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**TALK THE TOK AND WALK THE WOK:
How International Baccalaureate Subject Teachers Integrate
Theory of Knowledge in their teaching
(A Case Study in India)**

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**TALK THE TOK AND WALK THE WOK:
How International Baccalaureate Subject Teachers Integrate Theory of
Knowledge in their teaching (A Case Study in India)**

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Abstract

This study explored how teachers of the International Baccalaureate Diploma Programme integrated the Theory of Knowledge (TOK) course in their teaching. Teachers often expressed a sense of confusion and lack of confidence when teaching TOK. Education scholars have also questioned the appropriateness of TOK for students of non-Western cultures considering it has grown from a programme with a strong Western humanist tradition and dominated by the Western languages. Against this backdrop, however, the International Baccalaureate (IB) is experiencing its strongest growth in the Asia Pacific region where there has been a surge in international schooling especially in non-Western contexts such as India. A qualitative case study methodology was employed focusing on an international school in India for the purpose of obtaining an intensive, holistic description and analysis of a bounded phenomenon in its real context. The study revealed that subject teachers exhibited an intellectual interpretation and construction of the TOK course where teachers and students work together, predominantly through dialogue, to develop both the critical thinking skills and epistemic awareness of students. The literature labelled this as a ‘transaction orientation’ to the TOK course, in contrast to the more didactic and content driven ‘transmission orientation’ or the politically and action driven ‘transformation orientation’. Despite the importance given to the ‘transformation orientation’ in fostering action-based competencies that will empower future citizens to tackle the various social, political and environmental challenges of this global age, there was very little evidence to suggest that subject teachers had adopted such an orientation. The study also identified key challenges experienced by teachers and proposes potential solutions to enhance the integration of TOK in the teaching of IB Diploma subjects.

Keywords: International Baccalaureate, Theory of Knowledge, Education, India, Case study

Introduction

This study examined how International Baccalaureate subject teachers integrated the Theory of Knowledge (TOK) course in their teaching. Initial consultation of relevant literature revealed that teachers often expressed a sense of confusion and lack of confidence when teaching TOK (Cole, Gannon, Ullman, & Rooney, 2014; Davis, 2014; Harris, 2012; Jauss, 2008; Smith & Morgan, 2010; Weatherell, 2003). Furthermore, scholars have questioned the appropriateness of TOK for students of non-Western cultures (Harris, 2012; Hughes, 2009; Oord, 2007; Paris, 2003; Walker, 2010) (Hughes, 2009; Oord, 2007) considering it has grown from a programme with a strong Western humanist tradition and dominated by the Western languages (Bagnall, 2010, p. 22). Against this backdrop, however, the International Baccalaureate (IB) is experiencing its strongest growth in the Asia Pacific region (Lee, Hallinger, & Walker, 2012, p. 289) where there has been an “unparalleled surge in international schooling” (Gardner-McTaggart, 2016, p. 10) especially in non-Western contexts such as India. Not only is there a paucity of research in how subject-teachers integrate TOK in their teaching, further exploration is also warranted in terms of how the above-mentioned tensions are being played out in non-Western contexts. To address these shortfalls, an intensive case study approach was adopted exploring how IB teachers, in an international school in India, integrated TOK in their teaching.

The following two questions naturally arise in the introductory stage of this study: *What is an International Baccalaureate subject teacher? What is Theory of Knowledge?* These questions will initially be answered by examining how the International Baccalaureate (IB) defines itself and its Theory of Knowledge (TOK) course. How this self-assessment or self-observation compares to the assessment and observations of others, notably scholars of international education, will form the cornerstone of the literature review.

How the International Baccalaureate defines itself

According to IB-endorsed material, the IB defines itself as “a non-profit foundation that is guided by its mission statement to create a better world through education.” Arguably this definition is largely incomplete as it states more about what the IB aspires to be as opposed to what it actually is. It provides a hint however as to where one should look next and that is in its mission statement. The IB mission statement is as follows:

“The International Baccalaureate aims to develop inquiring, knowledgeable and caring young people who help to create a better and more peaceful world through intercultural understanding and respect.

To this end the organization works with schools, governments and international organizations to develop challenging programmes of international education and rigorous assessment.

These programmes encourage students across the world to become active, compassionate and lifelong learners who understand that other people, with their differences, can also be right.”(IBO, 2013, p. v)

Essentially, the IB is a not-for-profit educational foundation that offers primary and secondary school programmes for a worldwide community of schools. It was founded in 1968 and by 2017 its four programmes - Primary Years Programme (PYP); Middle Years Programme (MYP); Diploma Programme (DP) and Career-related programme (CP) were adopted by 4583 schools in 150 countries (IBO, 2017) and taught to over one million students (IBO, 2017a). The phenomenal growth of the IB is evident when one makes a simple comparison seven years ago where the IB was taught in 2822 schools in 138 countries with approximately 760,000 students (Bagnall, 2010, p. 5). In the last five years alone the IB has experienced a growth rate of approximately 40% (IBO, 2017).

The IB is considered as the preeminent example of a transnational education organization (Drake, 2004, p. 190; Fielding, 2012, p. 32). The Diploma Programme (DP) is its most popular programme in terms of student enrolments and demands the compulsory study of languages, humanities, literature, mathematics and sciences. It also has a self-styled “core” of the IB Diploma Programme which comprises three essential elements that every student must complete. These three compulsory elements are the Extended essay, CAS (Creativity, activity, service) and TOK (Theory of Knowledge). The latter core component, TOK, encourages students to critically think about the nature of knowledge, particularly the ways of knowing (WOK) and how they relate within and across each subject they study as part of the Diploma Programme, thus exposing interrelationships and connections across multiple subjects (IBO, 2013). Ways of knowing (WOK) include language, sense perception, emotion, reason, imagination, faith, intuition, memory and are considered essential “tools” to answer “fundamental” questions of the TOK course (IBO, 2013, pp. 10, 23) such as “how do I know?” or “how do we know?” This in turn helped inspire the title of the study *“TALK THE TOK AND WALK THE WOK: How International Baccalaureate subject teachers integrate Theory of Knowledge in their teaching”*.

How the International Baccalaureate defines its TOK programme

The TOK course is a compulsory component of the pre-university IB Diploma Programme and is studied by 155,085 students in the 16 to 19 age range across 3180 schools worldwide¹ (IBO, 2015b, 2015c). It is considered a core component of the IB Diploma Programme and is bestowed the responsibility to “foster and nurture international mindedness, with the ultimate goal of developing responsible global citizens” (IBO, 2013, p. 5). To achieve this ambitious responsibility, TOK emphasizes the development of critical thinking skills via the exploration of “knowledge questions”.

¹Total number of students studying TOK and total number of schools offering the subject have been calculated by consulting the IB Diploma statistical bulletins published by the IBO.

In the various subject guides of the Diploma Programme TOK is described as follows:

“Theory of knowledge (TOK) is a course that is fundamentally about critical thinking and inquiry into the process of knowing rather than about learning a specific body of knowledge. The TOK course examines the nature of knowledge and how we know what we claim to know. It does this by encouraging students to analyse knowledge claims and explore questions about the construction of knowledge. The task of TOK is to emphasize connections between areas of shared knowledge and link them to personal knowledge in such a way that an individual becomes more aware of his or her own perspectives and how they might differ from others.” (IBO, 2014a, 2014b, 2014c, 2014d, 2014e, 2014f, 2015e, 2017d)

Knowledge questions are an essential feature of TOK and IB Diploma students are exposed to knowledge questions in various informal and formal contexts. Oral discussions of knowledge questions will always take place in the ‘**TOK specific**’ classroom taught by ‘specialist’ TOK teachers. In the ‘**subject-specific**’ classroom on the other hand (e.g. Mathematics, Sciences, Humanities, Arts, Languages, Literature) subject teachers are encouraged to routinely discuss relevant knowledge questions, however such discussions serve as a secondary focus as priority is naturally given to the coverage of subject-specific content as prescribed by the subject guide. This distinction between **specialist TOK teachers** and **subject teachers** is very important in the context of this research and needs to be borne in mind as the focus of this research study is on the latter, i.e. the subject teachers. Subject teachers will have 150 or 240² hours to teach their subject and it is during this time that they should be integrating TOK. Discussions of knowledge questions by students and teachers are usually informal and formative in the sense that they do not directly relate to a student’s final IB grade and help to promote key skills such as critical thinking and interdisciplinary learning. Specialist TOK teachers, on the other hand, have 100 hours in a two year period to teach TOK as a stand alone subject and they administer the formal assessment tasks, namely the TOK presentation and TOK essay (IBO, 2013). Both these assessment components are underpinned by knowledge questions.

Knowledge questions tend to focus on how knowledge is constructed and evaluated; are open and contestable; and usually have a number of plausible answers to them (IBO, 2013, p. 20). The most central of these questions is “how do we know that?” (IBO, 2013, p. 10). More specifically, the TOK course attempts to contrast what we mean when we say we ‘know’ something in the Sciences for example, with ‘knowing’ in History or Ethics or the Arts or Mathematics, as well as other areas of knowledge (Weatherell, 2003, p. 7).

Students when discussing TOK knowledge questions are often required to make links across different ways of knowing. Links are also encouraged across different areas of knowledge such as mathematics, sciences, humanities, ethics, indigenous knowledge systems and arts, hence promoting interdisciplinary learning (Cole et al., 2014, p. 5). Examples of knowledge questions drawn from various subject guides

²150 hours relates to subjects taken at a standard level, whereas 240 hours relates to subjects taken at a higher level.

such as Biology, Business management, Chemistry, Economics, Geography, History, Language A literature, Language B, Mathematics, Physics, Theatre and Visual Arts are as follows:

- How do we distinguish science from pseudoscience? (IBO, 2014a, 2014c, 2014d)
- What is lost in translation from one language to another? Why? (IBO, 2011)
- How do artistic judgments differ from other types of judgment such as moral judgments? (IBO, 2014e)
- Are economic theories independent of culture? (IBO, 2010)
- How do human scientists decide between competing knowledge claims, or between the views of experts, when they disagree? (IBO, 2014b)
- Who decides which events are historically significant? (IBO, 2015e)
- How easy is it to lie with statistics? (IBO, 2012)
- What is the role of imagination and intuition in the sciences? (IBO, 2014a, 2014c, 2014d)
- What is the relationship between language and thought? Do you think differently in different languages? If so, does it make a practical or discernible difference to how you interpret the world? (IBO, 2011b)
- Are ways of knowing employed in radically different ways in the arts than in other areas of knowledge? (IBO, 2014e, 2014f)
- What are the similarities and differences in methods in the natural sciences and the human sciences? (IBO, 2014a, 2014c, 2014d)
- To what extent might possession of knowledge carry with it moral obligations? (IBO, 2017d)

A unique feature of TOK which distinguishes it from all the other Diploma Programme subjects in the IB and even more broadly with other subjects of pre-university courses around the world, is that it is delivered more as a framework rather than prescribed content as per the official guide and other IBO support material. The most current Theory of Knowledge guide draws attention to this by stating the following:

“Teachers are not obliged to follow the suggested examples and ideas presented here; this guide offers a framework rather than prescribed content. Teachers should consider the examples and ideas provided and then construct their own unique TOK course around key TOK concepts that include, but are not limited to, the nature of knowledge, ways of knowing and areas of knowledge.” (IBO, 2013, p. 1)

Although the idea of teachers constructing “their own unique TOK course” (IBO, 2013, p. 1) may appear to be quite liberating in its non-prescriptive stance, the literature overwhelmingly suggests many teachers find the open-ended nature of the course challenging and they do not feel confident in embedding TOK in their teaching (Cole et al., 2014; Davis, 2014; Harris, 2012; Jauss, 2008; Smith & Morgan, 2010; Weatherell, 2003). This feeling of discomfort and apprehension as

expressed by DP teachers in the literature served as the initial catalyst in formulating the key research questions.

Research Questions

This study aimed to answer the following overarching research question:

How are International Baccalaureate teachers integrating Theory of Knowledge in their teaching?

The overarching question was broken down into the following specific research questions:

1. What are the perspectives of subject teachers in the case study school on:
 - a) the role of TOK within their subject area?
 - b) the benefits in integrating TOK in their teaching?
 - c) the challenges of teaching TOK?
 - d) the measures that need to be adopted for the successful integration of TOK?
2. To what extent have subject teachers integrated TOK in their teaching?

Significance of the Study

There has been no study that has examined how teachers representing all six subject groups of the Diploma Programme (language and literature, language acquisition, individuals and societies, mathematics, sciences and the arts) have integrated TOK in their teaching. The results of this study will be useful for many stakeholders. An exploration of how subject teachers have integrated TOK in their teaching will help IB Diploma subject teachers enhance their understanding and teaching of TOK. It may help to reduce the confusion, angst and lack of confidence many teachers feel when exploring knowledge questions with their students that are often beyond their subject area of expertise.

From a more scholarly perspective, although there is an extensive and growing body of literature on how education is becoming increasingly globalized and how emerging transnational educational institutions like the International Baccalaureate Organisation (IBO) are one of many top-down global forces contributing to this phenomenon (Fielding, 2012, p. 13), there is a paucity of research in how globalisation is mediated by local factors especially in non-Western contexts like India. Schools are increasingly finding themselves at the forefront in responding to the various social, political and environmental challenges that globalisation exerts. This study is warranted because it will reveal how teachers, embedded in the local social, political, economic and cultural context, interpret and negotiate their role in fostering the student competencies considered essential in empowering future citizens.

Literature Review

An examination of the relevant literature reveals that not all scholars subscribe to the mission statement of the IBO in developing “inquiring, knowledgeable and caring young people who help to create a better and more peaceful world through intercultural understanding and respect”, nor to the ideals of TOK in fostering and nurturing “international mindedness with the ultimate goal of developing responsible global citizens” (IBO, 2013, p. 5). In fact, scholars over the years have posed a variety of provocative questions regarding the IB and TOK such as:

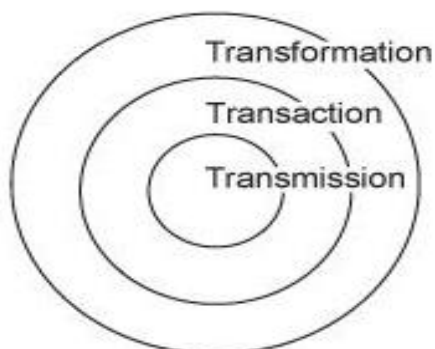
- How appropriate is the IB and TOK for students of non-Western cultures? (Harris, 2012; Walker, 2010)
- Is the IB being utilised as a tool to support the marketisation of private schooling for a privileged elite? (Guy, 2010)
- Does the IB colonize or westernize the pedagogical systems of host nations? (Hughes, 2009; Oord, 2007)
- Are there conflicting discursive frameworks with TOK curriculum documents leading to confusion and tension in the positioning of teachers, students and learning? (Smith & Morgan, 2010)

These questions will serve as key underpinnings for the ensuing literature review.

Competing Constructions of TOK

Smith and Morgan in their study titled *Politics and pedagogy: discursive constructions in the IB Theory of Knowledge Guide* make the claim that there are various competing constructions of TOK (Smith & Morgan, 2010, p. 299). This brings to light one of the above mentioned provocative questions, namely whether there are conflicting discursive frameworks with TOK curriculum documents leading to confusion and tension in the positioning of students, teachers and learning. To inform their research, Smith and Morgan applied the theory of Miller and Seller which essentially categorises the varying roles of educators through a tripartite model of curriculum orientations: a transmission orientation; a transaction orientation and a transformation orientation (Smith & Morgan, 2010, p. 301). This is illustrated in the diagrams below (Miller, 2008).

Figure 1. “3T” orientations of TOK



Source: MILLER 2008.

The ‘transmission orientation’ refers to the more didactic pedagogical style where school subjects are broken down and students are expected to learn facts and concepts to achieve proficiency or mastery.

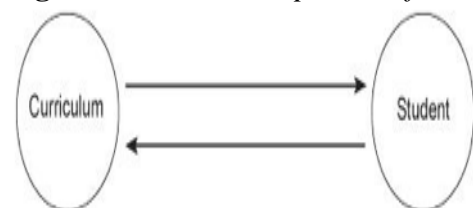
Figure 2. Pictorial Depiction of Transmission Orientation



Source: MILLER 2008.

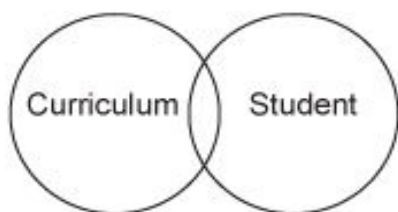
This is in contrast to the ‘transaction orientation’ where the emphasis is not content but skills such as critical thinking and problem-solving through inquiry-based learning.

Figure 3. Pictorial Depiction of Transaction Orientation



Source: MILLER 2008.

Finally, the ‘transformation orientation’ assumes an interdependence among disciplines where learning focuses on “integrating physical, cognitive, affective and spiritual dimensions” with the aims of self-actualisation, self-transcendence and active social involvement.

Figure 4. *Pictorial Depiction of Transmission Orientation*

Source: MILLER 2008.

Based on this tripartite model, Smith and Morgan are dismissive of the teacher-centred transmission orientation, for TOK focuses on knowledge questions and is not a content prescriptive course. This immediate dismissal is centered on the fact that their discourse analysis of the TOK guide focuses on specialist teachers of TOK as opposed to subject teachers of TOK. TOK specialist teachers are compelled to discuss knowledge questions, whereas such discussions are not mandated for IB Diploma subject teachers. As a result, the transmission orientation where a subject teacher chooses to focus only on their subject specific content and not integrate TOK in their teaching is a viable scenario and hence reinstated as a potential orientation that may be adopted by teachers in this study. The remaining two orientations dominate Smith and Morgan's study and are given different purposes, thus positioning teachers and students in different ways.

Transaction Orientation – TOK as Developmental Facilitator

The transaction orientation requires educators to ask a “different set of questions” such as: “Whose knowledge is this? How did it become official?” (Apple, 2011, p. 229). The ease, however, to which this can be achieved can be problematic. In fact one of the earliest research studies relating specifically to TOK (Weatherell, 2003) reinforces the aforementioned criticisms of ‘Western bias’ levelled against the IB. Weatherell claims that the very nature of the course with its emphasis on knowledge questions can be deemed to have a large degree of ‘Western bias’ in its approach to knowledge (Weatherell, 2003, p. 8). He argues that most of the knowledge questions in the TOK course are “stated in the clear and rational language valued by the occidental tradition” as opposed to potential alternative ways of understanding via quotations or more ambiguous questioning. In conducting his study, Weatherell was referring to the 1999 TOK guide (IBO, 2003) which provided a few examples of this alternative style:

“He who has been bitten by a snake fears a piece of string.” (Persian proverb)

“If the frog tells you that the crocodile is dead, do not doubt it.” (Ghanian proverb)

In the latest TOK guide (2013), examples similar to the above have entirely disappeared. Further complicating the transaction orientation of TOK is a more recent study by Hughes (2014) which questions the extent to which TOK emphasises critical thinking. In his examination of the 2013 TOK guide, Hughes draws

attention to another competing construction of TOK. The definition of TOK in the various IBDP subject guides emphasize that TOK is “a course fundamentally about critical thinking”. Hughes, however, challenges this definition arguing that there is a “misalignment between the labelling of TOK as a course in critical thinking and a syllabus that is essentially one in epistemology” (Hughes, 2014, p. 36). To justify this claim, Hughes firstly distinguishes critical thinking from epistemology. Hughes draws heavily from Richard Paul’s comprehensive and seminal work on critical thinking. Three dimensions of critical thinking are expounded by Paul’s work (1990, as cited in Hughes, 2014). The first is “affective dimensions” and includes qualities such as intellectual humility and fair-mindedness. The second is “cognitive dimensions – macro abilities” which entails developing one’s perspective, developing criteria for evaluation, questioning deeply, making interdisciplinary connections, reasoning dialogically by comparing perspectives and reasoning dialectically by evaluating perspectives. The third dimension is labeled “cognitive dimensions – micro skills” and includes recognizing contradictions, examining assumptions, distinguishing relevant from irrelevant facts, exploring implications and making predictions.

Epistemology, on the other hand, places an emphasis on understanding the way that knowledge is constructed as opposed to “thinking skills, problem solving, critiquing and evaluation” (Hughes, 2014, p. 36). Hughes then asserts that the TOK course is “one in ‘epistemology’” as the core aims and assessment objectives of the TOK course have strong epistemological qualities, as evident from phrases such as “construction of knowledge”; “how individuals and communities construct knowledge”, “how academic disciplines/areas of knowledge generate and shape knowledge” and “roles played by ways of knowing in the construction of shared and personal knowledge” (IBO, 2013, p. 15).

Transformation Orientation – TOK as Hero

The difficulties exposed with the ‘transaction orientation’ are further heightened with the ‘transformation orientation’. This orientation involves an even more radical change, where the role of educators goes beyond tackling different questions through collective dialogue to tackling different questions through collective action. This emphasis on collective action is arguably embedded in one of the five aims of the TOK guide. Whereas aims 1,2,3 and 4 relate, as noted by Hughes, to epistemology or critical thinking, the fifth aim in the guide compels students to “*understand that knowledge brings responsibility which leads to commitment and action*” (IBO, 2013, p. 14). This resonates with the transformation orientation, although one is not sure whether it’s a soft call to action asking students to merely “understand” responsibility, commitment and action, or whether it’s a firm call where students should consider the possibility of actually acting on this knowledge.

Ultimately, what all three competing constructions of TOK bring to light are potential reasons as to why teachers often express a sense of confusion when teaching TOK. These orientations and potential interpretations by IB Diploma subject teachers will be subject to further exploration and interrogation in the ensuing case analysis section.

International Education and the International Baccalaureate in India

The juxtaposition of ‘Western’ and ‘non-Western’ has been highlighted in the literature review so far. The researcher, however, needs to be “wary of discussions that over-play or juxtapose” such distinctions (Rizvi et al., 2014, p. 14). Characterising the world in such binaries is “fraught with danger”, it is argued, as it “obscures the fact that significant cultural differences exist both within and between both Western and non-Western nations (Rizvi et al., 2014, p. 14). A growing number of writings have stressed the need to go beyond simple understanding of ‘Western’ and ‘non-Western’ or ‘Western’ and ‘Eastern’, especially notions that countries like India and other Eastern traditions are “strong in religious-based and irrational learning cultures” (Singh, 2013, p. 91), whereas values associated with reason, science, liberty and justice belong exclusively in the domain of Western cultures.

Similarly Drake (2004, p. 192) warns against the “notoriously dangerous” practice of over-generalizing about cultural norms, particularly in the context of Africa, Asia or South America as there is certainly, Drake claims, no single African or Asian culture, nor a single Chinese culture or Western culture. However, he does acknowledge the fact that any discussion on cultural issues will inevitably involve “broad-brush statements” and the use of general terms such as ‘Western’ or ‘Asian’ is necessary to enable meaningful discourse. Drake (2004, p. 192) then goes on to define cultures as dynamic entities that are subject to change, yet still possess “enduring sets of values, beliefs and practices that distinguish one group of people from another” and it is this definition that underpins the discussion in this study. In reconciling the need to avoid overgeneralizations, but at the same time make use of general terms like ‘Western’ or ‘non-Western’, what is ultimately prescribed is a “finer-grained analysis” (Rizvi et al., 2014, p. 14), especially in the way that international education and the IB have manifested in different local settings. Such a “finer-grained analysis” is embraced in the ensuing exploration of international education and the IB in India.

While it is very hard to make generalizations about any topic relating to India given its immense population of over one billion and its diversity of cultures across thirty six states and union territories, some common themes do emerge from the literature. One such theme is the “two Indias” of the educational system (Singh, 2013), namely the division between indigenous culture of learning on the one hand, and the formal Western³ culture of learning and knowledge systems inherited from colonial times on the other. Recalling one of the provocative questions posed earlier, it was questioned whether “the IB is being utilised as a tool to support the marketisation of private schooling for a privileged elite?” (Guy, 2010). This question took centre stage in Guy’s four school case study titled *The International Baccalaureate in India* where compelling evidence was provided to support the concluding claim that “private schools offering the IB in India incontestably could be construed as elitist” (Guy, 2010, p. 222). Other recent studies on education in the Indian context (Bagchi, 2014; Chauhan, 2008; Gilbertson, 2014; Singh, 2013), some examining the historical development of India’s education from antiquity to

³Emphasis is on the adjective ‘Western’ as formal education in India was arguably well established as early as 1200BC (Guy, 2010, p. 41).

modernity, others looking at the recent emergence of international schools, also show strong support for this claim of “two Indias” in education.

The “Two Indias” of the Educational System

The “two Indias”, according to Singh (2013, p. 88), relates to the vast differences between the formal Western education system, whose beneficiaries are almost exclusively the “well-to-do, modernized elite groups”, and the old traditional forms of non-formal education, whose recipients are the poor and traditional masses. Despite concerted efforts during the British colonial period (1757-1947) to spread education beyond elite groupings as evident with the Wood’s Education Despatch of 1854 (Allender, 2003, p. 274), India still inherited at the time of independence in 1947 a system of formal education which was accessible only to small elite groups⁴ (Chauhan, 2008, p. 220) and “did not construct its own educational idiom” (Allender, 2009, p. 741). This helped to further modernize these elite groups and create a “large force of highly trained scientific and technological manpower” (Singh, 2013, p. 96).

Gilbertson (2014), in her study of secondary international schools in India, takes Singh’s arguments a step further, by not only exposing the limitations of education as a route to social mobility based on the inequalities between formal and non-formal education, but also of the “differential access to social, economic and cultural resources” within the formal education system itself (Gilbertson, 2014, p. 210). In fact, formal education in India can be viewed as a “contradictory resource” which may reinforce and exacerbate inequalities as opposed to facilitating social mobility. According to Gilbertson, this is largely due to the recent emergence of international schools that are only accessible to upper-middle classes and elite families. Drawing heavily from the ‘cultural capital’ theory of Bourdieu to underpin her research, Gilbertson argues that the potential to accumulate cultural capital is an important consideration in people’s schooling choices and is a key mechanism through which social inequality is reproduced. Unlike ‘normal’ private or government schools, schools labelled as ‘international’ are not only distinguished by their higher fees, larger campuses and syllabi (IB or IGCSE⁵), but also by their provision of cultural capital that is increasingly sought for middle-class employment, namely ‘communication skills’, ‘open-mindedness’ and ‘exposure’ (Gilbertson, 2014, p. 211). The cultural capital of ‘communication skills’ relates to fluency in the English language and confidence in self-expression. ‘Open-mindedness’ relates to a willingness to try new ways of doing things in contrast to conservatism. ‘Exposure’ relates to the enhancement of social skills and cultural knowledge due to the opportunities of experiencing a wide range of activities, people and places. As a result, students who attend ‘international

⁴Chauhan’s study (2008) provides a detailed account of education and caste in India. Traditionally, Hindu society is divided into thousands of castes, which reflect socioeconomic, educational and cultural disparities. Caste-based social division has recently acquired very strong political dimensions. Major socioeconomic categories in India are currently defined by caste combinations: Forward Castes (FCs), Scheduled Castes and Scheduled Tribes (SC/ST), and Other Backward Castes (OBCs). Elite groups as noted in the literature refers to the FCs.

⁵The International General Certificate of Secondary Education (IGCSE) is an English language curriculum administered by the University of Cambridge and is an alternative to national curricula. It was formed in 1988 and is a comprehensive two-year programme spread over grades 9 and 10.

schools', Gilbertson asserts, are more likely to be adept in engaging with global processes, as opposed to their 'normal' school peers who experience an education with an "exclusive focus on exam preparation" and a "textbook culture" which focuses on rote learning with limited exposure to "non-examinable learning", sports or cultural activities (Gilbertson, 2014, pp. 211, 214). This brings to light a second key theme drawn from the literature, namely that of pedagogical disparities.

Pedagogical Disparities in Indian Education

Mainstream education, according to Guy's comprehensive study of the IB in India, is largely "examination driven and still follows a didactic mode where rote learning is the key skill emphasized and assessed" (Guy, 2010, p. 221). This emphasis on rote learning is commonly referred to by Indian teachers and students as "mugging-up" (Gilbertson, 2014; Moran & Moran, 2008) where answers are learnt by heart from textbooks.

This 'mugging up' culture has negative implications even at the tertiary level, where local bachelor courses on education "inculcate" pre-service teachers with "philosophies and practices incompatible with IB practice". The result is that IB schools might be better served to hire overseas trained staff or even "hire *unqualified* staff who are more open to relativist and constructivist educational perspectives" (Guy, 2010, p. 229). The extent to which this is a genuine concern, especially in the teaching of TOK, will serve as key point of interest in the case analysis of this study.

Methodology

Research Design and Methodology

Epistemologically, the study will carry a constructionist philosophy where truth and meaning do not exist in some external world, but are created by the subject's interactions with the world. Meaning is constructed not discovered, so subjects construct their own meaning in different ways, even in relation to the same phenomenon (Crotty, 1998, p. 9). A key advantage of this approach is the close collaboration between the researcher and the participant (Baxter & Jack, 2008, p. 545), where participants tell their stories describing their view of reality which in turn enables the researcher to better understand the participants' actions, in this case how IB subject teachers integrate TOK in their teaching.

Interpretivism is closely related to the epistemology of constructionism and was selected as the theoretical perspective for this study for it deals with the "culturally derived and historically situated interpretations of the social life-world" (Crotty, 1998, p. 67). Interpretivism emphasises how humans perceive their environment and the negotiated construction of meaning by them in their everyday environment. Interpretivism is considered to be appropriate for this study as it focuses on the perspectives of IB Diploma subject teachers regarding TOK and how they go about integrating it in their teaching. It is also worth pointing out that although constructionism and interpretivism claim that truth is

relative and that it is dependent on one's perspective, these paradigms do not necessarily reject outright some notion of objectivity. Pluralism, not relativism, is stressed with focus on the circular dynamic tension of subject (i.e. DP teachers) and object (TOK) (Baxter & Jack, 2008, p. 545).

From the available options of research methodologies that belong to the interpretivist theoretical perspective (Crotty, 1998; Merriam, 1998; Miles, Huberman, & Saldana, 2014; Stake, 2006; Yin, 2014), a qualitative case study methodology was employed to address the research questions. A qualitative case study is an "intensive, holistic description and analysis of a bounded phenomenon" in its real context such as a program, an institution, a person or process and often reflects the perspectives of the participants involved in the phenomenon (Merriam, 1998, p.18). According to Yin (2014) a case study design should be considered when (a) the focus of the study is to answer "how" and "why" questions; (b) you cannot manipulate the behaviour of those involved; or (c) you want to cover contextual conditions because you believe they are relevant to the phenomenon under study. Thus a case study methodology was employed as its characteristics fit the purpose of this study.

Sample Selection

Case Selection

Recalling one of the provocative questions regarding the IB and TOK as highlighted in the literature review, it was questioned whether the IB and TOK was appropriate for students of non-Western cultures (Harris, 2012; Walker, 2010). The paper titled *East is East and West is West* (Walker, 2010) analysed the appropriateness of the IB learner profile for cultures of East Asia and was in fact commissioned by the IB itself due to the "long-standing criticism that the International Baccalaureate (IB) is too closely associated with Western values" (Walker, 2010, p. 3). The emergence of this key theme in this study and others compelled the adoption of purposive sampling, namely the selection of a case study school in a "non-Western" context. Due to the phenomenal growth of the IB in India, choosing an international school in India was a logical option.

Participant Selection

All DP subject teachers in the case study school were initially identified with the help of the IB coordinator who provided the researcher with a list of teachers, their subject areas and email addresses. The list of teachers identified by their coordinator were contacted individually via email. In each of the emails were attachments of the participant consent form and information statement (n=26). A concerted effort was made to not provide too much information in the participant information statement because if participants "know too much" prior to the focus group interviews, there may be an "attempt to alter responses to socially desirable ones" (Vaughn, Schumm, & Sinagub, 1996). All DP teachers agreed to participate. In other words, 100% of teachers contacted via email to participate in the study signed the participant request form.

Methods of Data Collection

As is characteristic of case study methodology, the data obtained was extracted from multiple sources (Baxter & Jack, 2008; Merriam, 1998; Yin, 2014). This ensures that the phenomenon of interest “is not explored through one lens, but rather a variety of lenses which allows for multiple facets of the phenomenon to be revealed and understood” (Baxter & Jack, 2008, p. 544). In this study, the data was collected from focus group interviews, questionnaires and documents such as the unit planners of DP subject teachers.

Data Case Analysis

Following the data collection phase was the analysis stage. Although a hallmark of case study research is the use of multiple data sources, this may lead to the collection of huge amounts of data with researchers often experiencing a sense of being “lost” in the data analysis stage (Baxter & Jack, 2008, p. 544). To mitigate this risk, Computer Aided Qualitative Data Analysis Software (CAQDAS) was used to organize and manage the voluminous amount of data. Specifically, the CAQDAS tool employed for this study was NVivo which allowed for the effective organization of all data sources such as focus group interviews, unit planners of teachers and questionnaires. Using this computerized data base also improved the reliability of this case study research as it allowed the raw data to be available for independent inspection (Miles et al., 2014, pp. 49-50).

Trustworthiness

To ensure the trustworthiness of this study, numerous strategies were employed in accordance with the definitive scholarly work of Lincoln and Guba (1986) regarding qualitative research. To establish credibility, the study utilized multiple sources (focus group interviews, questionnaires, documents) which allowed for the effective triangulation of data. It is also employed member-checking (Baxter & Jack, 2008, p. 556; Miles et al., 2014, p. 58) where the actual participants were given the opportunity to examine and provide feedback on the researcher’s transcribed reconstruction of the focus group interviews.

With regards to transferability, the onus in qualitative research is on the one wishing to transfer the results and to make judgements of a study’s relevance to other situations. Since the reader and not the writer knows the situations to which the study might apply, the responsibility of transferability should be more the reader’s than the writer’s (Stake, 2006). This study, therefore, attempted to provide sufficient rich and in-depth detail of each case so that “judgements about the degree of fit or similarity may be made by others who may wish to apply all or part of the findings elsewhere” (Lincoln & Guba, 1986, p. 77). For dependability and confirmability, the use of NVivo as a qualitative data analysis software tool enabled the establishment of an audit trail in terms of both process and product (data and reconstructions), where the former enhances dependability and the latter confirmability. All focus group interviews were audio-taped, transcribed verbatim

by the researcher⁶, reviewed for accuracy, member-checked and entered into NVivo for Mac (Version 11), as were the questionnaires and the documented unit planners of teachers (Lauckner, Paterson, & Krupa, 2012, p. 11).

Case Analysis and Discussion

Profile of School A

Sankaran International School (SIS) is a co-educational private English-medium school with classes from pre-primary to Grade 12. It is situated in Mumbai which has the highest concentration of IB Schools in India, followed by Delhi, Bangalore and Pune (IBO, 2017). Historically, the school began as an IBDP-only school receiving its authorization in 2006. It then gradually introduced lower grades with the first class of students entering grade 7 in 2013. During fieldwork, SIS had a total of 932 students and 144 teachers. Of the 144 teachers, 26 teachers taught the IB Diploma course. These IBDP subject teachers were the focus of this study (n=26).

Demographic Details of School Participants

The participants in the study were the IB Diploma subject teachers of SIS. Each teacher participated in the study by attending one of the five focus group sessions, completing a questionnaire and providing documented copies of their unit planners. Table 1 provides key demographic data relating to the participants in the study.

⁶Bazeley and Jackson (2013, p. 58) in their book titled *Qualitative Data Analysis with NVivo* recommend that the transcribing process be conducted by the actual researcher instead of employing an external transcriptionist as it builds familiarity with the data.

Table 1. *Participants' Demographic Information*

Participant code	Pseudonym	IBDP Subject taught	Qualification	Gender	Years teaching subject in IBDP	Total years teaching subject
SIS/Adi	Aditi	Economics	Master	F	9-12	9-12
SIS/Bal	Balaraj	Mathematics	Master	M	3-5	3-5
SIS/Ban	Bandhula	Geography	Master	F	3-5	9-12
SIS/Cha	Charles	English Lang. & Lit.	Bachelor	M	12+	12+
SIS/Chh	Chhaya	Visual Arts	Master	F	6-8	12+
SIS/Chr	Christopher	Mathematics	Bachelor	M	0-2	3-5
SIS/Dav	David	English Lang. & Lit.	Master	M	3-5	9-12
SIS/Dha	Dhanya	Physics	PhD	F	0-2	3-5
SIS/Far	Farha	Chemistry	Master	F	0-2	0-2
SIS/Gab	Gabrielle	French / Spanish	Master	F	6-8	12+
SIS/Gan	Gandhali	Business management	Master	F	0-2	3-5
SIS/Jal	Jalal	Physics	Master	M	0-2	0-2
SIS/Jer	Jeremy	French	Master	M	0-2	0-2
SIS/Kad	Kadir	Economics	Master	M	9-12	12+
SIS/Mai	Maitri	English Lang. & Lit.	Master	F	3-5	12+
SIS/Nab	Nabhi	Theatre Arts	Master	M	9-12	12+
SIS/Poy	Poya	Biology / ESS	Master	F	0-2	3-5
SIS/Raa	Raakhi	Spanish	Master	F	3-5	3-5
SIS/Rab	Rabhu	Physics	Master	M	9-12	12+
SIS/Sab	Sabeena	History	Master	F	0-2	12+
SIS/Sad	Sadashiva	Hindi	Master	M	6-8	12+
SIS/Sah	Sahas	Biology	Master	M	6-8	9-12
SIS/San	Sanjana	Mathematics	Master	F	6-8	12+
SIS/Sre	Sreya	Chemistry	PhD	F	0-2	12+
SIS/Ste	Stephen	Geography	Master	M	3-5	9-12
SIS/Yad	Yadni	Biology	Master	F	3-5	12+

Findings and Discussion

For each of the specific research questions 1a – 1d, emerging themes were identified and propositions were developed based on an analysis of the case study findings. Insights relating to research question 2 (“*To what extent have subject teachers integrated TOK in their teaching?*”) are embedded in the responses to each of the questions 1a – 1d.

School A teachers' Perspectives on the Role of TOK

Research question 1a:

What are the perspectives of subject teachers in the case study school on the role of TOK within their subject area?

Emerging theme and proposition 1:

Subject teachers view the role of TOK mostly in terms of a 'transaction orientation', in other words, they exhibit an intellectual interpretation and

construction of the TOK course, where teachers and students work together predominantly through dialogue and jointly develop critical thinking skills.

When asked during the focus group interviews how they would describe the role of TOK in their subject area, teachers' perspectives strongly aligned with the 'transaction orientation'. This orientation places an emphasis on critical thinking, problem-solving and cross-cultural dialogue as opposed to the more didactic and content driven 'transmission orientation' or the politically and action driven 'transformation' orientation. In supporting a 'transaction orientation', SIS teachers would often undervalue or discredit the 'transmission orientation' as this orientation was largely seen as incompatible to achieving TOK's role. To promote serious dialogue and critical thinking, teachers were compelled to often relinquish control of a lesson and give students greater ownership of it. The following comments⁷, especially from teachers of subjects stereotypically depicted as being more didactic such as mathematics and natural sciences, underscore this:

“For me it's when a student starts the process and then it reaches this crescendo effect. And you see it happening, you see it unfold in front of you, you know this is going to be a TOK one and so on. And you set it up. So I think as a good facilitator your job is to get that discussion from that very base question which has come from the student. I don't want it coming from me, then I'm providing the catalyst. The student asks the question and then it builds and then I get everyone else involved. Then people are questioning each other getting in the form of debate as time is elapsing. Reaching this crescendo effect and then you as a teacher come and then you contextualise it to a certain extent.”

(Balaraj, Mathematics teacher)

“Where there is equal amount of contribution from teacher as well as the student – equal contribution. And one more thing, in that contribution sometimes the curriculum will be cut adrift, we will be more focused on this TOK.”

(Rabhu, Physics teacher)

“... and as the discussion went on, I mean it of course the balance was lost, I mean we go on and on we leave Biology to a side and we speak of such interesting things. Then we spoke about legalisation of prostitution and things like that because DNA profiling, if a prostitute comes up and says “This your son!”, how does DNA profiling help and saying that so and so is this person's son, this lady's son. So then we spoke about legalising prostitution in India, whether it should go on, whether we should do it or not do it and things like that.”

(Yadni, Biology teacher)

⁷The quoted comments made by teachers in the focus group interviews are an exact transcription of the spoken word. This may compromise clarity due to colloquialisms and dialects of the English language, however it ensures maximum authenticity and is the approach preferred and hence adopted for this study.

“It is a debate a TOK class. You do see people having an argument and then have student saying “I would like to refute her” and then give their point, more like an argument... So it makes my classes very interesting and even I have to be very prepared. It makes me a student!”
(Poya, Biology and ESS teacher)

“Generally, I tell the students I am not going to do this, this is the proof given by some great mathematician. I know how to prove it, but I’m not going to do it. If you want I’ll give you a starting point, but each one come up with some answer. If it’s right I say okay you’re on the right track. If it’s not, I will not say it’s wrong, but I will say can you think in a different way. So at the end of the class, the solution the proof of a great theorem would have been given by the students themselves. It is not by just one student, it is a collective work of their entire class and at the end of the class I’ll say “Well, great, Newtown’s theorem has been proven by this class! ... They feel so happy in the class and that gives immense pleasure and I get lots of satisfaction.”
(Sanjana, Mathematics teacher)

The role of TOK, as expressed implicitly by SIS teachers, is to compel teachers away from a dominant ‘transmission’ orientation. Based on Miller and Sellar’s tripartite curriculum model (Miller, 2008), it logically follows that teachers have two remaining orientations available to them, namely ‘transaction’ or ‘transformation’. When dismissing the more teacher-centered and content driven ‘transmission orientation’, SIS teachers in the focus group interviews often exhibited an intellectual interpretation and construction of the TOK course by emphasizing the development of critical thinking skills, thus squarely positioning themselves with the ‘transaction’ orientation.

The strong ‘transaction orientation’ emanating from the focus group interviews was also reinforced by other data sources such as the questionnaires and unit planners. Of the items in the questionnaire that had the greatest potential for the employment of strategies relating to the ‘transformation’ orientation, there was very little evidence to suggest that SIS subject teachers had adopted such an orientation. In response to questions from the questionnaire such as: “What makes this area of knowledge important?” and “What responsibilities rest upon the individual knower by virtue of his or her knowledge in this area?”, there was minimal evidence (if any) to suggest that teachers were willing to extend their role as educators beyond tackling different questions through collective dialogue to tackling different questions through collective action. Similarly, the sample unit planners⁸ completed by subject teachers served as a third data source to reinforce and triangulate the above claim. There was no evidence of teaching strategies in the TOK section of the unit planners that remotely aligned with a ‘transformation’ orientation.

⁸A template completed by teachers and often provided by the IBO that outlines syllabus content, resources, teaching and learning strategies and often other key aspects relevant to the teaching of an IB subject such as links to TOK, CAS, international mindedness and the IB learner profile. It is compulsory for all IB Diploma teachers to have unit planners for their subjects and to update them on a regular basis.

School A Teachers' Perspectives on the Benefits of teaching TOK

Research question 1b:

What are the perspectives of subject teachers in the case study school on the benefits in integrating TOK in their teaching?

Emerging theme and proposition 2:

Subject teachers consider the main benefits to be in developing the critical thinking skills and epistemic awareness of students. The former is particularly evident in the emphasis placed on comparing and evaluating perspectives, the latter on the emphasis placed on understanding the way that knowledge is constructed across the various areas of knowledge. These findings also reinforce the transaction orientation as highlighted in research question 1a.

When asked during the focus group interviews on the benefits in integrating TOK in their teaching, teachers repeatedly emphasized how TOK develops critical thinking skills and/or the epistemic awareness of students. These findings strongly resonate with Hughes study (2014) as highlighted in the literature review. Hughes drew attention to a potential competing construction of TOK where there was a “misalignment between the labelling of TOK as a course in critical thinking and a syllabus that is essentially one in epistemology” (Hughes, 2014, p. 36). Although the perception that TOK was a course in ‘critical thinking’ was the more dominant in the focus group interviews, the perception that TOK was a course in epistemology was also strongly supported by SIS teachers. The latter group often spoke of how TOK places an emphasis on understanding the “human endeavor” by which “knowledge has been generated” (SIS/Sah), especially with its focus on ways of knowing (WOK) such as reason, emotion, sense perception, language, imagination, intuition, faith and memory. These ways of knowing help to answer “fundamental” questions such as “how do I know?” or “how do we know?”.

SIS teachers in the focus group interviews often mentioned the benefits of TOK in urging students to consider different perspectives. Drawing from Richard Paul’s comprehensive and seminal work on critical thinking as noted in the literature review, the skills of comparing and evaluating perspectives were classified in the second dimension of critical thinking, namely “cognitive dimensions – macro abilities”, and seen as a form of reasoning dialogically and dialectically. Of the various skills Paul associates with critical thinking (1990, as cited in Hughes, 2014), comparing and evaluating perspectives emerged as the strongest sub-theme in the focus group interviews as exemplified in the following SIS teachers’ comments:

“I think for literature, because so much of literature is multiple interpretation, it helps them to look at the text from several perspectives at the same time and to understand that kind of scholarship reverberates through other areas of the IB curriculum. It’s imprecise, it’s open-ended like a lot of knowledge questions of its very nature, so I kind of bring that in along the way but also in introducing literature to the eleventh graders.”

(David, English Language and Literature teacher)

“... I really think that TOK can really help students to question their own knowledge structures. Why do they think a certain way about a certain topic? We do, I know in Geography, I’m sure in other subjects, lots of discussion about the different perspectives on topics in Group 3. Lots of debates and in doing so their understanding of different perspectives. But then you ask them to sort of think, well why might you have a strong opinion on this given your background, given your upbringing, given your socio-economic status – all of these factors. And then they start to think “well yeah if I was from a different socio-economic background or culture I might have a different perspective.” I think that’s really interesting!”
(Stephen, Geography teacher)

Other teachers mentioned the critical thinking skills of evaluating evidence, exploring implications and making predictions which are classified by Paul (1990, as cited in Hughes, 2014) in the third dimension of critical thinking, namely ‘cognitive dimensions – micro skills’. These teachers emphasized the importance for students to “think critically” by considering the “consequences” of “hypothetical” situations (SIS/Dha) and by evaluating predictions made (SIS/Sre). This was especially the case when conducting “unobservable” scientific experiments such as measuring the mass of the sun (SIS/Jal), evaluating evidence regarding the Earth’s rotation (SIS/Sre) and solving problems on imagined atomic structures (SIS/Dha).

Finally, noteworthy is the fact that the findings relating to research question 1b reinforce the emerging theme and proposition of research question 1a, namely that subject teachers view the benefits of TOK predominantly in terms of a transaction orientation. In other words, they exhibit an ‘intellectual’ interpretation and construction of the TOK course, where teachers and students work together predominantly through dialogue and jointly develop critical thinking skills and develop a greater epistemic awareness.

School A Teachers’ Perspectives on the Challenges of teaching TOK and Measures to Improve TOK Integration

Research questions 1c and 1d:

What are the perspectives of subject teachers in the case study school on the challenges of teaching TOK?

What are the perspectives of subject teachers in the case study school on the measures that need to be adopted for the successful integration of TOK?

Emerging themes and propositions 3 and 4:

Subject teachers consider the main challenges of teaching TOK to be based on subject-guide insufficiencies, teacher inexperience and time constraints. The notion of TOK being inappropriate for students of non-Western cultures was not mentioned by subject teachers as a key challenge.

These main challenges can be mitigated by issuing teachers with more detailed TOK guidelines in their respective subject guides; delivering timely

professional development and adopting a more 'organic' approach when teaching TOK.

Subject-guide Insufficiencies

The main challenge identified by the teacher focus groups centred on the insufficiencies of the subject guides. Teachers often spoke about the limited coverage of TOK in their subject guides especially in terms of concrete examples. As one teacher put it:

"There's about a page and a half on TOK in the 2015 guide... It's a sixty or seventy page booklet. I know they have a lot to cover, but I think that would be a great starting point for improving TOK across the curriculum, if subject guides gave the theory but also some suggestions on the practice."
(Charles, English Language and Literature teacher)

Other teachers also highlighted the limited pages devoted to TOK. One teacher remarked that it was *"just a little section in the front"* (SIS/Ste), while another questioned *"why only two pages?"* (SIS/Nab). Similar comments included:

"In the subject guide there's two pages only there. It should be, I think for me, it should be a little more."
(Chhaya, Visual Arts teacher)

"I think they could have given us some links for TOK ... resource links ... more resources maybe, an initial appendix how to go about it would be better."
(Sahas, Biology teacher)

"I don't think it's sufficient to get a thorough idea of how to incorporate, of how to incorporate."
(Christopher, Mathematics teacher)

"So the question that's specified for each topic, it would have been good if at least give us some examples ... there are some questions which are pretty vague. So it becomes really difficult for us how to approach it because maybe the way I do it is not the same as the other teachers doing it. So some examples could have helped"
(Sreya, Chemistry teacher)

The focus group interview findings were reaffirmed with the questionnaire findings. In the questionnaire, teachers chose the percentage that best represented their confidence levels in carrying out teaching activities relevant to TOK using a scale of 0 - 100, where zero represented "not at all confident" and one hundred represented "absolutely confident". Of the nine items in the questionnaire, teachers were least confident in "keeping students on task during lessons with unfamiliar TOK content" and in "identifying appropriate learning materials for TOK related

lessons in my subject area”. The latter item reinforces SIS teachers’ calls for more “resources” and “examples” in their subject guide.

Teacher Inexperience

SIS teachers also spoke of teacher inexperience as another key challenge limiting the integration of TOK. Two different conceptualisations of teacher inexperience were mentioned in the focus group interviews. The first perspective related to inexperience in relation to the IB curriculum. Teachers at SIS often began their careers teaching the Indian curriculum. In the literature review, it was noted that Indian mainstream education often follows a didactic mode of teaching where rote learning is the key skill emphasized and assessed and is largely examination driven. This emphasis on rote learning is commonly referred to by Indian teachers and students as “mugging-up” (Gilbertson, 2014; Moran & Moran, 2008) where answers are learnt by heart from textbooks. Not only is there no subject equivalent to TOK in the curriculums of Indian Boards, the very pedagogy of TOK with its ‘transactionary’ orientation would be in itself a challenge to many teachers. This is encapsulated succinctly by the following teacher comment:

“... you have to appreciate that some teachers, not all, are familiar with the indigenous curriculum before they come and teach IB, in which there is nothing like Theory of Knowledge or epistemology or philosophy. So for them it’s very much, okay fine my role as a teacher is probably to make my students go well. And in that case then probably adapting from that scenario to an IB realm, so to speak, is difficult and then changing and adapting your teaching style becomes a challenge in itself.”

(Balaraj, Mathematics teacher)

Noteworthy is the fact that this challenge relates closest to the criticism that TOK may not be suitable for students (or teachers) of non-Western cultures, although SIS subject teachers did not see this as a problem of TOK, but more to do with their local education system. The criticism levelled against TOK in the literature as being inappropriate for students of non-Western cultures due to its ‘Western’ bias in its approach to knowledge was not mentioned as a key challenge by SIS subject teachers.

The second perspective regarding teacher inexperience relates to new teachers in the teaching profession. One teacher explained how new teachers in the profession would naturally “focus more on the curriculum” as this is “given more importance in the guide” and hence TOK will inevitably “get neglected” (SIS/Nab). Another teacher “new to teaching” described how when he “started teaching for the first time” after leaving his job as “an engineer”, had no awareness of TOK whatsoever. As a new teacher of Physics, he was given a Physics subject guide and was simply told which topics to teach. He explained how “there was no introduction about TOK”, neither in “Hindi or English”, and was therefore “completely unaware of it” (SIS/Jal).

Despite the emergence of two perspectives relating to teacher inexperience, a common recommendation was championed from both to potentially nullify this

challenge. SIS teachers in the focus group interviews strongly endorsed the early provision of professional development workshops, for teachers both new to the IB and to the teaching profession, thus helping them integrate TOK early in their teaching of IB Diploma subjects.

Time Constraints

Another key challenge identified by SIS teachers was time constraints. Subject teachers of standard level subjects have 150 hours to teach the course, while teachers of higher level subjects have 240 hours, and it is during this time that TOK should also be integrated. For many teachers the demands of teaching both a “wide syllabus” (SIS/Pha) and TOK are seen as conflicting, especially in terms of finishing the course before the commencement of official DP examinations. The following comments from SIS teachers accentuate this challenge of time:

“I think to some extent we end up doing that because you do have time constraints. I have to finish various syllabus because ultimately they are giving an exam. So probably, because of the time constraints, I might cut those things because now I have been focusing only on content.”
(Poya, Biology and ESS teacher)

“What I feel is as Balaraj says, does not include all the teachers, but some teachers, they maybe finding time a big constraint. So if you have to consciously incorporate TOK in your classes, that means you will be spending at least five to ten minutes. So I’ve been teaching for Math HL and Math SL. These are the two subjects which we are pressed for time.”
(Sanjana, Mathematics teacher)

The idea of teaching TOK “organically” was proposed as a solution to reconcile the supposed conflicting scenario of squeezing TOK in the already crammed curriculum of time-poor subject teachers. This is explained in the exchange below:

Moderator: So how do you solve this tension?

Balaraj: ... I think if it doesn’t come organically in your teaching then you’re going to struggle with introducing it because you are compelled to do it, it is a forceful integration of Theory of Knowledge. So by virtue of doing that, you may look at it in terms of efficiency and you’re saying “okay fine I could be better off utilising my time better.”

Moderator: Sorry ... You’re using the word “organically”. Does that mean you’d take a different approach?

Balaraj: Yes, my approach is to essentially use Theory of Knowledge more naturally. That’s the way I’ve been doing it, but then this was obviously after experience of maybe six months or eight months. Just to give you an example, a very short one, I was doing exponential decay in my Maths SL class just two

blocks before today, and we were doing radioactive decay and the student asked me “Okay fine it’s decreasing, it’s decreasing, it’s decreasing exponentially, so when does it become zero?” Another student said, and this is where I kind of know to start facilitating the Theory of Knowledge, another student said it doesn’t reach zero and gives a mathematical reason “It’s asymptotic when it becomes zero.” And the student says “But hold on, if I take a certain substance and I keep breaking it down, I am going to break it down into molecules, atoms and then what happens after that?” Then they reach a pause and I’m like don’t stop there keep going. Then I’m telling them about quarks and sub-atomic particles and I’m saying go further, go further and what do you reach? And they get uncomfortable “Oh my god! What would I reach? Would I get nothing?” Okay, you get nothing hypothetically, then how do you make back the sum again? Let’s put all nothings together. What do you get? And then it just messes their head up!

(Laughter from participants)

And I tell them, I don’t know the answer for that? Guess what? Do you know of string theory because string theory would suggest that when you break it down you get these energies. And you think something as simple as that, which was unanticipated, I’m already going into Theory of Knowledge and this is just but one example. I had a student asking me about negative time and we go into another discussion and it’s all very cool, mathematic stuff that you can take on the abstract level and on the superficial level and everything in between.

Other teachers supported this notion of a more organic approach (as opposed to setting an artificially predetermined time allocation to TOK) by integrating it within formative assessment tasks specific to their subject, thus satisfying both assessment and TOK demands. This not only ensured that both assessment and TOK demands were efficiently met, but also gave TOK a more extrinsic value to students.

Conclusions

The findings and ensuing discussion of this study have revealed that, in the specific case study context of an international school in India, teachers have exhibited an intellectual interpretation and construction of the TOK course. This implies teachers and students working together, predominantly through dialogue, to develop both the critical thinking skills and epistemic awareness of students. The former is particularly evident in the emphasis placed on comparing and evaluating perspectives; the latter on the emphasis placed on understanding the way that knowledge is constructed across the various areas of knowledge such as mathematics, sciences, humanities, arts and languages. The literature labelled this as a ‘transaction orientation’ to the TOK course, in contrast to the more didactic and content driven ‘transmission orientation’ or the politically and action driven

‘transformation orientation’. Despite the importance given to the transformation orientation in fostering action-based competencies that will arguably empower future citizens in tackling the various social, political and environmental challenges of this global age, there was very little evidence to suggest that subject teachers had adopted such an orientation. This therefore demonstrates that the prescribed aim in the TOK guide which compels students to “understand that knowledge brings responsibility which leads to commitment and action” (IBO, 2013, p. 14) was interpreted by subject teachers as a soft call to action asking students to merely “understand” responsibility, commitment and action, as opposed to a firm call where students should consider the possibility of actually acting on this knowledge. Finally, subject teachers in the case study school experienced various challenges in integrating TOK in their teaching such as subject-guide insufficiencies, teacher inexperience and time constraints. The criticism levelled against TOK in the literature as being inappropriate for students of non-Western cultures due to its ‘Western’ bias in its approach to knowledge was not mentioned as a key challenge. Mitigating these challenges by providing detailed TOK guidelines in subject guides; by delivering timely professional development and by adopting a more ‘organic’ approach when teaching TOK should allow for a more robust integration of TOK by International Baccalaureate Diploma teachers.

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