

Interdisciplinary Concepts

Theory of Knowledge in the International Baccalaureate

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How does the Theory of Knowledge course support interdisciplinarity and conceptual understanding?

What is Theory of Knowledge (TOK)?

- Explores questions and ideas about knowledge and the process of knowing.
- Focuses on comparisons and connections between different disciplines and encourages students to become more aware of their own perspectives and the perspectives of others (IBO, 2020).
- Encourages students to find connects between their school subjects and disciplines (areas of knowledge)
- Areas of knowledge:
 - history
 - human sciences
 - the natural sciences
 - mathematics
 - the arts.

One of the central aims of the course is..

“...to encourage students to make connections between academic disciplines by exploring underlying concepts and by identifying similarities and differences in the methods of inquiry used in different areas of knowledge” (IBO, 2020, p. 8).

Twelve Key Concepts in Theory of Knowledge (2021)

evidence

explanation

certainty

objectivity

truth

perspective

interpretation

culture

power

values

justification

responsibility

Concepts...

- Concepts are mental representations and abstract ideas of categories of objects, events or other entities (Vygotsky, 1987).
- Interdisciplinary learning, when not focused on problem-solving, is largely conceptual, stemming from the 'transferability of concepts' (Wilson, 2010, p. 35).
- Concepts often supersede individual disciplines, cross disciplines and contribute to our depth of understanding and aid us in navigating the breadth (Wilson, 2010).

Interdisciplinarity and concepts:

- There is a growing appreciation of the inherent worth of teaching a range of post-disciplinary models and concepts as part of school and tertiary curriculum (Gombrich, 2019).
- Disciplines include a shared system of interrelated concepts that need to be recognised and employed in order for an individual to actively participate within that discourse (Bazerman, 2012).
- Since knowledge and information multiply so readily, critical thinkers must effectively integrate disciplinary perspectives to understand complex issues and ideas in our highly interconnected world (IBO, 2014).

Context and Method:

Context:

Bavarian Int Schl, Munich

- 1000 students (170 DP)
- 61 different nations
- 50 home languages
- 25% German



Methodology:

- Two classes (G11 & G12), 27 students, surveyed via Google Forms
- Questions based on activities done in lessons
- Asked questions about which concepts:
 - Are difficult to define most precisely
 - You could rank in order of importance from most to least
 - Demonstrate critical thinking skills
 - Fit with particular areas of knowledge
 - Mean different things in different disciplines

In what ways do you think Theory of Knowledge is interdisciplinary?

evidence

certainty

truth

interpretation

power

justification

explanation

objectivity

perspective

culture

values

responsibility

Interdisciplinarity

“TOK is an all-encompassing subject providing new insight on what it really means to know something. The critical thinking skills have a subconscious effect on the way we students look for information resources and answer questions.”

“ToK is highly interdisciplinary as it explains principles which are required in all other disciplines.”

“TOK attempts to link a bunch of areas of knowledge together and help us reason from them about the bigger picture. So in that sense, TOK is interdisciplinary.”

“TOK relates to multiple branches of knowledge, and hence is interdisciplinary as nothing can be deeply defined using just one branch of knowledge.”

Which four concepts best demonstrate
critical thinking?

evidence

certainty

truth

interpretation

power

justification

explanation

objectivity

perspective

culture

values

responsibility

Concepts that demonstrate critical thinking:

Concepts selected by students:	
interpretation	74%
perspective	67%
evidence	60%
justification	51%

Justify why you chose these four concepts as the fundamentals to critical thinking.

evidence

certainty

truth

interpretation

power

justification

explanation

objectivity

perspective

culture

values

responsibility

Perspective

"In order to think critically we need different perspectives and points of view which enable us to think differently."

"Perspective allows comparison between two views, and understanding for differences."

"Critical thinking requires the consideration of different perspectives in order to ascertain a conclusion or alternative way of thinking."

"This represents a fundamental concept to critical thinking because as with objectivity and values, the reader needs to not only be aware of potential biases on the author's side but also one's own. Since one's own prejudices and perspectives might play a greater role in the interpretation and distribution of the given information than its publication in the first place."

"Different 'perspectives' are important for critical thinking, because there might be multiple 'interpretations'. The different perspectives need to be 'justified' using 'evidence'."

Choose two concepts that best fit with each of the Areas of Knowledge.

Areas of Knowledge:

The Arts - The Human Sciences - The Natural Sciences - History - Mathematics

evidence certainty truth interpretation power justification
explanation objectivity perspective culture values

responsibility

Connecting concepts to History

Area of Knowledge	Selected concepts:	
History	power	objectivity
	perspective	power
	perspective	responsibility
	power	values
	power	responsibility
	objectivity	truth
	culture	responsibility
	evidence	certainty

Connecting concepts to the Natural Sciences

Area of Knowledge	Selected concepts:	
The Natural Sciences	evidence	explanation
	certainty	justification
	evidence	certainty
	objectivity	responsibility
	responsibility	certainty
	objectivity	explanation
	evidence	truth
	objectivity	justification

Connecting concepts to Areas of Knowledge



AOK	Selected concepts:		AOK	Selected concepts:	
History	power	objectivity	The Natural Sciences	evidence	explanation
	perspective	power		certainty	justification
	perspective	responsibility		evidence	certainty
	power	values		objectivity	responsibility
	power	responsibility		responsibility	certainty
	objectivity	truth		objectivity	explanation
	culture	responsibility		evidence	truth
	evidence	certainty		objectivity	justification

How can these concepts be explored in
TOK lessons?

Lesson activities:

- Define them and provide examples (and non-examples)
- Allocate two concepts to each of the Areas of Knowledge and explain why
- Consider how the terms mean different things in different Areas of Knowledge (evidence or interpretation for instance)
- Charades - where groups of students silently mimed and acting out the words
- Taboo words - provide a verbal definition for the concept without using particular key words or the word itself
(e.g. "evidence" without saying proof, justification or verification)

How does the Theory of Knowledge course support interdisciplinarity and conceptual understanding?

How does the Theory of Knowledge course support interdisciplinarity and conceptual understanding?

- Builds on existing disciplinary knowledge and understanding of these concepts
- Attempts to break down barriers between subject disciplines
- Demonstrates the relationships between the different fields of knowledge
- Improves critical thinking skills
- Compels students to challenge their assumptions and engage in new perspectives

Thank you

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