**What is “Interdisciplinary Learning”?**

*Interdisciplinary Learning*: A knowledge view and curriculum approach that consciously applies methodology and language from more than one discipline to examine a central theme, topic, issue, problem, or work.

- Heidi Hayes Jacobs

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**Multidisciplinary Models of Curricula**

- **Multidisciplinary** – Organization of standards from the disciplines around a common theme.
  - Fifth grade thematic unit on local history includes reading a short story written by a local author, history of the region, and completing a weather unit in science.
  - Often three or more subject areas are involved in the study, and the unit ends with an integrated culminating activity.
- **Intradisciplinary** – Integration of the subdisciplines within a subject area.
  - Language arts – integration of reading, writing, and oral communication
  - Integrated science – integration of biology, chemistry, physics, and earth/space science
- **Fusion** – Infusion of skills, knowledge, or even attitudes into the regular school curriculum.
  - Students learn respect for the environment in every subject area.

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**Comparison of Three Types**

<table>
<thead>
<tr>
<th></th>
<th>Multidisciplinary</th>
<th>Interdisciplinary</th>
<th>Transdisciplinary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Organization</strong></td>
<td>Standards of the disciplines organized around a theme</td>
<td>Interdisciplinary skills and concepts embedded in disciplinary standards</td>
<td>Real-life context Student questions</td>
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<tr>
<td><strong>Conception of Knowledge</strong></td>
<td>Knowledge best learned through the structure of the disciplines</td>
<td>Disciplines connected by common concepts and skills</td>
<td>All knowledge interconnected and interdependent</td>
</tr>
<tr>
<td><strong>Role of Disciplines</strong></td>
<td>Procedures of discipline considered most important</td>
<td>Interdisciplinary skills and concepts stressed</td>
<td>Disciplines identified as desired, but real-life context emphasized</td>
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<tr>
<td><strong>Degree of Integration</strong></td>
<td>Moderate</td>
<td>Comprehensive</td>
<td>Paradigm Shift</td>
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Activity 1: Formulate an Essential Question

Considerations

- Students cannot fully benefit from interdisciplinary studies until they acquire a solid grounding in the various disciplines that interdisciplinary attempts to bridge.
- Teachers should design and implement curriculum based on the scope and sequence of the integrated disciplines.
- Interdisciplinary curriculum should be used when the problem reflects the need to overcome fragmentation, relevance, and the growth of knowledge.
- Interdisciplinary units should engage students in epistemological questions such as "What is knowledge?" and "What do we know?"
- Interdisciplinary units offer students the opportunity to see connections and relevance between topics and provide a variety of perspectives.

Example of a Transdisciplinary Unit Plan

- **Famine**
  - Grade Level: 9-12
  - Subjects: Economics, Life and Earth Science
  - Topics: World Hunger, Agriculture, Economy, Politics

  - What is the real-life context that drives learning?
  - How is knowledge represented as interconnected and interdependent?
  - How are lines between disciplines blurred?
  - What additional connections might be made by students?
  - Could you adapt this unit plan for use in your classroom?

Activity 2: Evaluate a Transdisciplinary Unit Plan

- **Designer Genes**
  - Grade Level: 8-10
  - Subject: Biology
  - Topics: Genetics, Economics, Social Issues

- **Are Some More Equal Than Others?**
  - Grade Level: 9-12
  - Subjects: History, Government
  - Topics: Human Rights, Civil Rights

- **Don't Trash the Earth**
  - Grade Level: 6-8
  - Subjects: Language Arts, Science, Math, Arts, Social Studies
  - Topics: Recycling, Conservation

- **Sign of the Times**
  - Grade Level: 10-12
  - Subjects: English, History
  - Topics: Literature
Unit Development Process

- Select a thematic topic and create an essential question.
- Generate connections between related topics.
- Determine what disciplines to include and how/where teaching will occur.
- Establish guiding questions for the scope and sequence of the unit.
- Design common learning objectives and assessments.
- Design content-specific learning objectives and assessments.
- Design activities to enable students to meet learning objectives.

Activity 3: Develop a Transdisciplinary Unit Plan

A Transdisciplinary approach refers to learning that is authentic and relevant to the real world. Learning is not confined by traditional subjects but is supported and enriched by them. Two or more disciplines transcend each other to form a more holistic approach to knowledge.

References

- Interdisciplinary Learning (Learn NC)
- Meeting Standards through Interdisciplinary Curriculum (ASCD)