COLLABORATIVE CRAFTING: A PROFESSIONAL LEARNING MODEL SUPPORTING SCHOOLWIDE IMPLEMENTATION OF ATLs IN IB SCHOOLS IN JAPAN

JEFF THOMPSON RESEARCH AWARD REPORT

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- This research explores how teachers in ten different IB candidate/authorized schools in Japan engaged with these ATLs and the social behaviours they exhibited as they attempted to integrate the framework into their teaching.

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- Key words were captured during the interviews and observations, and later elaborated into more extensive field notes, that were later coded using the constant comparison method to identify relevant indicators or concepts that would be used for later analysis (theoretical sampling, theoretical sorting, etc.) to allow for the emergence of a grounded theory.

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- A grounded theory (*collaborative crafting*) emerged as a three-stage social process whereby teachers build-on their own learning from experience and engage in the co-construction of a new pedagogical approach with other colleagues engaged in the same initiative.
- The *internalizing* stage is the internal processing stage that teachers engaged in each time they received a new piece of information or experienced something new regarding an unfamiliar teaching approach.

- The *tinkering* stage is the trial and error process that individual teachers underwent in their respective classrooms as they attempted to incorporate the unfamiliar teaching strategies into their teaching.
- The *channeling* stage involved the process of sharing and providing feedback with one another of the *tinkering* that each teacher engaged in.

5. Literature Review

- Upon examining the existing literature in the relevant substantive field for this study, the theory of *experiential learning* was one that came up repeatedly and appears to describe a mechanism similar to the interplay between the *tinkering* and *internalizing* stages in the *collaborative crafting cycle*.
- Combining the theory of *experiential learning* with the theory of *situated learning* in *communities of practice* with its explicit mention of the role of the social context and how it influences the learning process allowed for the inclusion of the *channeling* stage of the *collaborative crafting cycle*.

6. Discussion

- For schools to lead the implementation of a new teaching approach consistently across the whole school, it requires the collaborative efforts of willing and highly motivated teachers to achieve it.
- The act of setting clear ATL implementation guidelines and expectations for the teachers on its own, appeared to have very little effect on teacher performance.
- This study suggests that schools that wish to introduce and implement a new schoolwide initiative (such as the explicit teaching of ATLs in the classroom) should invest their energy more on putting systems in place that make it easier for teachers to freely engage in *tinkering* in their classroom and *channeling* their *tinkering* with other *tinkering* teachers.

7. Conclusion and Recommendations

- The IB has made leaps and bounds in emphasizing the importance of developing a curriculum that makes explicit reference to ATLs and offers a lot of supporting documents to assist schools in developing their own ATL frameworks, however schools may also benefit by being provided with explicit guidance on how to support schools in nurturing the professional learning communities or communities of practice that are necessary to integrate ATLs meaningfully into the school curriculum and culture.
- The theory of *collaborative crafting* can be described as a combination of Kolb's *experiential learning model* and Lave & Wenger's *apprenticeship model* of *situated learning* (or social participation in a community of practice) that emphasizes learning as a social endeavor, reminding us as teachers that teaching like many other professions is a collaborative profession, more effective when done collectively within a community rather than in isolation.

INTRODUCTION

The International Baccalaureate (IB) is an organization that works with schools, governments and international organizations to "provide a challenging and comprehensive education that enable students to understand and manage the complexities of our world and provide them with skills and attitudes for taking responsible action for the future." (IBO, 2013, p.1) Since its inception in 1968, the organization has continued to support IB authorized schools around the world, by offering educational frameworks designed to help schools in integrating the pedagogical and philosophical aims of the IB into their existing curriculum. By doing so, schools not only meet local and/or national requirements but also foster and develop internationally-minded learners by offering learning environments that "open the student's minds to the validity of divergent perspectives, provide them with tools for critical analysis, and instil a humanistic propensity towards mankind across frontiers." (Hill, 2015, p.41) One of the central tenets of an IB education is "the concept of education as process rather than content" (Peterson, 2003, p.34) and the importance of emphasizing "not what is learnt, but learning to learn" (Peterson, 1972, p.35). The IB offers frameworks to support the realization of this concept, and to make explicit the connections between the content knowledge that is taught; the conceptual understanding that teachers want students to gain; and the necessary skills needed to achieve the desired understandings in local and global contexts. In recent years there has been an increase in the usage of the term *Approaches to Learning* (ATL) in IB publications across all the programmes. It is believed that transparency and effective implementation of these ATL skill sets into the school's IB curriculum will assist students in 'learning how to learn' - to develop the necessary skills in effectively managing and evaluating the process of their own learning. This study set out to investigate how several schools attempted to do this to witness what effective implementation of ATLs may look like when implemented in a Japanese school context.

While the term ATL and the underlying theories behind the use of its framework are well documented in IB literature, in practice however, it is not quite clear how the ATL skills framework actually assists students in 'learning how to learn' in the classroom and what the effective approaches are in integrating it into the learning engagements to make it relevant and meaningful for their learners. This research explored how teachers in ten different IB candidate/authorized schools in Japan engaged with these ATLs and the social behaviours they exhibited as they attempted to integrate its framework into their teaching. Through regular interviews with programme coordinators and teachers, observations of MYP and DP classes, and attendance in faculty meetings focusing on ATL implementation, data was collected and analyzed to help unravel what the underlying factors and circumstances are that play a role in promoting effective integration and implementation of ATLs. The proposed outcome of the research is an emergent theory that attempts to explain a basic social

process of how educators in these IB schools in Japan try to make sense of, in their own terms, what needs to be done to effectively integrate explicit teaching of ATLs into their school curriculum. The study specifically examined how they responded to the countless challenges they faced during implementation and the strategies they came up with to try and overcome those challenges.

BACKGROUND OF THE ATL SKILLS FRAMEWORK

The term 'Approaches to Learning' makes its first appearance in the IB *Middle Years Programme* (MYP) model in 1997 as one of the integrative 'elements' that play an important component in fostering interdisciplinary teaching and learning. The programme model later went through several revisions to include at its central core 5 different areas of interaction in 2008 with the ATLs included as one of the areas of interaction. ATLs were however apparently never intended to be included as one of the five areas of interactions. Phil Thomas, an Ecolint teacher much involved in the early planning of the IB (UWC, 2018) believes "it became one of the five areas of interaction owing to an artistic error in designing the model poster. The thinking was always that 'learning to learn' is crucial to the programme so should be throughout everything, not only used from time to time like an area of interaction." (IBO, 2010, p.22) The programme model was later revised in 2014 to no longer include the areas of interaction, and to restore the ATL back again as a separate central element of the MYP.

In light of the ongoing developments within the IB in the last several years to align its four IB programmes to establish a more cohesive continuum of learning, the *Primary Years Programme* (PYP), the *Diploma Programme* (DP) and the *Career-related Programme* (CP) have also gone through changes to adopt the term Approaches to Learning inside their respective programme models. In 2015 the DP published a new guide that focuses not only on ATLs but *Approaches to Teaching* (ATT) as well, defining approaches to teaching and learning as "deliberate strategies, skills and attitudes that permeate the teaching and learning environment." (IBO, 2015, p.1) The document provides examples for DP and CP schools on how ATLs can be translated into practice to support schools in beginning to think about ATLs and consider how to adapt it into their own local school context. The PYP published a separate teacher support material in 2019 about ATLs specifically, showcasing an exemplar of how a school implemented the ATL as a whole school approach, thus providing insight for other schools to reflect on "the subskills that students might develop as part of the five ATL categories, and think about a way forward for the collaborative development of these" (IBO, 2019, p.6) in their own local school context. The PYP from principles into practice document (published in the same year 2019) also includes many explicit references to ATLs and suggestions on how to integrate them to promote meaningful learning in the PYP.

The IB programme standards and practices document that includes a "foundational set of principles for schools and the IB to ensure quality and fidelity in the implementation of the

programmes" (IBO, 2018, p.1) has also gone through a revision in 2018. In the 2014 publication, ATLs were only referenced as progamme-specific requirements within the MYP and CP (previously IBCC) however in the revised 2018 publication, it is expected that all IB schools have systems in place to ensure that the school community "implements and reviews the development of the IB's approaches to learning." (IBO, 2018, p.18) In this way the ATLs have evolved into a vital and central component of the IB continuum of international education, as a skills framework designed to support schools with the development of a culture of learning, in the spirit of A.D.C Peterson, that promotes the concept of 'learning how to learn'.

RESEARCH SETTING

The research for this study took place in Japanese 'Article 1' schools (a school defined by Article 1 of the School Education Law) in both the public and private sector. Unlike many international schools in the country however, these schools have an obligation to meet the National curriculum requirements set by the government, such as the use of mandated textbooks and regulated number of required hours to teach each subject, etc. Article 1 schools were chosen for this study because they operated under the same guidelines, and thus are believed to experience similar challenges when faced with the task of implementing the ATL framework into their existing school curriculum and culture. Ten schools in total participated in the study. The language of instruction in the classes were either in Japanese or in English however the language of instruction in each of the subjects taught varied from school to school. Data collected and used for analysis consisted of field notes that were taken during semi-structured interviews (primarily with programme coordinators and teachers from each of the ten IB candidate/authorized schools offering the MYP and/or the DP), and classroom observations of teachers over an 18-month period. Initially, many of the participating teachers were aware of the existence of ATLs however only a few have made any attempts to make the ATLs explicit in their own classes. The study traces their journey through implementation from this early stage and sought to identify emergent social patterns while observing and analysing their attempts as they worked to find ways to overcome the barriers and challenges that came up, and the strategies and tools that they developed to overcome those barriers during the course of their implementation.

METHODOLOGY: THE GROUNDED THEORY APPROACH

Grounded theory is a research methodology with a focus on the emergence of theory from data. The purpose of the methodology is to generate theory directly from data to explain a social phenomenon and/or behavior. While data is systematically collected and analysed, "the cardinal rule in grounded theory is to not undermine the discovery of latent patterns in data by preconceiving what

to look for or what type of data to use." (Holton, J., Walsh, I. 2017, p.73) The researcher therefore is required to follow the data, and have it guide the researcher through the different stages of the research, using the constant comparative method. It is a general research methodology that uses any and all types of data, both quantitative and qualitative, and "is more about the context of discovery than the context of justification." (Gibson, B., Hartman, J., 2014, p.43) All interviews were open-ended, and care was taken to ensure that participants of the study felt comfortable in freely talking about their views and perspectives. Key words were captured during the interviews and observations, and later elaborated into more extensive field notes, that were later coded using the constant comparison method to identify relevant indicators or concepts that would be used for later analysis (theoretical sampling, theoretical sorting, etc.) to allow for the emergence of a grounded theory. Readers interested in the details of this research methodology may refer to Glaser (1978).

Careful facilitation of this research methodology provided many opportunities to capture real incidents (experiences, stories, gossip, confessions, etc.) that suggested a concept or a pattern of behaviour to help in explaining what is going on in the situation that is being studied. Codes were constantly compared to verify what concepts, if any, were buried within the descriptive content and to confirm that they were grounded in the data. Theoretical memos were kept and compiled as data were being coded, to help in uncovering what was happening in the situation at hand; to capture patterns that were repeatedly occurring in the data; and to progress the study through the different stages of the research to the eventual discovery of an emergent grounded theory. Data collected at later stages in the study (ie. literature related to the research topic) were added later to elaborate and saturate codes, properties and/or conceptual categories to further ground the emergent theory.

FINDINGS: THE THEORY OF COLLABORATIVE CRAFTING

The findings in this study are presented in the form of carefully grounded integrated conceptual hypotheses of the substantive area or "probability statements about the relationship between concepts that account for the behaviours seen in the substantive area" (Glaser, 1998, p.3). The purpose of the study is not to make factual comparisons between the different schools that participated in the study. This section will rather describe the relationships between concepts that surfaced through the use of the constant comparison method (Glaser, 1978) while observing and collecting data at the different schools. The outcome of the analysis in this study was the emergence of a professional learning model shown in Figure 1 below. The theory of *collaborative crafting* surfaced as a result of a recurring social pattern that emerged whilst observing how teachers and programme coordinators in each of the schools approached and engaged in the task of developing a system that promotes the effective implementation of a schoolwide approach to explicit teaching of ATLs.

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                    │ Internalizing │
                    └──────────────┘
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        │  Channeling  │◄────►│   Tinkering  │
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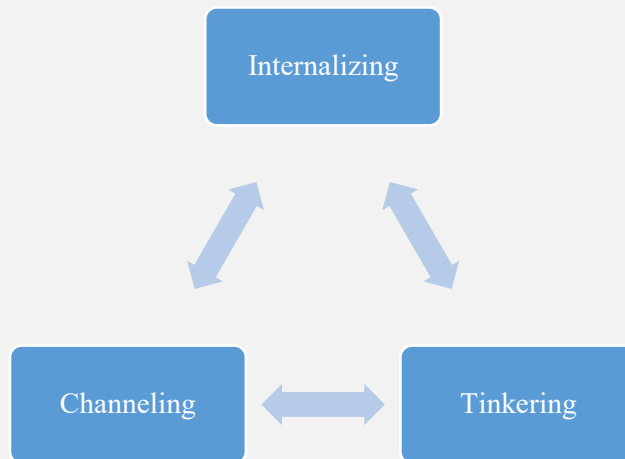
Figure 1: The *collaborative crafting cycle*

    The programme coordinators that voluntarily participated in this study showed great enthusiasm and interest in the research from the study's onset, and saw the participation in the study as an opportunity to learn more about how to better approach ATLs and consider ways to support teachers with its implementation in their own classrooms, however many were unclear on how to go about doing it. Some programme coordinators shared stories of what they have trialed in the past to promote ATL teaching however none of the attempts apparently had any lasting effects in bringing ATLs at the forefront of teaching and learning in the school. And this was not because teachers were reluctant to comply, in fact many participating teachers were very keen and eager to participate in the study to learn more about how to best incorporate ATLs meaningfully into their teaching. Despite their enthusiasm however, they continued to struggle to incorporate ATLs into their teaching. Clearly there were hidden barriers at play. Over time the study found that the constant struggle teachers experienced with ATL implementation was due in part to an inherent lack of *teacher buy-in*, and the reason why there continued to be little to no implementation of ATLs observed in the classroom even when they showed interest and willingness to incorporate it more into their classes. *Teacher buy-in* is defined in this study as a teacher's acceptance of and willingness to engage in a new teaching practice and the active incorporation of it into their teaching. The degree of *teacher buy-in* is a measure of the level of willingness for teachers in a school to adapt to a new schoolwide approach to teaching and the consistent implementation of it across the whole school. Due to the difficulty in measuring the degree of *teacher buy-in* directly however, the study has chosen to look at how often and to what extent ATLs are actually trialed and implemented in the classroom, and associate this with an increase or decrease in *teacher comfort zones* as a way to indirectly measure the degree of

teacher buy-in. The amount of increase in the *teacher's comfort zone* being defined in this study as the increase in ATL teaching strategies that a teacher willingly employs in their classroom, and the 'willingness to employ' determined based on the observed behaviours of the teachers during conversation with them in meetings and when observing their classroom teaching. Schools that made inroads in establishing a forum for teachers (*communal zones)* to share and provide feedback with one another on their ATL implementations, showed a higher likelihood of success in moving forward towards a schoolwide approach to teaching with ATLs in mind. The *communal zone* depicted in Figure 2 below is the overlapping region of neighboring *teacher comfort zones*, where the overlapping area for each teacher's individual comfort zones represent the newly incorporated ATL teaching approaches into their teaching repertoire:
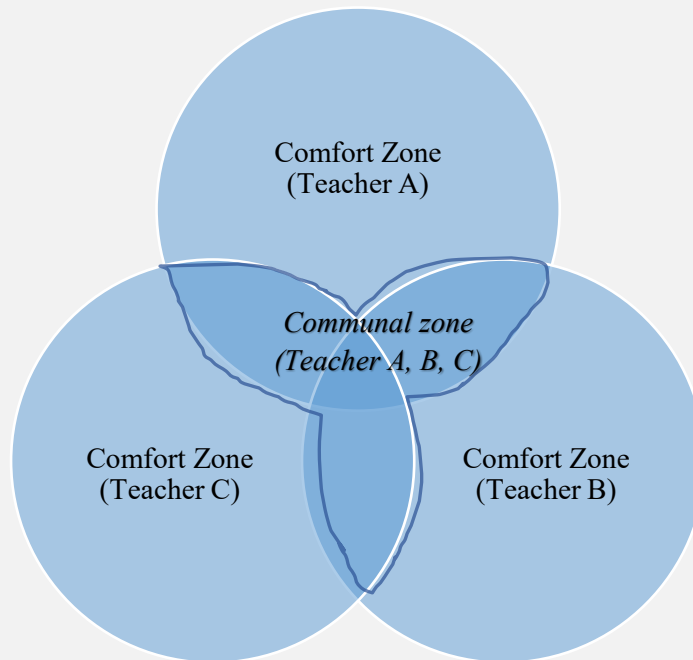

Figure 2: Relationship between *teacher comfort zones* and the *communal zone*

This study suggests that increase in the degree of *teacher buy-in* requires that teachers engage deeply and collaboratively in these *communal zones*. The study has found that the degree of *teacher buy-in* in schools that struggled to establish an environment for teachers to collaborate on their implementation of ATLs within these *communal zones* remained at a consistent low. Schools that were successful in increasing the degree of *teacher buy-in* were those that found ways to support teachers by increasing opportunities to engage in discussion about the different ATL approaches that they have been undertaking in their respective classes, building on their learning from these shared

ideas and gradually leading to the co-creation of a common ATL implementation strategy developed collectively by the team. We now take a closer look at the different stages of the *collaborative crafting cycle* and examine the roles they played in helping teachers with first expanding their *comfort zones* by incorporating more ATL teaching strategies into their repertoire, and later sharing their different implementation strategies with their colleagues in the newly formed *communal zones*, in support of a sustainable schoolwide approach that promote explicit teaching of ATLs that works and fits with their school context.

Internalizing

The *internalizing* stage is the internal processing stage that teachers engaged in each time they received a new piece of information or experienced something new regarding an unfamiliar teaching approach (in this case explicit teaching of ATLs). It is the stage that determined whether to welcome the new teaching approach into their teaching repertoire or to keep it at bay, and thus is directly related to the size of an individual teacher's *comfort zone*. Welcoming it would represent an increase in *teacher comfort zone* as depicted in Figure 3 below:
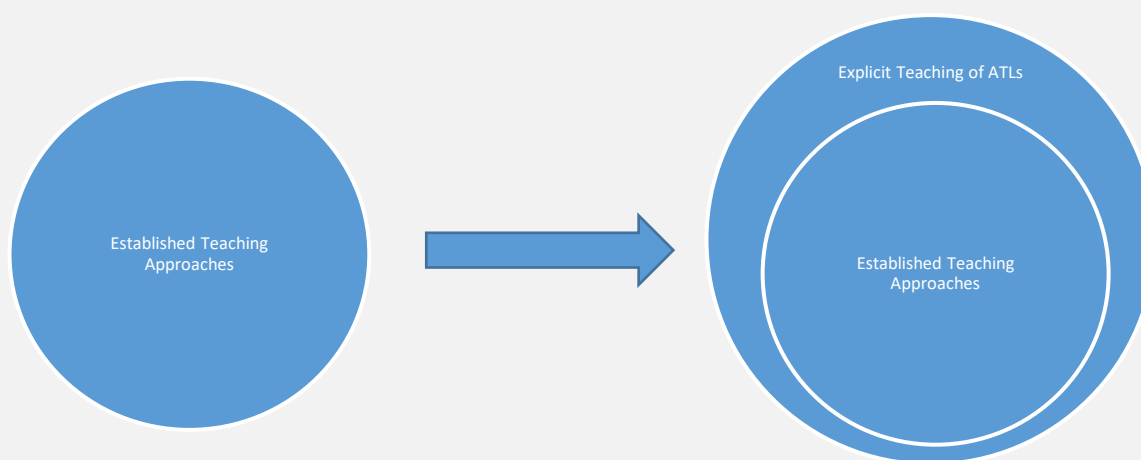

Figure 3: Expansion of a teacher's *comfort zone* to include ATL teaching approaches

However, keeping it at bay, would have no effect on the size of the *teacher comfort zone*. The teacher will continue to teach using the existing teaching approaches they have already established within their *teacher comfort zones*. The study found that regardless of how willing a teacher may appear to be about incorporating ATL teaching approaches into their class, it did not lead to any expansion in teacher comfort zones if teachers were simply left to their devices to process the

information disseminated by the school about ATLs in the *internalizing* stage. These teachers continued to teach their classes as they always have without incorporating any significant changes to their teaching approach.

Many schools offered teachers with school-based supplementary documents to support ATL teaching and/or provided opportunities to plan and development documents that would help with its integration into the curriculum. A common document that was shared was a document called an 'ATL scope and sequence chart'. Some schools invested many faculty meetings to get teachers to contribute to the development of this document, and teachers engaged with it accordingly, however because it was not clear 'how' this document will be used to support the development of ATL skills during the teachers' day-to-day teaching, the document in itself appeared to have little effect on what these teachers did in their classroom. Teachers were always very good at talking about why ATLs are important and come up with different strategies to integrate ATL teaching during school-planned professional development sessions or faculty meetings focusing on ATL development however very rarely were any of these ideas employed in the classroom. And the longer this gap between what teachers talked about and what they did in the class continued, the more they appeared to be getting lost in their own ATL rhetoric, to the point where they were *reifying* ATLs as a 'thing' that is somehow already integrated into their regular teaching, however still not being clear about what it is that they are actually doing. It was not until these teachers began to actively engage in the *tinkering* process and *channeling* their implementation strategies with the other *tinkering* teachers, that the barriers that prevented schools from promoting explicit teaching of ATLs as a schoolwide initiative began to break down.

Tinkering and Channeling

Tinkering is the trial and error process that individual teachers underwent in their respective classrooms as they attempted to incorporate ATL strategies into their teaching. *Channeling* is a process that allowed for the emergence of *communal zones* (depicted in Figure 2) which are overlapping regions of multiple teacher *comfort zones* representing teaching approaches specific to ATLs. The *channeling* stage involved the process of sharing and providing feedback with one another of the *tinkering* that each teacher engaged in, which brought about the emergence of a *communal zone* for teachers to learn from one another and begin *tinkering* with other ATL teaching approaches.

The study found that the interplay between the *tinkering* and *internalizing* stage was an important process in helping teachers add new strategies and approaches to their existing teaching repertoire. It was important however that teachers were provided with opportunities to test out how the different approaches and ideas played out in their own classroom, so the information could then be processed and refined in the *internalizing* stage to inform how to modify their approach when returning back to

the *tinkering* stage in subsequent classes. The study identified a clear difference between teachers that tinkered and those that didn't, in the way they responded when asked about the challenges of teaching with ATLs in mind. Conversations with *tinkering* teachers, were more grounded and specifically about their implementation and the challenges they faced, while *non-tinkering* teachers continued with their *jargonizing* about the challenges of implementing ATLs in their classes.

Engagement in the *tinkering* and *channeling* stages of the *collaborative crafting cycle* were only observed by teachers in schools that offered structured mechanisms that provide opportunities for teachers to collaboratively trial and share their new approaches in their classrooms with one another. Schools where the vast majority of teachers were simply informed about the importance of ATLs and encouraged to include it into their teaching but left to their own devices to figure out what they are meant to do with them, did not appear to show any changes in how classes were taught in their classes. Over time however, even in schools that did not offer the type of structured opportunities for learning as described above, some teachers were seen to begin trialing new ATL teaching approaches into their classes on their own and sharing the new approaches with their other teaching colleagues. In most cases however it did not result in any significant changes to the overall teaching in the school. The *tinkering* stage of the teachers that trialed new ATL approaches in many cases did not last for more than a couple of weeks. Interested teachers would generally have a go at implementing a new ATL teaching approach and share the resources that they put together to support their implementation, however because the other *non-tinkering* teachers simply carried on with their regular teaching there was no opportunity for any *channeling* to happen, therefore what resulted was a process depicted in Figure 4 below:
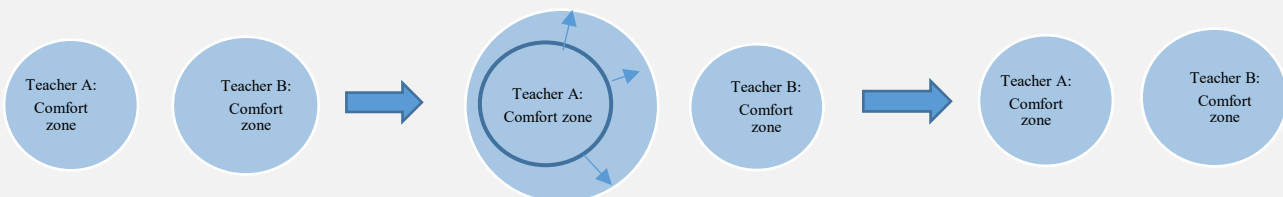

Figure 4: *Tinkering* without *channeling* and its effect on *teacher comfort zones*

The temporary growth that was observed in the size of Teacher A's comfort zone during the *tinkering* period, retracted back to the original state as soon as the *tinkering* stopped. What this suggests is that while *tinkering* can lead to temporary expansion of individual teacher *comfort zones* unless there are structured opportunities to share what they have been *tinkering* with, with other *tinkering* teachers, these brief comfort zone expansions do not last long enough to allow for the

establishment of the necessary *communal zones* that provide opportunities for teachers to participate in the type of collaborative engagements needed for the schools to effectively implement a common schoolwide teaching approach. A different mechanism was clearly needed to allow teachers to build on what they have learned from their individual *tinkering*. Schools that were successful in doing this, were those that intentionally structured opportunities for teachers to *channel* their ATL strategies with one another and learn from each other's experiences, thus allowing teachers to inquire more deeply into the issues pertaining to ATL implementation in their own school context and to identify common challenges and successes that were encountered in each of their classes. The more opportunities teachers were provided with to *channel* their *tinkering* of ATLs in their respective classes, the more the members of the school faculty appeared to be moving forward collectively as a unified team.

In Japan, it is not uncommon to see teachers in schools participating in a teacher-led peer research model called 'lesson study' (jyugyo kenkyu) which is essentially a team of teachers that get together to target an identified area for development regarding student learning and take turns planning and teaching a mock lesson for their team members to observe and provide constructive feedback on. A number of schools that participated in this study were found incorporating this teacher learning model to promote ATL teaching in their school, some with slight variations to the original 'lesson study' model (for example, in one school teachers teaching mock lessons with one another in place of students, while another school established ATL implementation weeks where all teachers were encouraged to integrate ATLs into their lesson, so they could visit each other's classes to provide feedback on how well they have integrated ATLs into the lesson), all for the same purpose of sharing ideas and engaging in research on effective ATL teaching practice. Meetings with programme coordinators showed that the outcomes of these collaborative engagements did not always result in the desired change in the way teachers conducted their regular day-to-day classes. This study suggests that one of the challenges with this 'lesson study' model is that, while it is very effective in bringing teachers together to talk about teaching and learning and observing each other's teaching approaches; and though the feedback that is exchanged are always relevant and appropriate; because it only reflects the mock or special lessons and not the actual classes the teacher regularly teaches to their students it is not sufficient in instilling significant change in the way classes are regularly taught in the school.

Schools that made progress in establishing a schoolwide approach to explicit teaching of ATLs however were those that engaged teachers in both the *tinkering* and *channeling* stages of their day-to-day classes and sharing anecdotal remedies with one another to resolve common recurring implementation challenges. Increasing opportunities for teachers to share their ATL strategies collectively with their peers to establish *communal zones* during the *channeling* stage, also provided favourable conditions for the co-creation of new tools and frameworks that better align and have

better fit with the context of their school. In this respect, the *collaborative crafting cycle* may represent a vital and effective teacher learning model for schools to adopt, when considering schoolwide initiatives (such as the implementation of explicit teaching of ATLs), providing teachers with the necessary time and space whilst in schools to build-on their own learning from experience and engage in the co-construction of new and deeper understandings of what the new pedagogical approach would look like in their own context, and how to effectively facilitate it.

LITERATURE REVIEW

When engaging in research using grounded theory as a research methodology, a literature review generally happens after the findings have been collected, and not before, to ensure that the researcher is not exposed to any preconceived notions that could potentially skew the interpretation of the data during the analysis. A literature review is in fact considered to be a part of the data analysis process, to explore how the emergent grounded theory reinforces or differs with other established theories. It is also important that the researcher sees the literature as a source of ideas that can be used to enhance the emergent grounded theory.

Upon examining the existing literature in the relevant substantive field for this study, the theory of *experiential learning* was one that came up repeatedly and appears to describe a mechanism similar to the interplay between the *tinkering* and *internalizing* stages in the *collaborative crafting cycle*. The groundwork of the concept of *experiential learning* was first laid out by John Dewey in the early 1900's where he emphasized 'learning by doing' and offered a philosophical framework to help schools in developing/becoming 'learning organizations' where the learner has the freedom to learn what they want to learn (Dewey, 1938). According to Dewey, "Education must be conceived as a continuing reconstruction of experience; that the process and the goal of education are one and the same thing" (Dewey, 1897, p.79). While he wrote prolifically on this topic of experience and education and the philosophy behind it, on the practical side however, it was unclear how one is meant to go about integrating this philosophy into teaching and learning experiences in schools and other educational institutions. In recent years, Kolb (1984) following the works of Dewey and other prominent scholars who placed experience as a central role in learning and development (notably K. Lewin, and J. Piaget), developed and introduced a more practical learning model that can be adapted to schools and the workplace, that promote the experiential learning process. The theory behind the model is built on six propositions:

1. Learning is best conceived as a process.
2. All learning is re-learning.
3. Learning requires the resolution of conflicts.

4. Learning is a holistic process of adaptation to the world.

5. Learning results from synergetic transactions between the person and the environment.

6. Learning is the process of creating knowledge.

<div align="right">(Kolb, A. & Kolb, D., 2012, p.194)</div>

Kolb (1984) suggested that experiential learning is cyclical in nature because it involves learners connecting what they have learned from current experiences to those in the past as well to possible future situations. Kolb (1984) then conceptualized the cyclical nature of experiential learning and presented an *experiential learning cycle* model based on Lewin's problem-solving model of action research and laboratory training, Dewey's model of learning, and Piaget's model of learning and cognitive development as depicted in Figure 5 below:
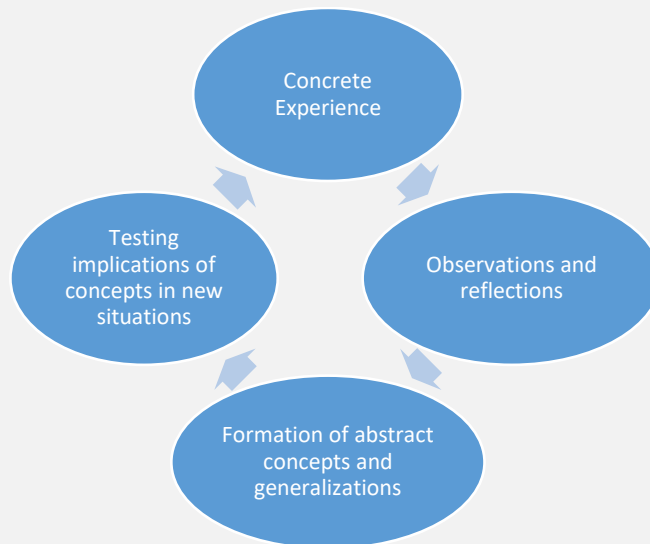

Figure 5: The *Kolb Experiential Learning Cycle*

The central tenet is that "learning is the process whereby knowledge is created through the transformation of experience, and knowledge results from a combination of grasping and transforming experience" (Kolb, 1984, p.41). This experiential learning model provides a very detailed description of, and in many respects reinforces the importance of the interplay between the *tinkering* and the *internalizing* stages of the *collaborative crafting cycle*. The theory however falls a little short in addressing the importance of the social context in which the learning takes place. While the experiential learning model does address the importance of the social aspect of learning, learning is still primarily described as solely an individual process. The inclusion of the *channeling* stage of

the *collaborative crafting cycle* however would require that the model makes more explicit mention of the role of the social context and how it influences the learning process.

Lev Vygotsky, a Russian psychologist active in the early 1900's who is best known for his sociocultural theory of cognitive development is one of the pioneering psychologists to claim that learning is first and foremost a social activity. He believed that social interactions play a critical role in learning. Vygotsky examined how our social environments influence the learning process and suggested that learning takes place through the interaction learners engage in with the people around them. He also noted that culture profoundly influences this process, where we learn by interacting with others following the rules, skills, and abilities shaped by our culture. Vygotsky believed everything is learned on two levels. First, through interaction with others, and then integrated into the individual's mental structure. "Every function in the child's cultural development appears twice: first, on the social level, and later, on the individual level; first, between people (inter-psychological) and then inside the child (intra-psychological). This applies equally to voluntary attention, to logical memory, and to the formation of concepts. All the higher functions originate as actual relationships between individuals." (Vygotsky, 1978, p. 57) Vygotsky also believed that the potential for cognitive development is limited to what he called the *zone of proximal development*. The 'zone' referring to the space between what a learner knows and what the learner doesn't know. He argued that it is within this *zone of proximal development* that learners learn not in isolation, but with other more capable peers to help in internalizing the new concepts and develop the skills needed to engage in the process of construction and re-construction of new understandings.

Jean Lave and Etienne Wenger, in 1991 published a book proposing a social learning theory that emphasized that knowledge is not constructed simply in an individual's mind but developed "socially" within the relations with others. Social learning theories take social interactions into account, but from a psychological perspective. They place the emphasis on interpersonal relations involving imitation and modeling, and thus focus on the study of cognitive processes by which observation can become a source of learning (Bandura, 1977). Lave & Wenger (1991) took *apprenticeship* as the conceptual basis in developing their theory of social learning, claiming that all learning is 'situated' in the activity, context and/or culture in which it occurs, and does not exist in isolation within individual learners. The constructed knowledge and understandings during the learning process are a part of the system of relations among people and the tools around us. The theory describes a learning process that happens via social participation in what they call *communities of practice*. Wenger defined *communities of practice* as possessing a combination of three fundamental elements: "a domain of knowledge, which defines a set of issues; a community of people who care about this domain; and the shared practice that they are developing to be effective in their domain." (Wenger, 1998, p. 73) A *community of practice* can evolve naturally among highly

motivated members of a community with a common interest in a field, or it can be created deliberately with the goal of gaining knowledge related to a specific area.

Lave & Wenger (1991) claim that all learning is *situated learning* whether it be in schools, in the workplace or at home. The community consists of *newcomers* who initially reside on the periphery of the community however as they begin to *tinker* with new approaches in their own classes and later channel their *tinkering* with other *tinkerers* within the *community of practice* they gradually move inward towards the center of the community to eventually become *old-timers* (or expert learners). *Old-timers* model and coach other *newcomers* of the community so they too can learn to move inwards and eventually become *old-timers* themselves. Lave & Wenger (1991) called this process *legitimate peripheral participation*. If Vygotsky's *zone of proximal development*, is "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem-solving under adult guidance, or in collaboration with more capable peers" (Vygotsky, 1978, p. 86) then *communities of practice* which places emphasis on "connecting issues of sociocultural transformation with the changing relations between newcomers and old-timers in the context of a changing shared practice." (Lave & Wenger, 1991, p.49) can be considered as the necessary social context in which learning within each individual respective *zones of proximal development* take place.

Review of the above literature has proven useful in confirming many social phenomena and behaviours that were observed in the substantive fields during this study. The additional data has also helped in further saturating the emergent theory of *collaborative crafting*, to arrive at a *situated experiential teacher learning model* that combines the ideas of Kolb, Lave & Wenger and others, that can support schools in establishing an effective professional learning framework to help in fostering meaningful teacher inquiry within an active community of teachers as learners.

DISCUSSION

"A man maie well bring a horse to the water but cannot make him drinke without he will."
(Heywood, 1972)

For schools to lead the implementation of a new teaching approach consistently across the whole school, it requires the collaborative efforts of willing and highly motivated teachers to achieve it. However, as the above proverb suggests, it is not enough to simply inform teachers of how the new teaching approach will benefit their teaching in the classroom to get them onboard. Nor is it enough, as was discovered during this study, to simply set aside structured time for teachers to meet periodically to talk about ATLs and develop supporting curriculum documents together. Teachers, like horses, will do as they will. This study has found that unless you have a group of teachers actively trialing ATL approaches in their own classrooms and learning from one another their

experiences of ATL implementation, the likelihood of instilling any lasting schoolwide change to incorporate explicit teaching of ATLs, remains at a consistent low. So, the question then becomes, what does a school need to do to increase opportunities for teachers to *tinker* and *channel* their teaching approaches with the other members of their community?

Findings from this study shows that the design and method of implementation of the professional development opportunities that schools offer plays a critical role in determining the degree to which teachers engage in the *collaborative crafting cycle*. Teachers in Japan are offered many professional development opportunities throughout their career. These are set by the Ministry of Education, Culture, Sports, Science and Technology (MEXT) and by local prefectural governments, ranging from periodic license renewal training, to a variety of teacher training workshops offered onsite or at teacher training centers. Despite the wide range of options that are offered to teachers however, conversations with teachers have shown that these mandated training opportunities are often not very helpful and/or relevant to the classroom context in which they teach in. Recent studies show that compared to these mandated professional learning sessions that teachers are obligated to attend, they find more value in "the informal collegial learning that occurs in the *shokuin shitsu*" (Ahn, et.al, 2018, p.50) of their school. *Shokuin Shitsu* refers to a room where all teachers have individual desks assigned to them to allow them to meet and work together, and deal with issues collaboratively and is often praised for its effectiveness as an onsite informal training center for beginning teachers. It is a central gathering place where everybody is visible with no partitions or walls dividing the teachers in the room, to allow for free exchange and communication of information. It is where issues are often resolved collectively with all teachers involved, whether they be a first year out teacher, a veteran teacher, or an administrator. The room is considered almost as an informal thinktank where teachers can freely talk about any issues they are experiencing in their classroom, with the teachers around them. Or at least that is the idea anyway.

At first glance the *shokuin shitsu* appears to be an ideal setting for a *community of practice* to thrive and evolve naturally, however it is entirely on the premise that the teachers are highly motivated members of the community with common interests. Having teachers all in one room does not necessarily guarantee that a community of practice will thrive. Conversations with programme coordinators and teachers during this study confirmed this. Teachers are all generally too preoccupied with other duties to engage in discussion with other colleagues about curriculum planning or teaching and learning related issues. Some scaffolding may therefore be required to turn these rooms into a more active and functioning community of practice. Many programme coordinators stated that one of the reasons they agreed to participate in this study originally was because they saw it as a great incentive and motivation to help get the ball rolling on how to effectively implement meaningful integration of ATLs into their curriculum. The big question they all had struggled to find an answer

to however, was how to get the ball initially rolling. This study set out to investigate exactly what it is that helps schools in getting the ball rolling and the mechanism required to keep it rolling.

The act of setting clear ATL implementation guidelines and expectations for the teachers on its own, appeared to have very little effect on teacher performance. In many schools, a common approach that was observed was to distribute relevant IB documentation or run faculty meetings with a focus on ATLs, however these initiatives did not appear to be sufficient, as it did not result in any significant change in how teachers taught their classes. It may have offered opportunities for teachers to reflect on current ways in which the school should implement ATLs into their curriculum, and consider possible alternative ways in which it can be implemented, however the study has found that unless teachers are provided with the opportunity to *tinker* with new strategies and approaches in their own classrooms, it is difficult to identify what aspects need to be modified to better fit with their own teaching styles. *Tinkering* in isolation however also did not lead to any lasting changes in teaching practice. Of the teachers that did make an honest initial attempt at *tinkering* with different approaches to teaching ATLs in line with the newly introduced guidelines and expectations provided by a school, within a matter of days or weeks many were found returning to their usual way of teaching. Programme coordinators were generally aware that this was happening, however many were hesitant to 'force' ATL teaching onto teachers. Therefore instead, these programme coordinators continued to encourage teachers to meet and reflect on and share their strategies of explicit ATL teaching with their other colleagues in hopes that at some point they would feel comfortable with the new approach and begin integrating ATLs naturally into their teaching again, which rarely happened.

The situation didn't seem to change however even when schools chose to tighten up their management and coordination of ATLs by mandating its use and monitoring each teacher to check to see that they were complying with the implementation guidelines and expectations that the leadership team has come up with. Conversations with teachers that experienced this 'top-down approach' (as they referred to it) showed that it did nothing but confuse teachers even more on what they are meant to be doing with these ATLs (especially when they were told that what they have been doing is wrong) and eventually resulting in teachers feeling unhappy and frustrated about being forcefully steered away from their *comfort zones*. Some teachers became outright angry, while others decided to just tune out, and became rather indifferent about ATLs altogether. Findings from this study has consistently shown that so long as *teacher buy-in* remains at a low, forcing teachers to do as they are told can be counter-productive, and can also lead to mistrust in leadership. This study suggests that what the school should invest their energy on instead is to put systems in place that make it easier for teachers to freely engage in *tinkering* with new approaches in their classroom and regularly *channeling* their *tinkering* with one another.

The challenge then from a leadership standpoint is to firstly design and offer professional development opportunities that gets teachers actively involved in *tinkering* with their ATL implementations in their regular day-to-day classes. The next step would be to provide a platform for teachers to freely share their ATL implementations with one another. Schools that made efforts to offer opportunities for teachers to learn from one another in this way, consolidated and shared a lot of different ATL strategies that were being implemented by the different teachers. Many teachers commented that they found theses shared resources very useful in helping to understand the bigger picture and inform them of what needs to be done in their subject disciplines to contribute to the development of a more consistent schoolwide approach. Schools that focused too much on planning and developing supporting documents during their professional development sessions continued to struggle in getting teachers to transfer what they have developed into practice in their respective classrooms. King (2016) also echoed the same concerns regarding the lack in implementation of ATLs saying that schools spend "countless hours designing wonderful horizontal and vertical ATL skills articulation documents, but very little is changing in the classroom. No ATL skills are being effectively taught." (King, 2016, p.59) The study thus suggests that for teacher professional development to be effective and meaningful, it should always be directly related to what the teachers are currently *doing* in their respective classrooms.

CONCLUSION AND RECOMMENDATIONS

If the purpose of the ATL skills framework is to support schools in tailoring their curriculum to allow students to "develop skills that have relevance across the curriculum that help them *learn how to learn*" (IBO, 2014, p.20) then what schools need to do first and foremost is to find out what that looks and feels like in their own school context. There is no one size fits all approach to effective implementation of ATLs into a school curriculum, and the IB literature does not provide a single recipe for success in doing so as well. Instead the literature encourages schools to work in developing their own recipes that best caters to the taste buds of the learners they teach. The IB has made leaps and bounds in emphasizing the importance of developing a curriculum that makes explicit reference to ATLs and offers a lot of supporting documents to assist schools in developing their own ATL frameworks, however schools may also benefit by being provided with explicit guidance on how to support the nurturing of professional learning communities or communities of practice that this study has found may be necessary in integrating ATLs meaningfully into the school curriculum and culture. Given that many schools that participated in this study appeared to really struggle in establishing these necessary environments to increase the degree of *teacher buy-in* in the school to support a new schoolwide initiative, this additional guidance may be something that the IB could consider providing

in future publications, or through the offering of workshop that specifically focus on the development of learning communities in schools.

The emergent theory of *collaborative crafting* described in this study, in no way claims to be anything more than what it is, a theory that describes the "relationship between concepts that account for the behaviours seen in the substantive area." (Glaser, 1998, p.3) It is a description of the social patterns that teachers in the ten participating schools exhibited when confronted with the recurring challenges of having to incorporate ATLs more explicitly into their teaching in the classroom. The three stages of the *collaborative crafting cycle* require that teachers work collaboratively inside *communal zones,* where they share and provide feedback with one another on the different approaches to explicit teaching of ATLs that they have been trialing with in their respective classrooms, eventually leading to the *collaborative crafting* of a single unified approach. The theory of *collaborative crafting* can be described as a combination of Kolb's *experiential learning model* and Lave & Wenger's *apprenticeship model* of *situated learning* (or social participation in a community of practice) that emphasizes learning as a social endeavor, reminding us as teachers that teaching like many other professions is a collaborative profession, more effective when done collectively within a community rather than in isolation.

To verify to what extent this *collaborative crafting cycle* reflects the reality of what happens in schools in general, and to justify the claims made in this qualitative study may require the use of more quantitative methods (through the use of surveys and/or questionnaires that have the capacity to be abstracted as quantified data) to validate or prove the qualitative data using statistical methods. Case study research of IB schools in Japan and other countries situated in different social and cultural contexts that offer professional development programs that support teacher learning through the three stages of the *collaborative crafting cycle* would also help in investigating the validity of the emergent theory.

With the recent growth of IB authorized schools in Japan (in both the public and private sectors), it is hoped that the outcomes of this study will provide IB practitioners in Japan who are particularly new to the field, with additional insight into what it means to teach in an IB school, and how they too can engage in the process of 'learning how to learn' themselves as members of the IB learning community.

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