

The background features a faded image of a large, classical-style building with a prominent dome and a flag flying from a tall pole. The scene is set against a bright, hazy sky. A thick red vertical bar is on the left side of the slide.

Interdisciplinary teaching: Beyond the comfort zone

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“Survival in the 21st century requires flexibility, adaptability, the capacity to negotiate between one’s needs and other’s needs, and the ability to cope with rapid change, ambiguity, diversity and complexity.”

Baxter Magolda





Challenge in higher education

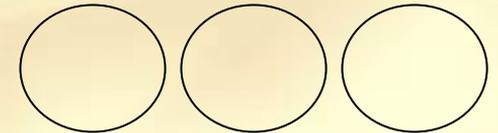
Need to equip graduates with interdisciplinary **savoir faire** who:

- understand complex, multi-faceted problems
- interpret evidence from various disciplines
- apply their knowledge to varying contexts
- collaborate in interprofessional teams
- use knowledge as basis for action

What is interdisciplinary teaching?

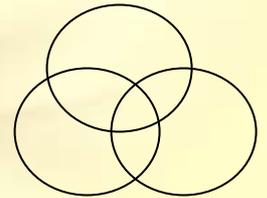
- **Multi-disciplinarity**

- Everyone does own thing, but together
- No need to be aware of work of others



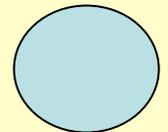
- **Interdisciplinarity**

- Combine theories, concepts and methods
- disciplines remain identifiable; bounded content areas
- distinctive methods of inquiry



- **Transdisciplinarity**

- Blurs the disciplinary sources of theories and methods.
- One theory applied in across disciplines
- Invention of a new subject



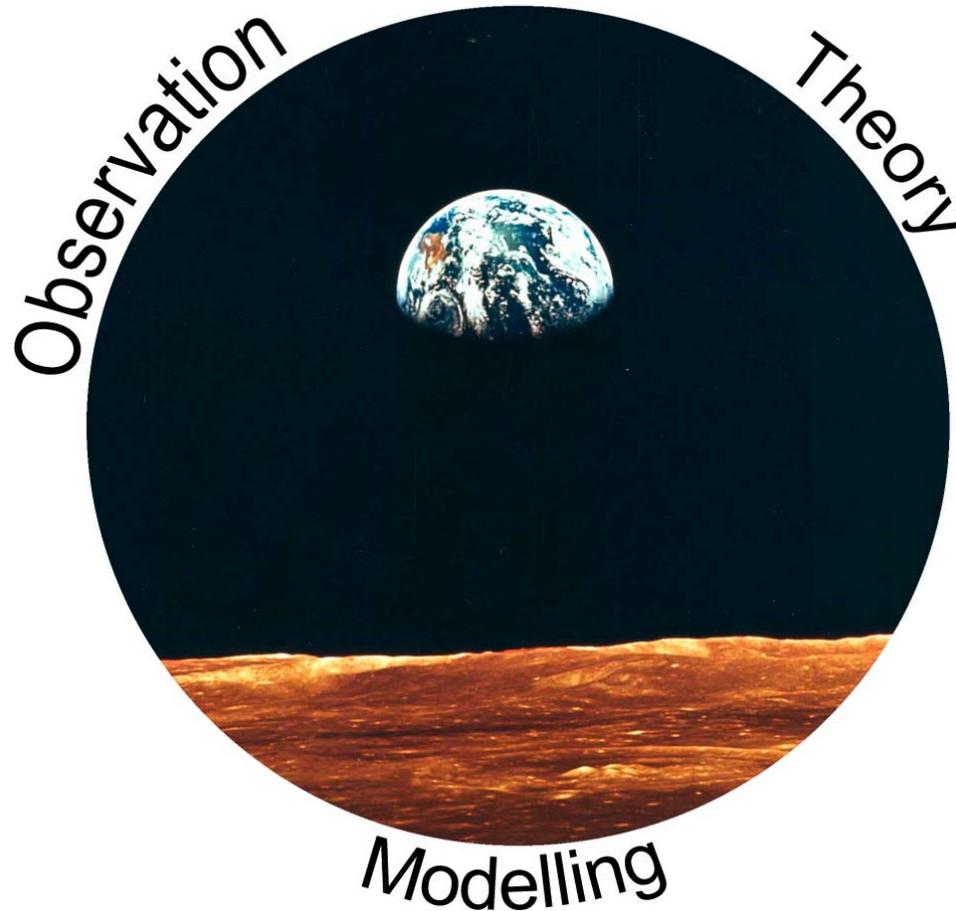
Earth System Science

Transdisciplinary

- Geography
- Atmospheric and Oceanic Sciences
- Earth and Planetary Sciences

Earth System Science

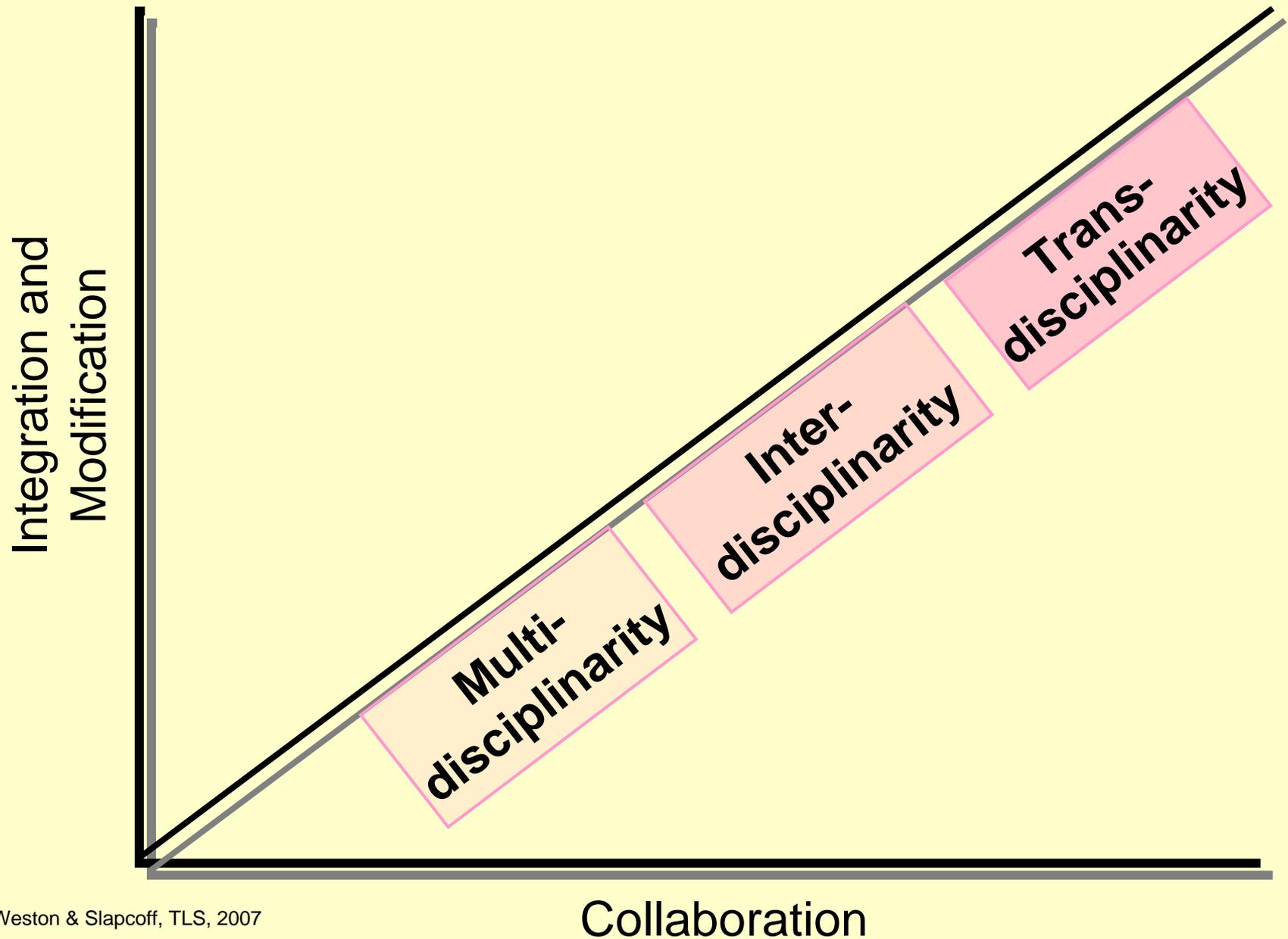
- Theory
 - view of how the world works
- Observation
 - measurements
- Modeling
 - formal representation of system;
 - the way we test theory against observation

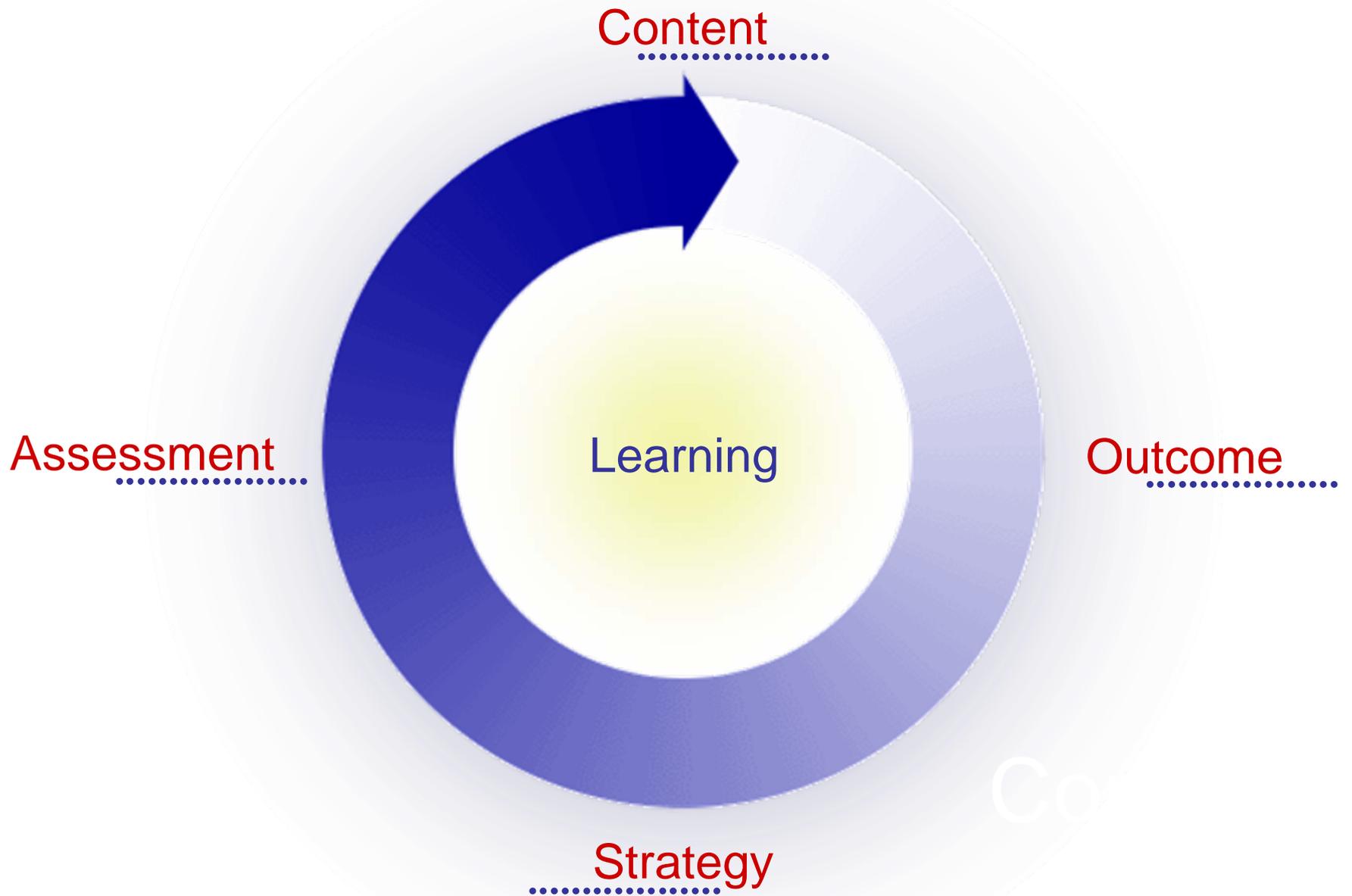


Viewed from the distance of the moon, the astonishing thing about the Earth, catching the breath, is that it is alive. Photographs show the dry, pounded surface of the moon in the foreground, dead as an old bone. Aloft, floating free beneath the moist, gleaming membrane of bright blue sky, is the rising earth, the only exuberant thing in this part of the cosmos. If you could look long enough, you would see the swirling of the great drifts of white cloud, covering and uncovering the half-hidden masses of land. And if you had been looking for a very long, geologic time, you would have seen the continents themselves in motion, drifting apart on their crustal plates, held afloat by the fire beneath.

-Lewis Thomas

Interdisciplinary Teaching





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Teaching: Beyond the comfort zone

Content : Beyond your own discipline

- New sources
- New methodological approaches

Outcomes: Beyond cognitive

- Appreciate/synthesize perspectives of others
- Tolerate ambiguity
- Become sensitive to ethical issues
- Develop increased humility and listening skills
- Humanitarianism
- Civic engagement



McGill



Teaching: Beyond the comfort zone

Strategies: Beyond lecturing

- Team teaching
- Problems based approaches
- Inquiry and discovery
- Experience/reflection

Assessment: Beyond cognitive tests

- Values
- Formative feedback
- Peer and self assessment



Implementing: Beyond the comfort zone

Who are the agents of change?

- Institution
- Departments/faculties
- Professors

Agents of change

Institution

- financial support (seed money, \$ to faculty for team-planning and teaching)
- new organizational structures to replace departments (centres, institutes, programs)
- physical space that allows close proximity of team members
- alternate measures for counting course load
- evaluation plan



Agents of change

Departments/faculties

- May not be optimal home base for team teaching
- Recognition and rewards
 - support innovation
 - value team teaching and collaboration

Agents of change

Professors

- disciplinary competence and broad interests
- teamwork skills
- familiarity with other disciplines cognitive maps

Agents of change

