected on how they first made sense of RDA: by learning IFLA LRM.
- ▷ IFLA LRM as intellectual scaffold:
 - Introduces terms used in RDA
 - Provides high-level overview
 - Provides a prop for navigating the RDA Toolkit
 - Linked data-friendly



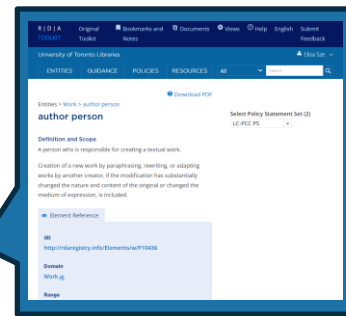
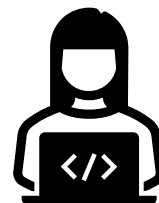
Teaching RDA to Students in the MI Program

▷ Brain-body connection

(Instructor)



What is the
domain described
by the element
author person?



RDA Toolkit

Work

Person



UNIVERSITY OF TORONTO
LIBRARIES

Teaching RDA to Students in the MI Program

- ▷ Major assignments require students to reflect on process
- ▷ “Tacit knowledge” (gained by cataloguing) + “Explicit knowledge” (gained by reflecting and writing about their decision making)
- ▷ Support decisions with IFLA International Cataloguing Principles and LRM user tasks



Teaching RDA to MI Students and Library Colleagues

- ▷ Start with describing a basic monograph
- ▷ Application profile to reduce cognitive load
- ▷ Build up experience with navigating RDA Toolkit – through demonstration, repetition, pattern recognition



Teaching RDA to Colleagues

- ▷ Build on existing knowledge
- ▷ Compare RDA and MARC
- ▷ Community of practice, where it is safe to ask questions, and participate in casual reflection and discussion



Stock image



Training Through The Carpentries

- ▷ <https://carpentries.org/>
- ▷ Focus on data and computational skills
- ▷ Encourage collaboration and co-teaching
- ▷ Small practice modules = microlearning
- ▷ Normalize technical skills and computational thinking, and promote a culture of inquiry



Challenges in linked data education

Our personal experience



Challenges

1.  Rethinking resource description
2.  Diverse learner profiles
3.  Linked data discourse
4.  Linked data documentation



1. Rethinking resource description



Stock image

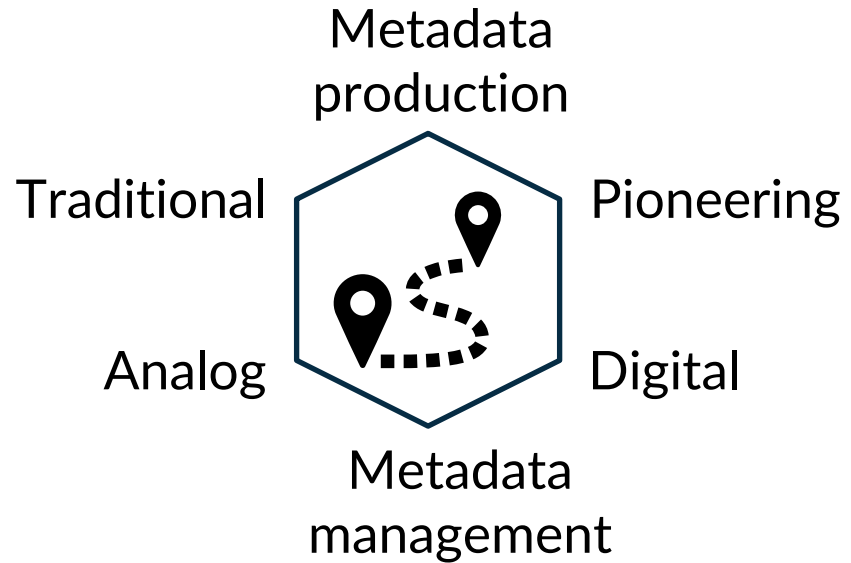
- ▷ Cognitive shift and approach to resource description
 - Updated and new **standards**
 - *Entities and relationships*
 - *Vocabularies and ontologies*
 - Use of **metadata application profiles**
 - Redesigned **tools**
- ▷ **Large cognitive load!**



2. Diverse learner profiles

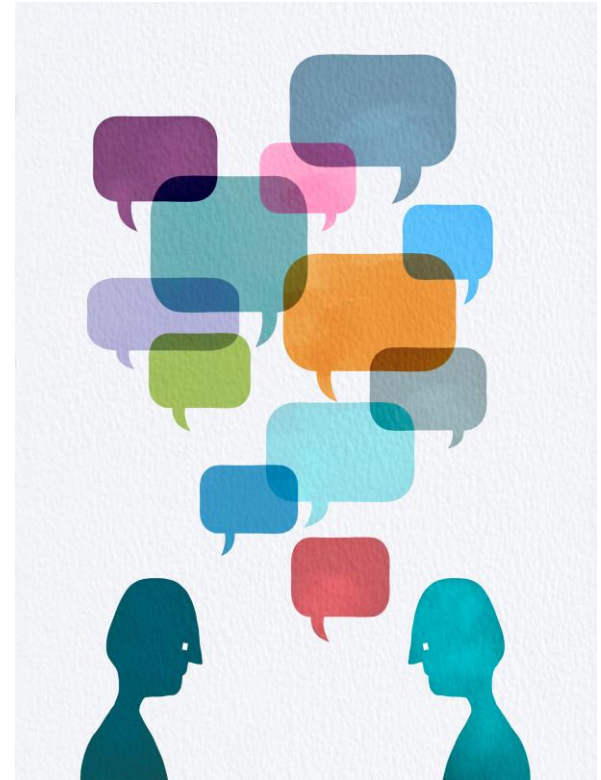


Stock image



3. Linked data discourse

- ▷ Terms with new/extended meanings
- ▷ Same term, different meanings
- ▷ Different terms as synonyms
- ▷ Terms as metonyms



Stock image

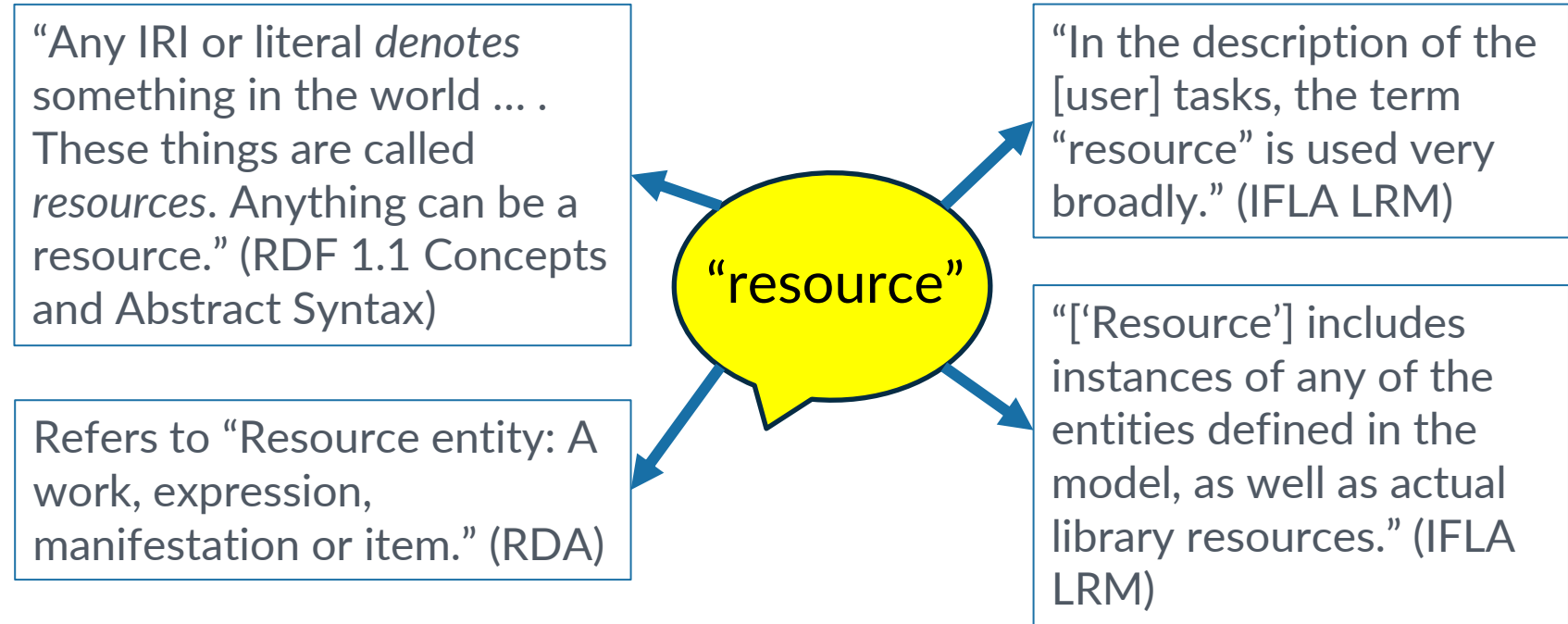


Terms with new/extended meanings

- ▷ Triple
- ▷ Serialization
- ▷ Application profile
- ▷ Ontology
- ▷ IRI
- ▷ URI
- ▷ Property
- ▷ Statement
- ▷ Vocabulary
- ▷ Resource
- ▷ Entity
- ▷ Attribute
- ▷ Relationship
- ▷ Graph



Same term, different meanings



Different terms as synonyms

▷ ‘Resource’ and ‘entity’

From RDF 1.1 Concepts and Abstract Syntax :

“Any IRI or literal ***denotes*** something in the world These things are called ***resources***. Anything can be a resource, including physical things, documents, abstract concepts, numbers and strings; **the term [resource] is synonymous with ‘entity’** as it is used in the RDF Semantics specification”



Terms as metonyms

- ▷ “I am having trouble learning **BIBFRAME**.”
 - ? Data model (conceptual framework)
 - ? Vocabulary (ontology)
 - ? Serialization (syntax)
 - ? Documentation (navigating training materials)
 - ? Using an editor (interface/tool)



4. Linked data documentation

Class:	Person
URI:	http://id.loc.gov/ontologies/bibframe/Person 
Label:	Person <pre><rdfs:subClassOf rdf:resource="http://xmlns.com/foaf/0.1/Person"/> <rdfs:subClassOf rdf:resource="http://id.loc.gov/ontologies/bibframe/Agent"/></pre>
Definition:	Individual or identity established by an individual (either alone or in collaboration with one or more other individuals)
SubClass Of:	Person  Agent FOAF: http://xmlns.com/foaf/spec/



4. Linked data documentation

```
<bf:Work rdf:about="http://id.loc.gov/resources/works/12569919">
  <bf:title>
    <bf:Title>
      <bf:mainTitle>Random passage</bf:mainTitle>
    </bf:Title>
  </bf:title>
```

BIBFRAME RDF/XML serialization from Library of Congress

**Very
different
models!**

Entities > Work > preferred title of work

preferred title of work

Domain

Work →

Range

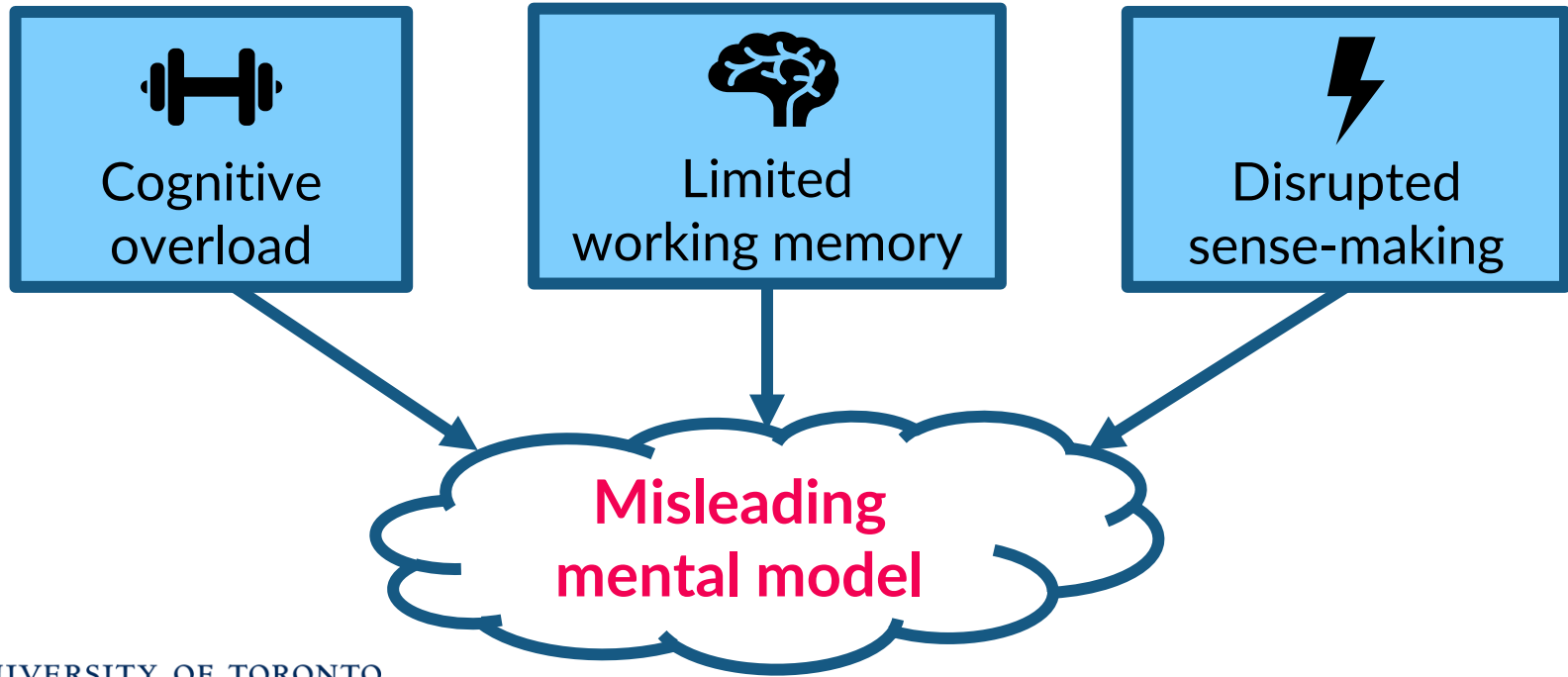
Nomen →

Element page from RDA Toolkit



UNIVERSITY OF TORONTO
LIBRARIES

Impact of challenges on learning



Opportunities for BIBFRAME training

Our perceptions as colleagues

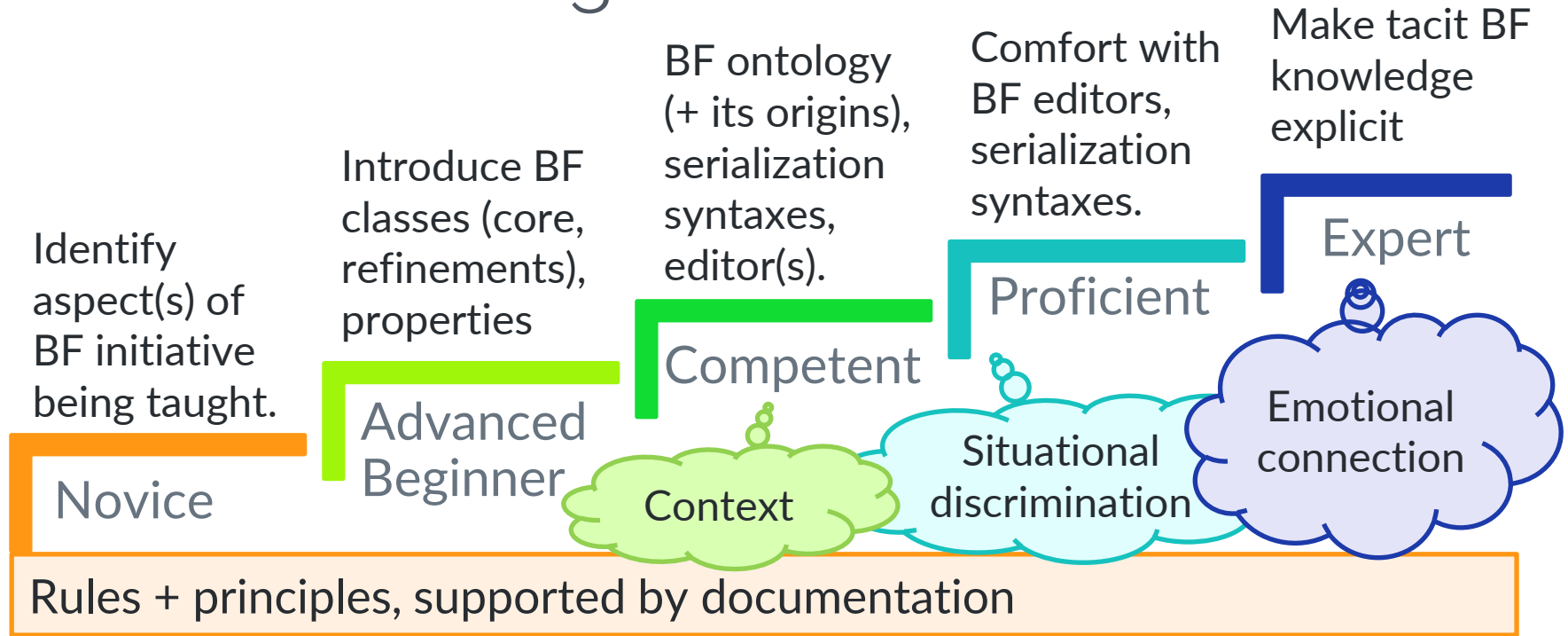


Define learner profiles

- ▷ Who are the learners?
- ▷ What is the learner's starting point?
- ▷ What problems is the learner responsible for solving?
 - **Design separate learning tracks** for different cohorts of professionals



Scaffold learning



Enhance literacy and documentation



Provide high-level orientation to documentation



Show connections with broader web standards as needs arise



Indicate community conventions for naming classes and properties and other practices



Provide visual distinctions between BIBFRAME core and refinement classes



Thank you!

Grazie!

We welcome your feedback.

Elisa Sze - elisa.sze@utoronto.ca

May Chan - ms.chan@utoronto.ca

Kyla Jemison - kyla.jemison@utoronto.ca