uncertain and fallible. Total certainty of academic knowledge carries a logical contradiction.

D. Doubting and Questioning: Given (C), academia has a commitment to doubting and questioning what is taken to be academic knowledge. In the context of academic institutions, this means that learners have a responsibility to doubt and question what they regard as knowledge, and what is transmitted to them as knowledge by their teachers, textbooks, and published research, by asking and engaging with the question, "How do you know that?" and "Why should I accept that as 'knowledge'?"

E. Sociality: Academic Knowledge is a social entity: it is created, critically evaluated, validated, and transmitted by a community that we call the Academic Community. The cogniser (knower) of academic knowledge is the academic community.

3. What Makes Something Trans-disciplinary?

A discipline-specific concept, proposition, or form of inquiry is restricted to the given discipline. In contrast, a trans-disciplinary concept, proposition, or form of inquiry does not belong to any given discipline: it exists above the level of disciplines, across disciplinary boundaries.

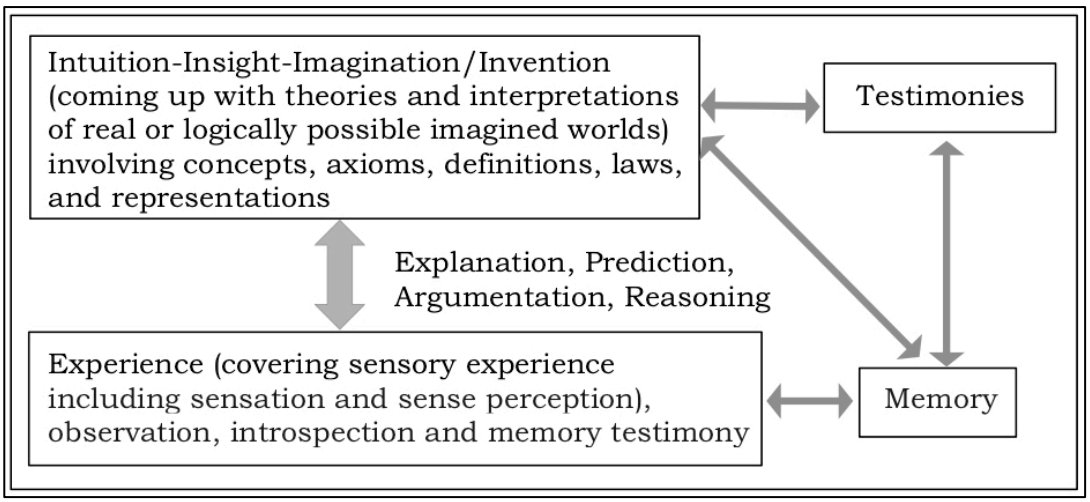
Consider the concept of structure. The structure of atoms comes under physics, the structure of molecules comes under chemistry, the structure of a skeleton comes under biology, the structure of a sentence comes under linguistics, the structure of a poem comes under literary studies, and the structure of an organisation comes under organisational studies. But the concept of structure itself is not bounded by any one discipline.

We see the world around us in terms of the ideas of ENTITIES, their PROPERTIES (traits and trait values; variables and values,…), the RELATIONS among them, and the STATES, PROCESSES, and EVENTS they participate in. The transdisciplinary concepts of STRUCTURE, CHANGE, and CAUSE are closely tied up with all these ideas.

STRUCTURE would involve COMPOSITIONALITY, along with UNITS, and CATEGORIES, as well as DIMENSIONS and LEVELS of structure. CHANGE would involve TIME, SPACE, and the STRUCTURE of states, processes, and events. Examples of *change* include *change of location* (motion), *change of velocity* (acceleration), *change of properties* (e.g., chemical change), *change of structure*, as well as changes involved in emergence/origin and extinction.

In Section 2, we used the term *sources of knowledge* to denote the cluster of epistemic concepts that we called perception, introspection, memory, reasoning, testimony, invention, intuition and insight. All these are trans-disciplinary concepts.

A model of rational inquiry, which draws on the concepts of explanation, prediction, reasoning, and argumentation, and is founded on the sources of knowledge discussed in Section 2 of Chapter 3 would help in seeing why a truly educated person needs an understanding of Transdisciplinary Academic Inquiry:



Total certainty is fatal to inquiry.

Foundations of Knowledge and Inquiry across Disciplines

Part 2: Logic and Reasoning in Inquiry