

# RESEARCH SUMMARY

## Teaching the theory of knowledge course in International Baccalaureate World Schools



Summary developed by the IB Research department based on a report prepared by

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### Background

As a part of the International Baccalaureate (IB) Diploma Programme (DP), students participate in the theory of knowledge (TOK) course. This interdisciplinary course is designed to develop student understanding of the nature of knowledge. Previous research (Cole, Gannon, Ullman and Rooney 2014) examined student learning outcomes and teacher perceptions of TOK in four case-study schools, focusing on the critical-thinking aspects of the course. Research investigating teacher views of TOK and school implementation practices on a larger scale is needed, not only to inform the development of TOK courses for IB educators but also to contribute insights into teaching about the nature of knowledge in secondary schools. This study used a mixed-methods design to investigate teacher perceptions of the impact and implementation of the TOK course in IB World Schools across all regions.

### Research design

Using an explanatory sequential design (Creswell 2008), the research team collected and analysed data in two phases. Phase 1 consisted of the collection and analysis of survey data from 1,534 participants using a teacher questionnaire developed for the purposes of this project. While Phase 1 was mostly quantitative, several open-ended items requiring qualitative analysis were also included. Phase 2 consisted of the collection and analysis of qualitative data from focus groups with 33 TOK teachers. Focus-group participants were currently working at IB World Schools located in nine different countries: Australia, Canada, Finland, Germany, Japan, Poland, Singapore, Sweden and the United States. The qualitative results were used to assist in explaining and interpreting the quantitative findings.

### Findings

#### Teacher perceptions of TOK

Data collected in Phase 1 of the study revealed that teacher views of TOK were overwhelmingly positive. A large majority of teachers in this sample indicated that they enjoy teaching the TOK course (86.5%). The respondents also ranked teacher interest as being the most important contributor to the success of a TOK course.

#### Purposes and benefits of TOK

Teachers believed the main purposes of TOK were to develop students' ability to evaluate knowledge, think critically, build connections across subject areas and examine personal assumptions. The survey and focus-group responses both addressed the power of TOK to awaken students to multiple perspectives. Consistently, TOK was described as developing learners who don't judge others and who critically evaluate evidence before forming opinions. Teachers felt that the TOK experience enabled students to question and challenge the world around them, while being comfortable with differing opinions. Furthermore, participants described the TOK experience as "being everywhere", meaning that the application of the skills gained in TOK extend to other subjects, real life, university and beyond. When discussing the impacts of the course, teachers remarked that students often don't see the world in the same way after participating in TOK.

#### Impacts of teaching TOK on teachers

##### Professional development

According to the researchers, the surveys and focus groups indicate that teaching TOK serves as valuable professional development for teachers. Interestingly,

teachers describe similar personal and professional benefits as those they attribute to students, including seeing issues from multiple viewpoints, being open-minded and not judging others. Specifically, survey responses indicated<sup>1</sup> that teaching TOK enhanced teachers' critical thinking (60%) and developed their interdisciplinary understanding (52.5%). Participants also highlighted other types of professional development gained by teaching TOK: developing international-mindedness; adopting a more student-centred teaching philosophy; making more connections across disciplines; and collaborating more frequently with other teachers. Reflecting on the instructional strategies developed through teaching TOK, one focus-group participant explained:

*[TOK] is an opportunity to be reflective of what [students are] learning and oftentimes students view their subject areas as discrete and what happens in their math class doesn't necessarily have an impact on what happens in their biology class, and so this is an opportunity to make cross-curriculum connections and get them reflecting on knowledge itself and also the fundamental underpinnings of what constitutes knowledge and what it's all about.*

### **Confidence in teaching TOK**

Overall, teachers felt confident in their ability to successfully teach TOK. Not surprisingly, confidence in teaching TOK improved with years of experience in teaching the course. Subsequently, teachers with "10 years or more experience teaching TOK" ( $M = 3.40$ , 95% CI [3.32, 3.48]) and teachers with "4–9 years experience" ( $M = 3.35$ , 95% CI [3.30, 3.40]) rated their confidence in teaching TOK as higher than teachers with "1–3 years experience" ( $M = 3.17$ , 95% CI [3.12, 3.22]). A test for linear trends further indicated a statistically significant positive relationship between experience and confidence,  $t(214.17) = 4.80$ ,  $p < .001$ .

### **TOK implementation**

Three major themes emerged from the focus groups with regard to TOK implementation: administrative challenges, assessment challenges and teacher background.

#### **Administrative challenges**

The challenges surrounding TOK implementation involve class size, time of day and workload. TOK teachers articulated that while class size and timing are issues in other courses, they are especially challenging

for TOK because of the nature of the course. With a large class size, it is difficult to build the relationships with students that are necessary for the reflective dissection of knowledge essential to teaching TOK. Additionally, accurately and frequently using formative assessment to gauge individual student progress is challenging in a large TOK class.

The timing of the TOK course was also discussed at length during the focus groups. Some schools schedule TOK after school, like an extracurricular activity, sending the message that TOK is not an equal component of the DP. Additionally, in most of the other DP courses, students earn a score on an external exam<sup>2</sup>. In TOK, however, students are assessed both through an oral presentation (assessed internally) and a 1,600-word essay (assessed externally). Variation in how individual schools treat the oral presentation can result in different messages about the importance of TOK.

Lastly, participants also discussed the "significant" but "meaningful" workload required to teach TOK in comparison to other courses. As suggested by the participants, although the workload required for TOK is high, it is nonetheless considered meaningful because the approaches developed for teaching TOK extend into other courses as well. Teachers also noted, however, that the workload decreased after the first year of teaching the course, and has also improved with the introduction of the current manual.

#### **Assessment challenges**

Survey results and focus groups indicate that the assessment of students within TOK is challenging. In fact, the top three implementation challenges identified through the survey were all assessment related.

- Assessing progress towards a goal
- Identifying objectives
- Critically evaluating student knowledge

Participants shared that assessments can be problematic owing to a lack of clarity regarding scoring. As one teacher explained:

*The only thing I have difficulties with is scoring the assessments. I do not believe that TOK training provides enough direct instruction on that, nor does there seem to be consistency when I look at the scores of my students.*

Scoring can be challenging as TOK is a course focused on examining knowledge from multiple perspectives, not necessarily about identifying a single right answer.

<sup>1</sup> Participants were asked to select all that apply from a list of possible benefits, therefore each outcome percentage is calculated out of 100%. Outcomes with more than 50% support are highlighted here.

<sup>2</sup> The IBO uses a combination of internal and external assessments to evaluate student understanding in DP courses. External assessments form the basis of the assessment for most courses because of their high levels of objectivity and reliability. However, most courses also include teacher assessments.

The report authors note that it appears that many teachers struggle with identifying measurable objectives related to critical thinking. They further recommend that, as developing critical thinking is an essential aim of TOK, it would be helpful to provide support in this area. Such support should expand on existing assessment resources that focus on preparing for the oral presentation and essay while addressing the subjective nature of TOK course content. Specifically, teachers would benefit from resources on measuring critical-thinking progress and student understanding of sources of knowledge.

### ***Teacher background***

Many of the teachers felt they didn't have the necessary content background to teach TOK. However, these same teachers discussed the benefits of collaborating with colleagues and learning new content across disciplines. Through collaboration with their colleagues, teachers reported that they were able to address TOK content comprehensively.

## **Summary**

Overwhelmingly, survey results indicated that teachers enjoy teaching the TOK course. Teachers identified the main purposes of TOK as helping students to develop an awareness of how knowledge is constructed and to assist students with making connections across academic disciplines. Teachers believed the primary benefits of TOK for students are the ability to critically evaluate knowledge and to identify and reflect on personal assumptions. Teachers strongly agreed that teaching TOK has been a valuable professional development experience for them. In particular, they indicated it enhanced their own critical thinking and developed their interdisciplinary understanding. Survey results and focus groups suggest that the main challenges associated with TOK implementation are assessment, timing and administrative issues, such as scheduling and class size.

## **References**

Cole, DR, Gannon, S, Ullman, J and Rooney, P. 2014. *Theory of knowledge (TOK): Exploring learning outcomes, benefits and perceptions*. Bethesda, Maryland, USA. International Baccalaureate Organization.

Creswell, JW. 2008. *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research*. Upper Saddle River, New Jersey, USA. Pearson.

This summary was developed by the IB Research department. A copy of the full report is available at [ibo.org/en/about-the-ib/research/](http://ibo.org/en/about-the-ib/research/). For more information on this study or other IB research, please email [research@ibo.org](mailto:research@ibo.org).

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